

320110892P

DTPC

Report No. J087/TA
August 2011

PROPOSED RESIDENTIAL DEVELOPMENT
WADDOW VIEW, LAND OFF MILTON AVENUE, CLITHEROE

TRANSPORT ASSESSMENT

4582011088
PROPOSED RESIDENTIAL DEVELOPMENT
WADDOW VIEW, LAND OFF MILTON AVENUE, CLITHEROE

TRANSPORT ASSESSMENT

CONTROLLED DOCUMENT

DTPC No:		J087/TA	
Status:	Final	Copy No:	
	Name	Signature	Date
Approved:	Alan Davies	AD	8 August 2011

Revision Record		
Rev.	Date	Summary of Changes
A	-	

**PROPOSED RESIDENTIAL DEVELOPMENT
WADDOW VIEW, LAND OFF MILTON AVENUE,
CLITHEROE**

TRANSPORT ASSESSMENT

CONTENTS

	Page
1. INTRODUCTION	3
2. NATIONAL AND LOCAL POLICY GUIDANCE	4
National Policy	4
Transport White Paper – 1998	4
Future of Transport 2004	4
Planning Policy Guidance Note 13 – Transport	5
Planning Policy Statement 3 – Housing	6
Regional and Local Policies	7
Summary	7
3. SITE DESCRIPTION	8
Site location context	8
Local Highway Provision	9
Existing traffic flows	11
Accident review	13
4. EXISTING SUSTAINABLE TRAVEL OPTIONS TO THE SITE	16
Amenities	16
Walking	17
Cycling	21
Travel by public transport	22
Rail	24
Summary	25
5. THE DEVELOPMENT PROPOSALS AND LAYOUT	26
Development Proposals	26
Layout	26
6. TRIP GENERATION, TRAFFIC FLOWS AND ASSESSMENTS	28
Introduction	28
Survey Peak Period Analysis	28
Distribution of the Residential Traffic	28
Residential Trip Generation	28
Traffic Growth	29
2011 and 2016 Base Traffic Flows Plus Development	29
Traffic Analysis	29
PICADY Analysis	30
Assessment Summary	31
Impact During Construction	31
Mode splits	32
Summary	32
7. SUMMARY	33

35011088

Figures

Masterplan
Mitigation Measures

Appendices

A – Traffic Surveys
B – Network Flow Diagrams
C – Trip Assessment
D – TRIC'S review
E – PICADY output

1. INTRODUCTION

DTPC has been appointed on behalf of The Huntroyde Estate to provide transport and highway advice for the traffic and transportation implications associated with their residential development at the Waddow View on land off Milton Avenue, Clitheroe.

The note relates to the need to assess the site constraints, opportunities, sustainability and the local car parking provision in support of taking the site forward for development through the planning process.

It deals solely with the proposals for the area within the red line plan.

The TA discusses the following issues:

- Site and Local Area
- Existing Highway Conditions
- Possible Development Proposals
- Government Planning and Transportation Policy
- Sustainability
- Access Considerations
- Car parking
- Summary & Conclusions.

This report has been prepared solely in connection with the proposed development as stated above. As such, no responsibility is accepted to any third party for all or any part of this report, or in connection with any other development.

2. NATIONAL AND LOCAL POLICY GUIDANCE

National Policy

Increasing travel choice and reducing dependency on car travel is an established aim across all areas of government policy development, documents and guidance alongside addressing climate change and reducing CO₂ emissions. Travel planning to date has focused on reducing single occupancy car use to specific destinations. Recent national guidance has broadened this, outlining the potential for Residential Travel Plans and addressing trips generated from individual origins (homes) to multiple and changing destinations. The Department for Transport (DfT) also published "Smarter Choices – Changing the Way We Travel" focusing on softer education and persuasive measures which are a key element of travel plans.

National planning policy ensuring that development plans and planning application decisions contribute to delivery of development that is sustainable is detailed in PPS1. It states that development should ensure environmental, social and economic objectives will be achieved together over time.

It will also contribute to global sustainability, by addressing the causes and impacts of climate change, reducing energy use and emissions by encouraging development patterns that reduce the need to travel by car and impact of transporting goods as well as in making decisions in the location and design of development. This approach is further detailed in the supplement to PPS1.

Transport White Paper – 1998

In July 1998 the Government published its Integrated Transport White Paper 'A New Deal for Transport: Better for everyone'. The White Paper marked an important strengthening of the transport aspects of the planning system. It also contained proposals for new and revised Planning Policy Guidance Notes, in particular Planning Policy Guidance Note 13 (PPG13).

The White Paper promotes developments that enable the choice of transport access to be maximised. It requires Local Authorities to draw up five-year transport plans known as Local Transport Plans (LTP). These plans are intended, amongst other aims, to co-ordinate and improve local transport, set out strategies for promoting walking, cycling and adoption of Travel Plans (TPs) to employment sites, schools and other destinations.

With regards to pedestrians, the White Paper recommends priority be given to walking by allocating more road space to pedestrians by provision of wider footways, providing more direct and convenient routes for walking and providing more pedestrian crossings at locations where people want to cross.

One of the provisions within the White Paper for cyclists is that Local Authorities will be required to increase provision of secure parking for cycles as well as providing more road space for cyclists and applying speed constraints.

The White Paper also envisages measures to provide for public transport to include bus shelters and timetable information, funding bus priority measures on the surrounding road network, and providing or supporting bus services to and from the site for customers and staff.

The White Paper seeks to improve public transport facilities so that they,

'Become the focus of our efficient transport system that gets people to where they want to be, quickly and comfortably without having to rely on cars'

Future of Transport 2004

2004, Department for Transport (DfT) published a long-term strategy (*Future of Transport White Paper*) which examines the factors that will shape travel and transport over the next thirty years. It sets out how the Government will respond to the increasing demand for travel, maximising the benefits of transport while minimising the negative impact on people and the environment.

Central to the strategy is the need to bring transport costs under control, the importance of shared decision making at local, regional and national levels to ensure better transport delivery, and ***improvements in the management of the network to make the most of existing capacity***

Planning Policy Guidance Note 13 – Transport

The revised Planning Policy Guidance Note, PPG13 was published in Feb 2011; the major change was the updated car parking guidance in that councils will no longer be able to apply either maximum or minimum parking standards for residential development. PPG13 now allows developers to decide how much parking they want to provide and councils should "not require developers to provide more spaces than they themselves wish" (paragraph 50(1)).

The LHA will be required to develop their own parking standards based on local needs rather than a generalised blanket policy

The remainder of the guidance remains unchanged emphasising the need to coordinate land use and transport policies more effectively; reinforcing the message that new developments must be located and designed in ways that reduce both the need to travel and the dependence on the private car.

This policy document contains objectives to integrate planning and transport and describes how transportation issues can be influenced by planning control. Key points of PPG13 are further detailed below.

The objectives of the Guidance are given as being to:

- *'promote more sustainable transport choices;*
- *promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and*
- *Reduce the need to travel especially by car'.*

In order to deliver these objectives, the Guidance recommends suitable considerations that should be made when assessing proposed material trip generating developments, some of these considerations are:

- *'Actively manage the pattern of urban growth to make the fullest use of public transport, and focus major generators of travel demand in city, town and district centres and near major public transport interchanges,*
- *locate day to day facilities which need to be near their clients in local centres so that they are accessible by walking and cycling;*
- *ensure that development comprising jobs, shopping, leisure and services offers a realistic choice of access by public transport, walking, and cycling,*
- *Use parking policy, alongside other parking and transport measures, to promote sustainable transport choice and reduce reliance on the private car for work and other journeys'.*

Furthermore, PPG13 states 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. Walking also forms an often forgotten part of all longer journeys by public transport and car, and*
- *Cycling also has the potential to substitute for shorter car trips, particularly those less than 5 km and to form part of longer journeys by public transport'.*

Guidance on implementing planning policies states:

'Where clearly justified and in accordance with the usual statutory and policy tests, conditions may legitimately be used to require on-site transport measures and facilities as part of development or to prohibit development on the application site until an event occurs, including:

- *provision of secure cycle parking and changing facilities and safe pedestrian and cycle routes,*

- *provision of facilities for public transport, such as bus stops and lay-bys;*
- *specifying the number of parking spaces, and their size, including those for disabled people;*
- *the management and use of parking spaces, so that, for example, priority is given to certain categories of people, e.g. disabled people, people with children, visitors, or cars with more than one occupant;*
- *the removal of parking spaces (other than those for disabled people) after a specified period, or when access to the site is improved by public transport, walking and cycling (such as when a bus route is introduced to a site);*
- *New or improved junctions and road layouts'*

Planning Policy Statement 3 – Housing

The key national policies on the development of housing are set out in PPS3. Consideration has been given to those which relate to sustainability, transport and in particular parking standards.

Para 16. States matters to consider when assessing design quality include the extent to which the proposed development:

For the purposes of the assessment consideration has been given to how it:-

- Is easily accessible and well-connected to public transport and community facilities and services, and is well laid out so that all the space is used efficiently, is safe, accessible and user-friendly
- Is well integrated with, and complements, the neighbouring buildings and the local area more generally in terms of scale, density, layout and access.
- *Takes a design-led approach to the provision of car-parking space*, that is well-integrated with a high quality public realm and streets that are pedestrian, cycle and vehicle friendly.

Para 37. States at the regional level, the Regional Spatial Strategy should identify broad strategic locations for new housing developments so that the need and demand for housing can be addressed in a way that reflects sustainable development principles. Regional Planning Bodies should, working with stakeholders, set out the criteria to be used for selecting suitable broad locations for new housing, taking into account:

- The contribution to be made to cutting carbon emissions from focusing new development in locations with good public transport accessibility and/or by means other than the private car.

Para 38. States at the local level, Local Development Documents should set out a strategy for the planned location of new housing which contributes to the achievement of sustainable development. Local Planning Authorities should, working with stakeholders, set out the criteria to be used for identifying broad locations and specific sites taking into account:

- The contribution to be made to cutting carbon emissions from focusing new development in locations with good public transport accessibility and/or by means other than the private car.
- Any physical, environmental, land ownership, land-use, investment constraints or risks associated with broad locations or specific sites, such as physical access restrictions.
- Options for accommodating new housing growth (or renewal of existing housing stock), taking into account opportunities for, and constraints on, development. Options may include, for example, re-use of vacant and derelict sites or industrial and commercial housing in established residential areas, large scale redevelopment and re-design of existing areas, expansion of existing settlements through urban extensions and creation of new freestanding settlements.
- Accessibility of proposed development to existing local community facilities, infrastructure and services, including public transport. The location of housing should facilitate the creation of communities of sufficient size and mix to justify the development of, and sustain, community facilities, infrastructure and services.

– The need to provide housing in rural areas, not only in market towns and local service centres but also in villages in order to enhance or maintain their sustainability. This should include, particularly in small rural settlements, considering the relationship between settlements so as to ensure that growth is distributed in a way that supports informal social support networks, assists people to live near their work and benefit from key services, minimise environmental impact and, where possible, encourage environmental benefits

320110892P

Regional and Local Policies

Regional Spatial Strategy (RSS) for the North West forms current statutory regional planning guidance. The development and implementation of travel plans support Policies DP5 of the RSS "Manage Travel Demand; reduce the need to travel, and Increase Accessibility" and DP6 "Marry Opportunity and Need".

The preparation and implementation of travel plans is also supported by the Transport Chapter in North West Regional Spatial Strategy "Connecting People and Places" particularly through the following specific policies :

RT1 – Integrated Transport Networks,
RT2 – Managing Travel Demand,
RT9 – Walking and Cycling

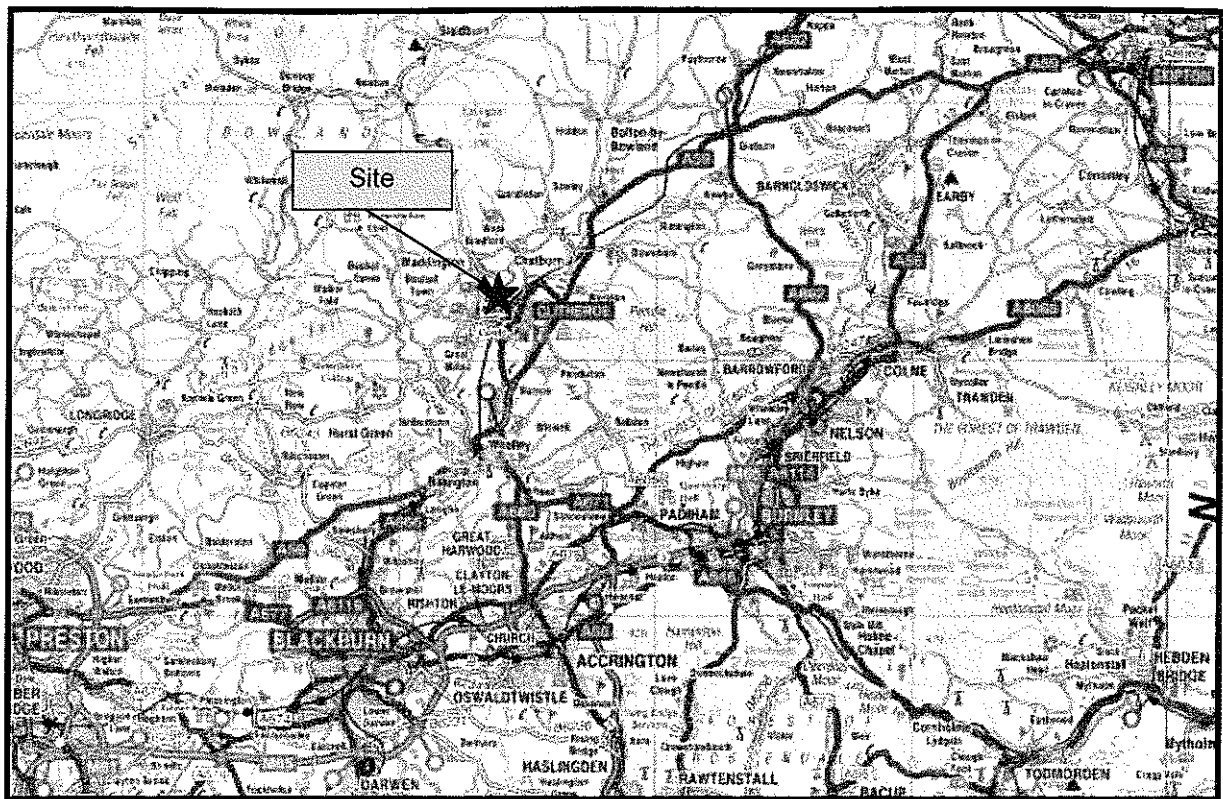
Summary

The overriding theme of national policy is that developments must be accessible by sustainable means of transport and accessible to all members of the local community. Local policy echoes the sustainability sentiment of national policy and provides more detail in terms of access and parking

3 SITE DESCRIPTION

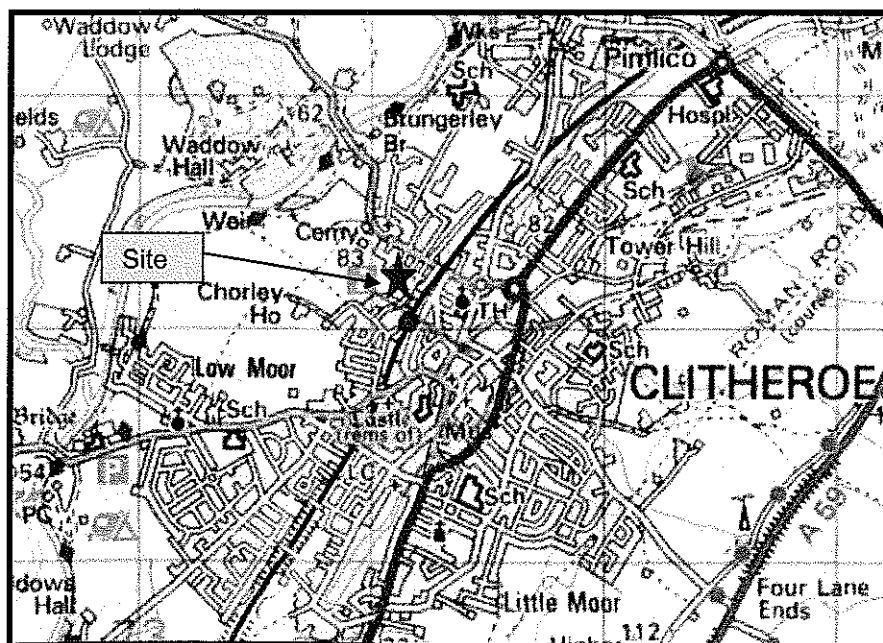
Site location context

The site lies to the north of the main Clitheroe area which lies along the A59 corridor linking Preston to Skipton and beyond.



Site location plan in relation to neighbouring settlements (Not to scale)

The location of the site in a local setting is shown below; it is bounded by residential areas with the town centre some 350m to the south.



Local plan



Local setting

Local Highway Provision

All the roads in the area are of a standard carriageway width appropriate for their usage, with footpaths and street lighting. They serve primarily a residential catchment supported by local services/retail units in the town centre.

From local knowledge and site observation the area has a typical traffic flow characteristic associated with an urban area i.e. distinct AM and PM flow periods.

A photographic record of the local access and setting is provided below for future reference



Chester Avenue approach and exit from car park link

Clearly Chester Road has a parked cars on both side which affect the free flow of traffic, although the flows are lower than the main road traffic



Chester Avenue sight lines

At its junction with Waddington road cars are parked very close to the radii making it difficult on occasion to turn in and out.



Railway New Rd/Waddington Road junction

Railway New Road has good sight lines in each direction, the bend constrains speeds in the area



Waddington Rd to and from town centre

The pedestrian refuge is narrow and provides little security for pedestrians



Milton Avenue sight lines with Waddington road



Milton Avenue approach



Milton Avenue view along rear access.

Existing traffic flows

Traffic counts have been undertaken in July across the agreed network. These show that the network has link flows within the DMRB criteria set out overleaf and would fall between UAP3 and 4, for the purposes of assessing the link capacity UAP4 have been used.

Feature	ROAD TYPE				
	Urban Motorway	Urban All-purpose			
	UM	UAP1	UAP2	UAP3	UAP4
General Description	Through route with grade separated junctions, hardshoulders or hardstrips, and motorway restrictions.	High standard single/dual carriageway road carrying predominantly through traffic with limited access.	Good standard single/dual carriageway road with frontage access and more than two side roads per km.	Variable standard road carrying mixed traffic with frontage access, side roads, bus stops and at-grade pedestrian crossings.	Busy high street carrying predominantly local traffic with frontage activity including loading and unloading.
Speed Limit	60mph or less	40 to 60 mph for dual, & generally 40mph for single carriageway	Generally 40 mph	30 mph to 40 mph	30mph
Side Roads	None	0 to 2 per km	more than 2 per km	more than 2 per km	more than 2 per km
Access to roadside development	None. Grade separated for major only.	limited access	access to residential properties	frontage access	unlimited access to houses, shops & businesses
Parking and loading	none	restricted	restricted	unrestricted	unrestricted
Pedestrian crossings	grade separated	mostly grade separated	some at-grade	some at-grade	frequent at-grade
Bus stops	none	in lay-bys	at kerbside	at kerbside	at kerbside

Table 1 Types of Urban roads and the features that distinguish them

		Two-way Single Carriageway- Busiest direction flow (Assumes a 60/40 directional split)									Dual Carriageway			
		Total number of Lanes									Number of Lanes in each direction			
		2				2-3	3	3-4	4	4+	2		3	4
Carriageway width		6.1m	6.75m	7.3m	9.0m	10.0m	12.3m	13.5m	14.6m	18.0m	6.75m	7.3m	11.0m	14.6m
Road type	UM	Not applicable										4000	5600	7200
	UAP1	1020	1320	1590	1860	2010	2550	2800	3050	3300	3350	3600	5200	*
	UAP2	1020	1260	1470	1550	1650	1700	1900	2100	2700	2950	3200	4800	*
	UAP3	900	1110	1300	1530	1620	*	*	*	*	2300	2600	3300	*
	UAP4	750	900	1140	1320	1410	*	*	*	*	*	*	*	*

Table 2 Capacities of Urban Roads
One-way hourly flows in each direction

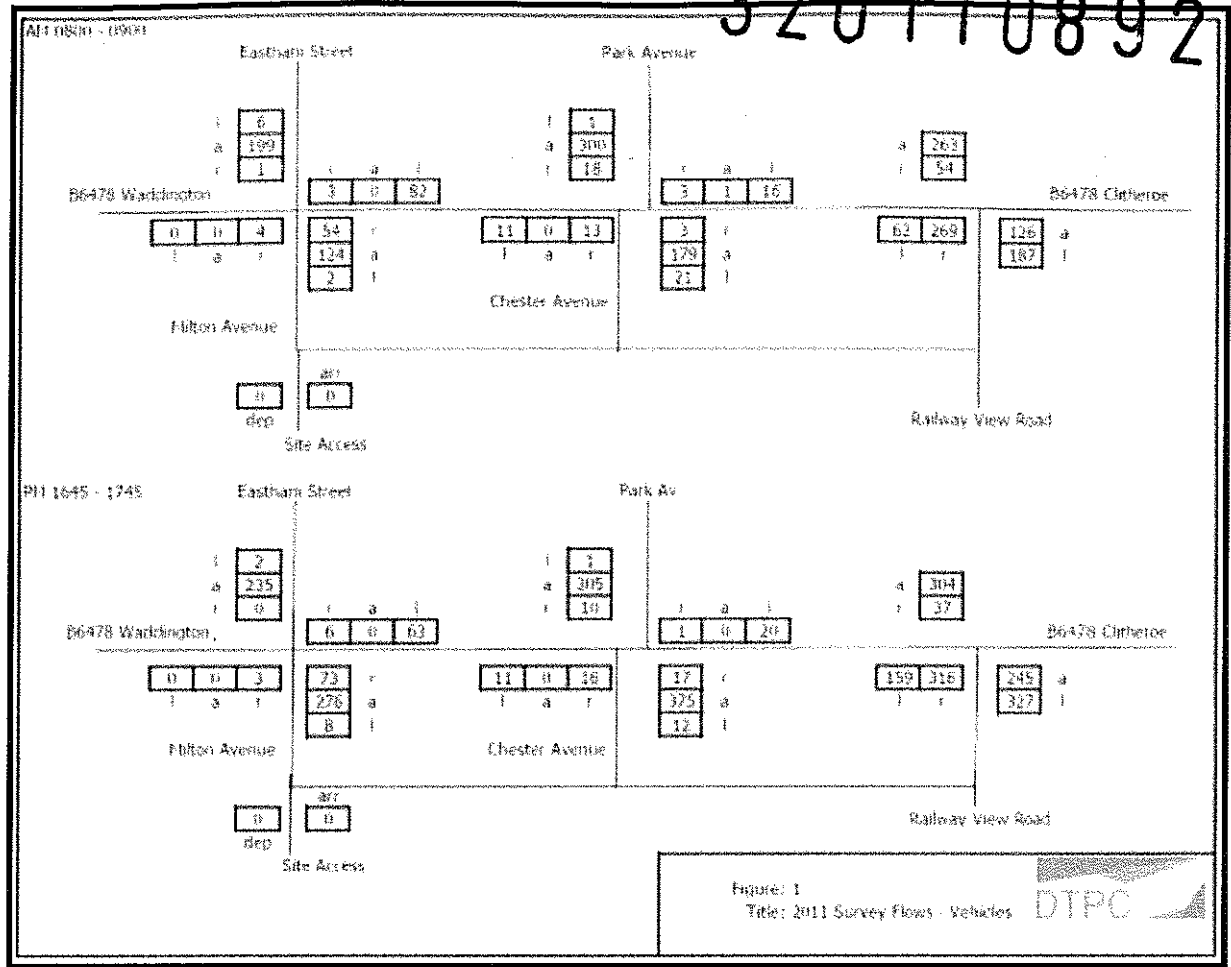
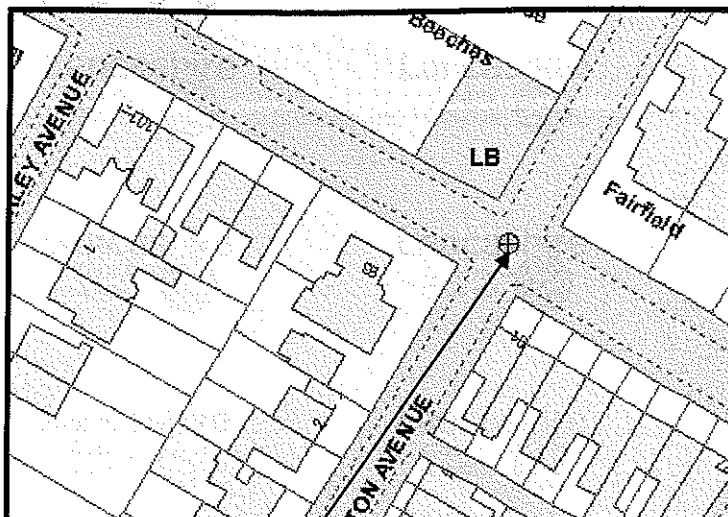


Figure 1 provides the AM and PM network flows from the traffic survey which was undertaken on Thursday 20th July 2011 with the peak hours of 0800 hours and 0900 hours and between 1645 hours and 1745 hours. Full survey details in Appendix A and network flow diagrams Appendix B.

A UAP4 link would have 750 one way flow, 475 is the highest one way flow along the link i.e 47% spare capacity.

Accident review

The full accident records for the past 5 years are provided overleaf



Collision Details			
Location	Citheroe, Rable Valley	Casualties	1
Grid Ref	374221 442276	Road	B6476 Waddington Road 5m
Date/Time	8/7/2007 4 00 00 PM	Distance to Junction	
Severity	Slight	Weather	Fine without high winds
Vehicles Involved	1	Nearest Building	
Vehicle Types	Car		
Casualty Details			
ID	Casualty No 1		
Type	Pedestrian		
Severity	Slight		

Collision Details			
Location	Citheroe, Rable Valley	Casualties	4
Grid Ref	374162 442310	Road	B6476 Waddington Road
Date/Time	12/4/2006 7 00 00 PM	Distance to Junction	
Severity	Slight	Weather	Fine without high winds
Vehicles Involved	2	Nearest Building	93
Vehicle Types	Car Car		
Casualty Details			
ID	Casualty No 1	Casualty No 2	Casualty No 3
Type	Driver or rider	Driver or rider	Vehicle or pillion passenger
Severity	Slight	Slight	Slight
Car Passenger	Not a car passenger	Not a car passenger	Rear seat passenger

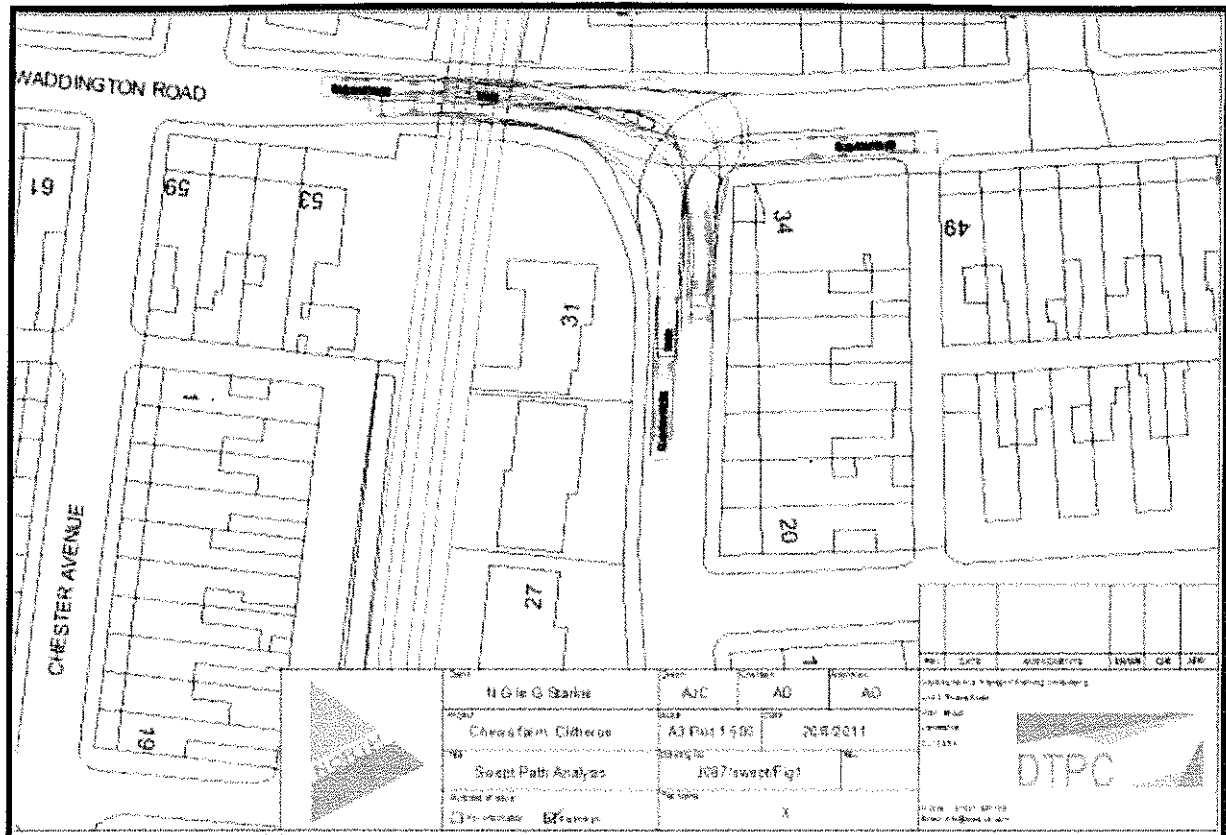
Collision Details			
Location	Citheroe, Rable Valley	Casualties	1
Grid Ref	374126 442306	Road	B6476 Waddington Road 12m
Date/Time	3/6/2007 4 55 00 PM	Distance to Junction	
Severity	Serious	Weather	Fine without high winds
Vehicles Involved	1	Nearest Building	
Vehicle Types	Car		
Casualty Details			
ID	Casualty No 1		
Type	Pedestrian		
Severity	Serious		

Collisions

- Up To 2 Collisions
- Up To 2 Collision Involving Child, Cyclist/Pedestrian

Clearly the Waddington Road/Railway View Road junction has the most concern from a safety point of view, even though the rate per annum is still low

It is possible to improve the refuge provision i.e. increase in size whilst still allowing the HGV movements to take place, an example is provided below. This is for information as the main pedestrian routes from the site would not use this area



Drawing abstract for information

4. EXISTING SUSTAINABLE TRAVEL OPTIONS TO THE SITE

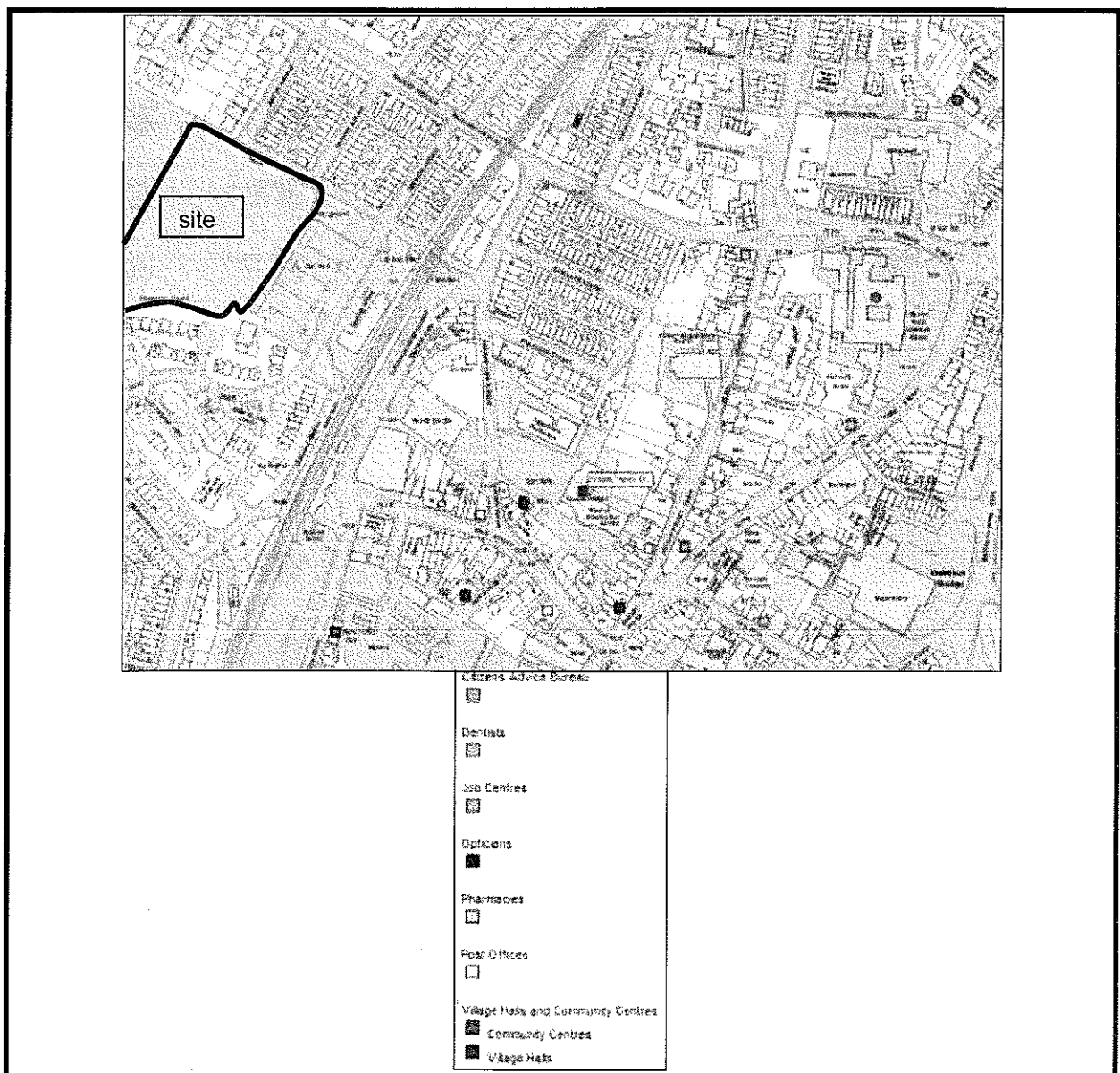
It is important to recognise that national Government guidance encourages accessibility to new developments by non-car travel modes. New proposals should attempt to influence the mode of travel to the development in terms of gaining a shift in modal split towards non car modes, thus assisting in meeting the aspirations of current national and local planning policy

The accessibility of the proposed development sites by the following modes of transport has, therefore, been considered:

1. Accessibility on foot;
2. Accessibility by cycle;
3. Accessibility by public transport;

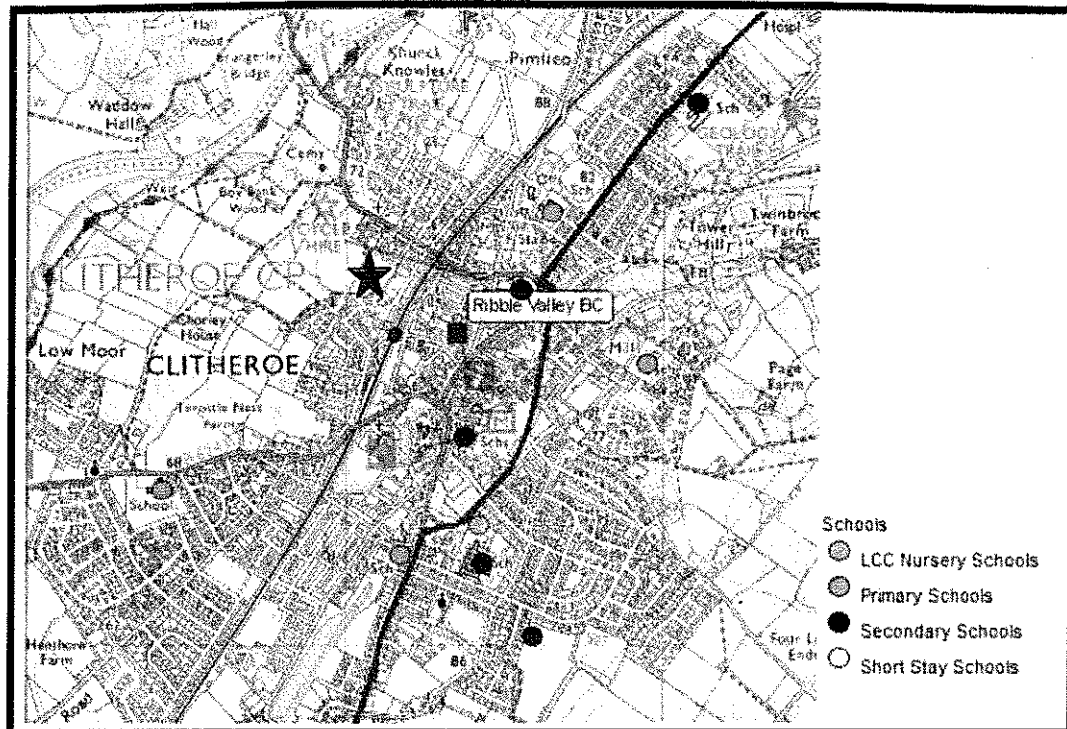
Amenities

In addition to the town centre which is located some 5 minute walk away from the site the area also offers:



Facilities

As the site is to be residential then the need to connect easily to local facilities and schools is key to the delivery of family units, the following plan shows the local schools

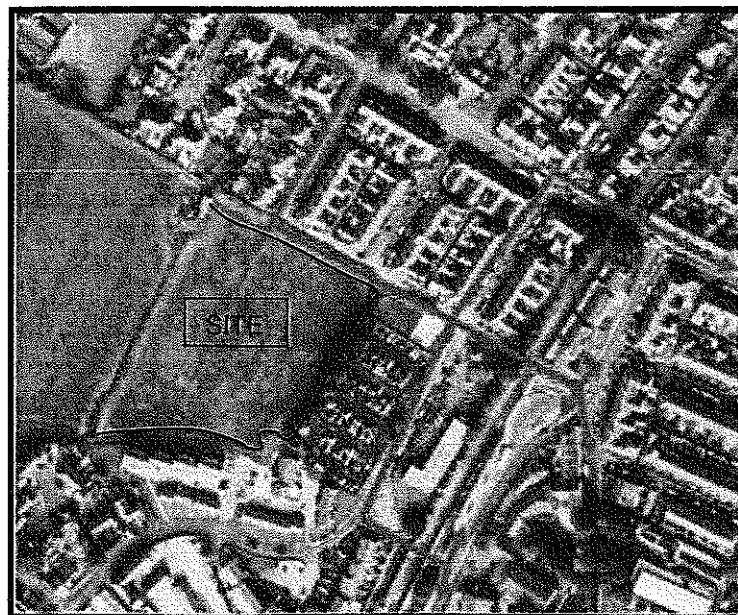


Schools

Walking

The proposed development site is located within an existing urban area with a range of local land uses, services and facilities within a 5 min walk distance.

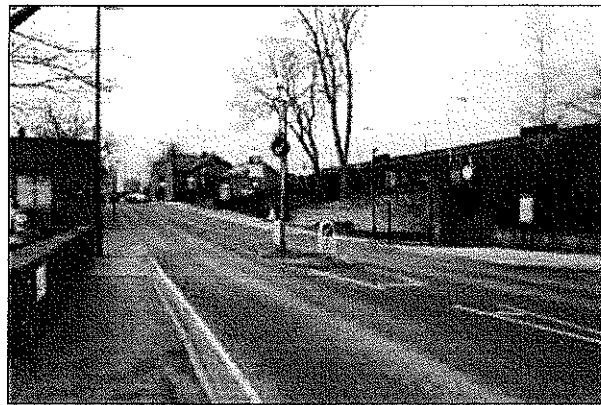
The site lays well within the 400m/5min walk distance to a public transport facility in this case the Bus and rail Stations



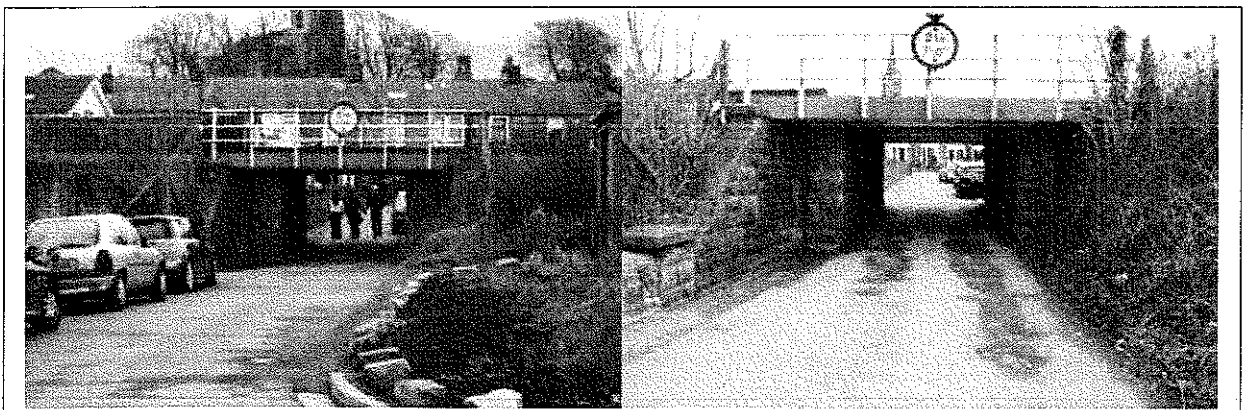
Walking Routes to and from site



Pedestrian route to/from rail station and town centre



View from Railway View Rd to underpass and refuge



Pedestrian route to bus station, shared area undefined

320110892P



Sight lines from pedestrian route at Railway View Rd end



View to underpass and refuge to bus station frontage



Views along rear access to side of car park and site

Importantly, the 0.8 km walk catchment also extends to cover the town centre and employment zone. There are, therefore, significant opportunities for residents to access a range of shopping, employment, leisure, and service facilities on foot.

Paragraph 75 of PPG13 states 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, and confirms that walking also forms an often forgotten part of all longer journeys by public transport and car. Clearly, there is also potential for walking to form part of a longer journey for residents via the bus services.

There are existing pedestrian routes in the vicinity of the site that will assist the accessibility of the site for pedestrians.

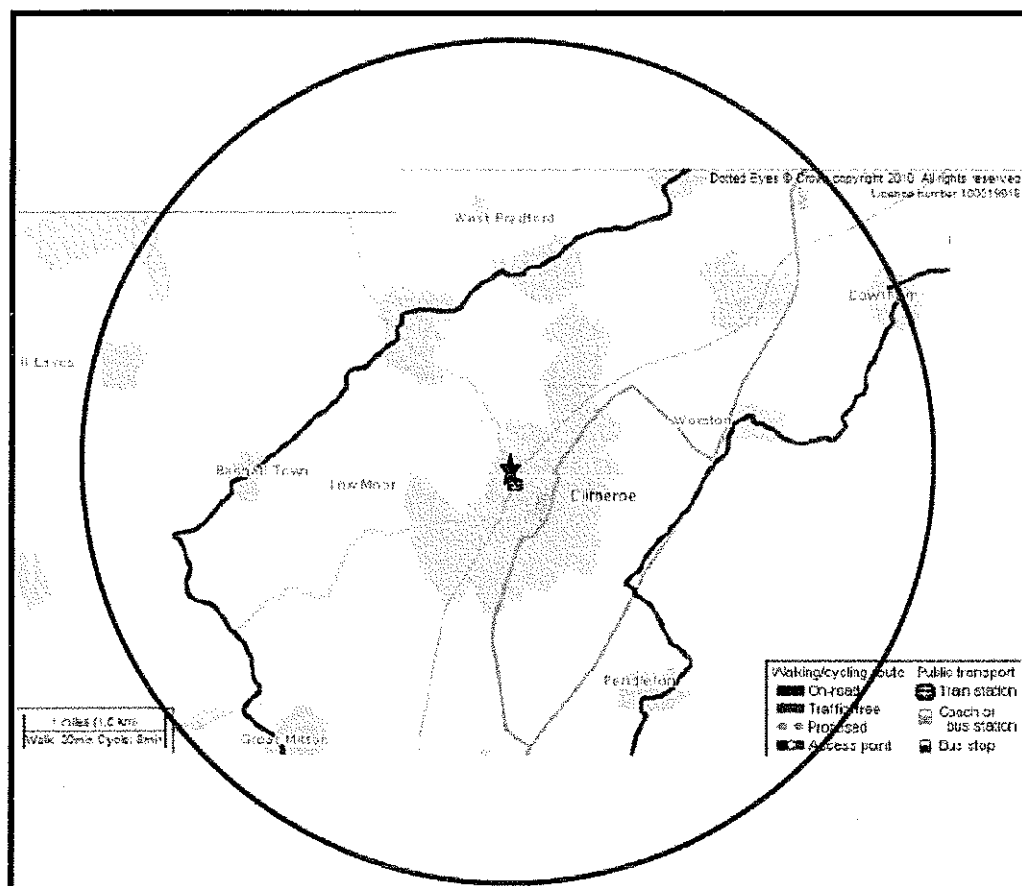
In conclusion, the proposed application site can be considered as being highly accessible on foot.

Cycling

The 2005 National Travel Survey NTS (undertaken annually by the DfT) has identified that bicycle dependant on the topography considers a mean distance of between 5 – 10 kilometres a reasonable travel distance between home and workplace.

As described in paragraph 78 of PPG13, 'Cycling also has the potential to substitute for short car trips, particularly those under 5 km, and form part of longer journeys by public transport'.

The red circle on the figure below indicates the 5 km distance clearly the 10km distance will cover a substantial area.



5km Cycle Catchment (Not to scale)

The plan shows that a number of the smaller adjacent villages are within the 5km cycling distance a journey of around 25 minutes using a leisurely cycle speed of 12 kilometres per hour of the site. The 10km distance would allow cycle connection to the outskirts of Blackburn and Padiham.

Therefore, there are a wide variety of residential areas, schools, shops, and other leisure and service facilities associated with a rural within the cycle catchment area that can be accessed.

In conclusion, the proposed application site can be considered as being highly accessible by cycle.

Travel by public transport

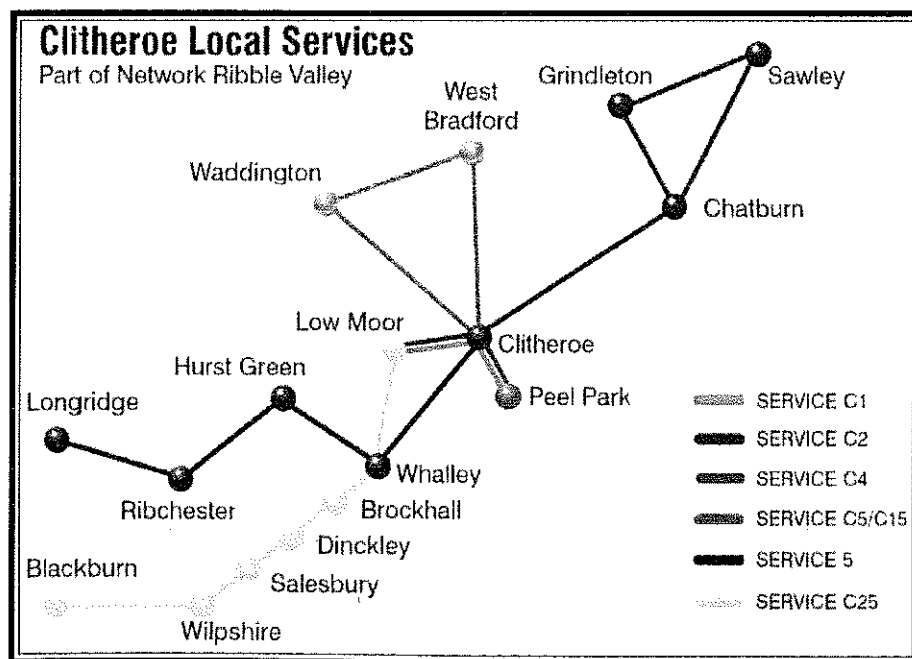
An effective public transport system is essential in providing good accessibility for large parts of the population to opportunities for work, education, shopping, leisure and healthcare in the town and beyond.

Railway View Road south of the development has the closest bus stops to the site, well within the 400m sustainable distances. They have shelters and bus timetable information

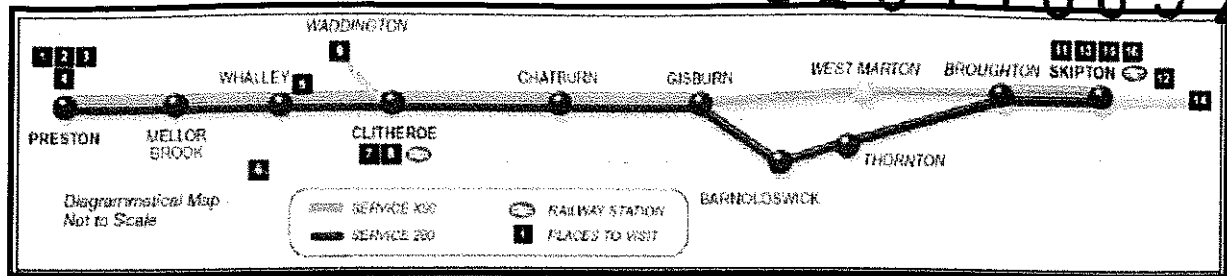


Bus station south of the site

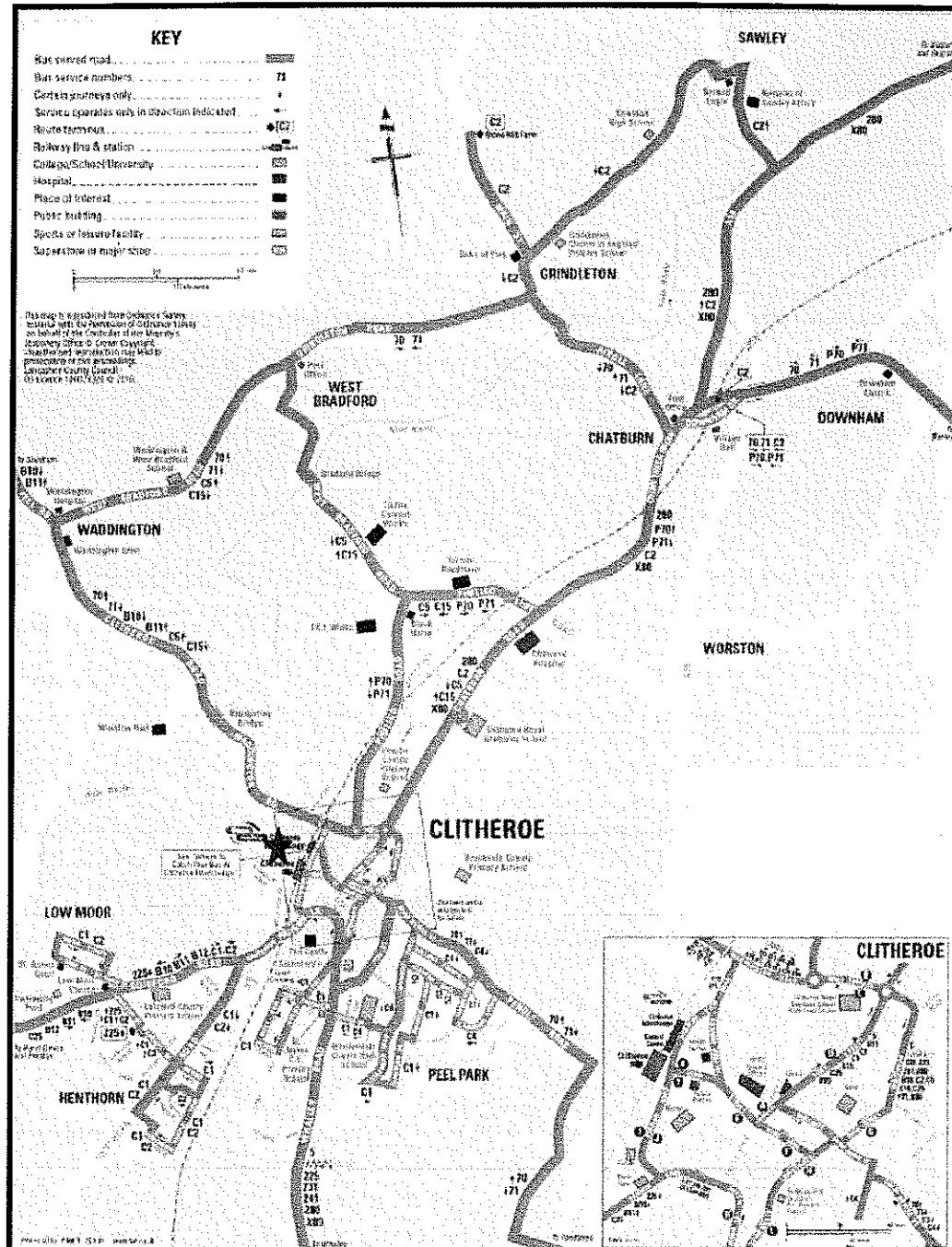
The proposed development site is therefore conveniently located close to bus stops that regularly serve a number of communities in the vicinity of the site. These services provide the opportunity for residents of the proposed development site to travel via public transport.



Local services



East west connections



Bus routes

The proposed application site is therefore considered as being highly accessible by bus.

[illegible][illegible]

NW rail map

320110892P

The proposed application site is therefore considered as being highly accessible by rail.

Summary

In summary, therefore, the application site can be considered as being highly accessible by public transport, walking and cycling in accordance with planning policy guidance.

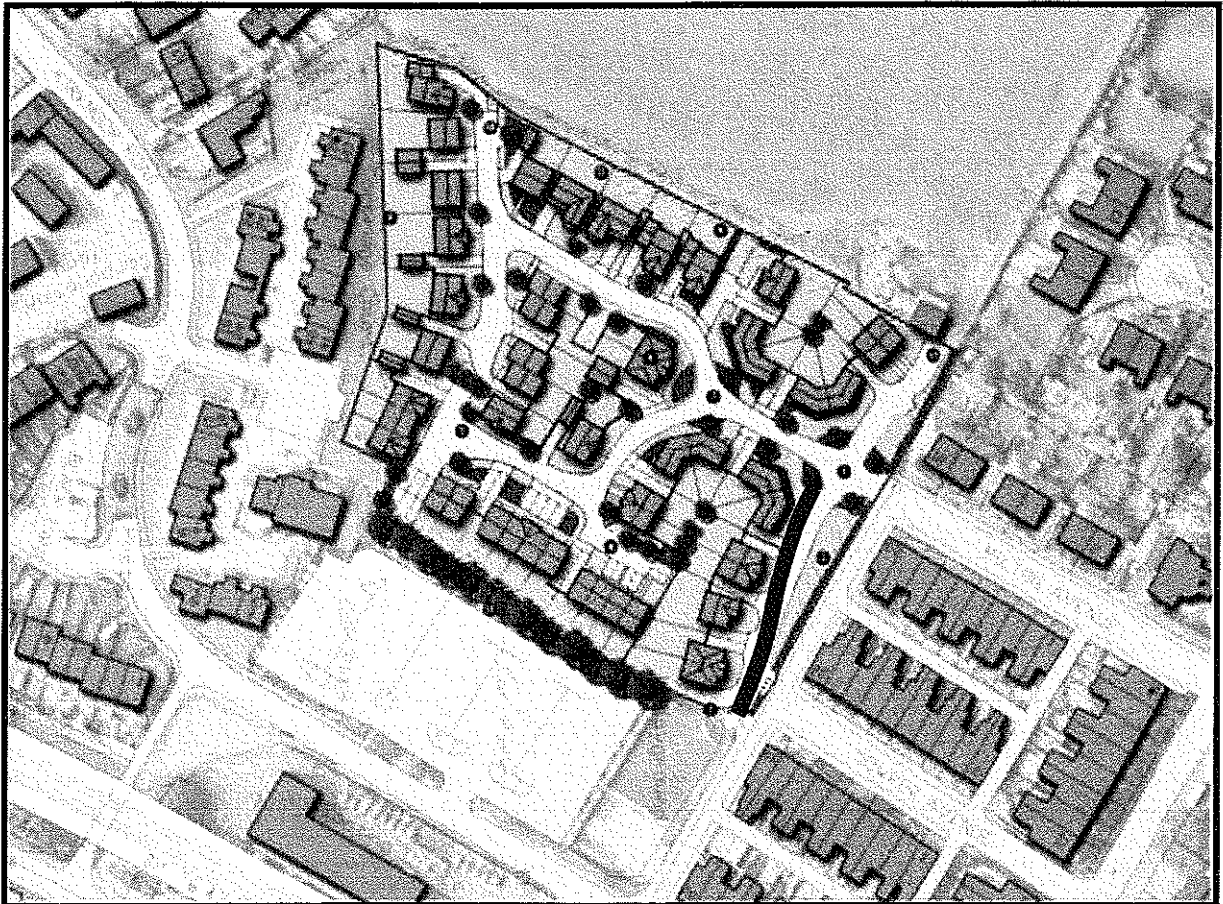
5. THE DEVELOPMENT PROPOSALS AND LAYOUT

Development Proposals

It is proposed to provide approximately 50 residential units they will be accessed from Milton Avenue using a new link extending the street into the site.

Layout

The site layout is illustrated on below (see architect drawing for full details) and included in the figures section and shows the primary vehicular access to the development will be via a normal priority junction.

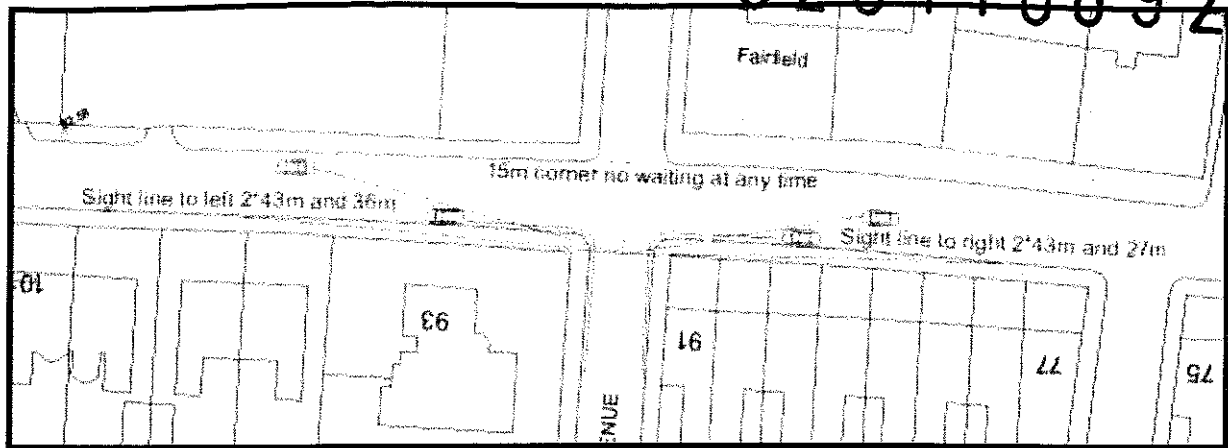


PLAN

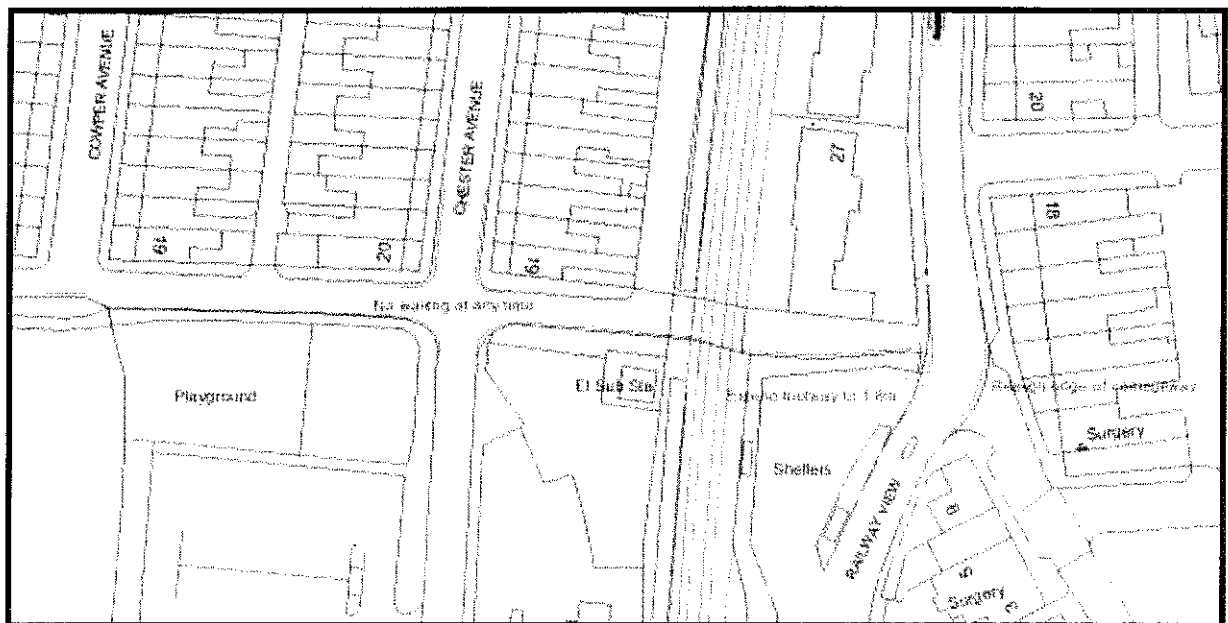
The layout is in the form of a cul de sac connected by a footpath link shown in red above to the rear passage to ensure good external walking connections are provided to the town centre.

Although the capacity assessments show that the site has no issues and the location is highly sustainable it is proposed to provide some mitigation measure which will enhance the local area and assist existing residents in the area to travel by car and non car modes

Overleaf are abstracts of the full mitigation set out in the figures section for reference.



The existing site lines can be occasionally constrained by parked cars as such corner protection measures are proposed.



Similarly the footpath route to the town centre can on occasion be blocked by parked cars and the above suggested mitigation could help resolve it.

6. TRIP GENERATION, TRAFFIC FLOWS AND ASSESSMENTS

Introduction

The site is exceptionally well located for non car modes to be used and the car based trips minimised. However, LCC have requested the junctions towards the town centre to be assessed.

This section defines the development trip rates, the number of trips generated by the proposed development of 50 dwellings and the impact that these trips will have on the local highway network.

The site will be accessed via a new link onto Milton Avenue and the existing priority T junction with the B6478.

The network agreed to be considered takes account of the following junctions:

- Milton Avenue / B6478 / Eastham Road Priority Crossroad Junction;
- B6478 / Chester Avenue / Park Avenue Staggered Right Left Junction; and
- B6478 / Railway View Road Priority T Junction

As agreed with the local highway authority and in accordance with Department for Transport (DfT) guidance the above junctions have been assessed for capacity and delay.

For each junction an assessment has been undertaken using the 2011 and 2016 base flows and the 2011 and 2016 base flows with development trips using PICADY.

In addition a sensitivity test have been undertaken at the Railway View Road / B6478 Priority T Junction in 2011. The test assesses the worst case scenario with all the proposed development trips accessing the site through this junction.

Survey Peak Period Analysis

A full turning traffic survey was undertaken on Thursday 20th July 2011 with the peak hours of 0800 hours and 0900 hours and between 1645 hours and 1745 hours at the junctions noted above.

Figure 1 details the 2011 surveyed vehicle movements across the network in the AM and PM Peaks.

Figure 2 details the corresponding percentage of HGVs for the AM and PM peaks. These and subsequently derived traffic flows figures are contained in Appendix B.

Distribution of the Residential Traffic

Figure 3 details the likely distribution of development traffic from the proposed development across the network which is based upon the traffic surveys undertaken in July 2011 for the AM and PM peak periods.

Residential Trip Generation

The residential trips have been based on trip rates derived from an existing residential development in Catterick Garrison, Richmondshire, North Yorkshire. **This site is also in a semi rural area but does not have the nearby interchange as Clitheroe has as such would be seen as a worst case assessment.**

Appendix C contains a plan showing the location of the residential development at Catterick Garrison, the survey data and a calculation sheet deriving the trip rates for this residential development.

The trip rates within Appendix C have been used to derive the trips associated with the proposed development. Table 1 shows the trip rates and the trips for the proposed development of 50 dwellings.

320110892P

Peak Period	Trip Rate per Household		50 Household Development Trip Generation	
	Arr	Dep	Arr	Dep
AM	0.15	0.50	8	25
PM	0.44	0.17	22	9

Table 1: Residential Trip Rates and Development Trips

For a check a general TRICs review has also been undertaken to show that the rates are robust, Appendix D.

Utilising Figure 3 and the development trips above, Figure 4 detail the development trips distributed across the network.

Traffic Growth

In order to assess the capacity of the junctions in a future year, i.e. 2016, growth rates for the weekday AM and PM Peaks have been obtained from the TEMPRO V6 2 program. TEMPRO utilises National Trip End Model (NTEM) 6 2 dataset and National Trip Model (NTM) Annual Forecasts (AF) 09. As of the 19 July 2011 the Department of Transport reaffirmed the use of the aforementioned dataset and AF09 in a circular email update.

Table 2 details the 2011 to 2016 growth rates for Clitheroe, Ribble Valley, Lancashire and the wider area. The site is located in the Clitheroe area

Level	Area	AM	PM
Region	NW	1.034564	1.034564
County	Lancashire	1.028353	1.028649
Authority	Ribble Valley	1.03412	1.035845
30UL2	Clitheroe	1.03417	1.035895

Table 2: TEMPRO Growth Rates

The Clitheroe growth rates are the highest and therefore have been used to derive robust base traffic flows for the local highway network in the AM and PM periods for 2016. Figure 6 shows the 2016 AM and PM base flows

2011 and 2016 Base Traffic Flows Plus Development

Utilising the 2011 base traffic flows in Figure 1, the 2016 base traffic flows in Figure 6 and the development trips shown in Figure 4, the following 2011 and 2016 base traffic flows plus development figures have been derived:

- Figure 5 – 2011 AM and PM Peak Base Traffic Flows Plus development – PCU
- Figure 7 – 2016 AM Peak Base Traffic Flows Plus development - PCU

The sensitivity test flows at B6478 / Railway View Road Priority Junction with 50 dwellings is shown in Figure 8 and for 200 dwellings in Figure 9.

Traffic Analysis

The Transport Research Laboratory modelling software PICADY has been used to assess the operation of the priority junctions on the local highway network

PICADY Analysis

The full results for the PICADY analysis are presented in Appendix E

Milton Avenue / B6478 / Eastham Street

The Milton Avenue / B6478 / Eastham Street is a priority cross road junction. A summary of its assessment is noted in Table 3 below. Arm A is B6478 Clitheroe, Arm B is Milton Avenue, Arm C is B6478 Waddington and Arm D is Eastham Street.

Peak Period	Movement	2011 Base Flows		2011 Base plus Development Flows		2016 Base Flows		2016 Base plus Development Flows	
		Max RFC	Queue	Max RFC	Queue	Max RFC	Queue	Max RFC	Queue
AM	B-ACD	0.009	0.01	0.060	0.06	0.009	0.01	0.063	0.07
	A-BCD	0.107	0.12	0.107	0.12	0.111	0.13	0.111	0.13
	D-ABC	0.140	0.16	0.140	0.16	0.145	0.17	0.146	0.17
	C-ABD	0.002	0.00	0.008	0.01	0.002	0.00	0.008	0.01
PM	B-ACD	0.008	0.01	0.027	0.03	0.008	0.01	0.027	0.03
	A-BCD	0.143	0.18	0.143	0.18	0.150	0.19	0.150	0.19
	D-ABC	0.116	0.13	0.117	0.13	0.120	0.14	0.120	0.14
	C-ABD	0.000	0.00	0.000	0.00	0.000	0.00	0.000	0.00

Table 3: Milton Avenue / B6478 / Eastham Street – 2011 and 2016 PICADY Results

It can be seen from Table 3 that the priority cross road junction operates well within capacity in both 2011 and 2016 with base flows plus the proposed development trips

B6478 / Chester Avenue / Park Avenue

Table 4 summarises the PICADY results for the staggered junction of B6478 / Chester Avenue / Park Avenue. Arm A is B6478 Clitheroe, Arm B is Chester Avenue, Arm C is B6478 Waddington and Arm D is Park Avenue.

Peak Period	Movement	2011 Base Flows		2011 Base plus Development Flows		2016 Base Flows		2016 Base plus Development Flows	
		Max RFC	Queue	Max RFC	Queue	Max RFC	Queue	Max RFC	Queue
AM	B-ACD	0.048	0.05	0.049	0.05	0.049	0.05	0.049	0.05
	A-BCD	0.006	0.01	0.006	0.01	0.006	0.01	0.006	0.01
	D-ABC	0.038	0.04	0.038	0.04	0.040	0.04	0.040	0.04
	C-ABD	0.036	0.04	0.036	0.04	0.038	0.04	0.038	0.04
PM	B-ACD	0.061	0.06	0.062	0.07	0.065	0.07	0.066	0.07
	A-BCD	0.035	0.04	0.035	0.04	0.037	0.04	0.037	0.04
	D-ABC	0.038	0.04	0.038	0.04	0.040	0.04	0.040	0.04
	C-ABD	0.021	0.02	0.022	0.02	0.022	0.02	0.022	0.02

Table 4: Staggered Junction of B6478 / Chester Avenue / Park Avenue - 2011 and 2016 PICADY Results

It can be seen from Table 4 that the staggered junction of B6478 / Chester Avenue / Park Avenue operates well within capacity in both 2011 and 2016 with base flows plus the proposed development trips

Table 5 summarises the PICADY results for the three arm priority T junction of B6478 / Railway View Road. Arm A is Railway View Road, Arm B is B6478 Waddington and Arm C is B6478 Clitheroe.

Peak Period	Movement	2011 Base Flows		2011 Base plus Development Flows		2016 Base Flows		2016 Base plus Development Flows	
		Max RFC	Queue	Max RFC	Queue	Max RFC	Queue	Max RFC	Queue
AM	B-C	0.540	1.15	0.570	1.30	0.564	1.27	0.594	1.43
	B-ACD	0.183	0.22	0.200	0.25	0.197	0.24	0.215	0.27
	C-AB	0.290	0.45	0.297	0.47	0.301	0.48	0.311	0.51
PM	B-C	0.630	1.66	0.638	1.72	0.660	1.88	0.671	1.97
	B-ACD	0.178	0.21	0.184	0.22	0.197	0.24	0.205	0.25
	C-AB	0.574	1.88	0.607	2.19	0.600	2.15	0.634	2.52

Table 5: Three Arm Priority T junction of B6478 / Railway View Road - 2011 and 2016 PICADY Results

It can be seen from Table 5 that the three arm priority T junction of B6478 / Railway View Road operates within capacity in both 2011 and 2016 with base flows plus the proposed development trips

Table 6 summarises the results from the sensitivity test of B6478 / Railway View Road junction

Peak Period	Movement	2011 Base plus 50 dwelling trips - Sensitivity Test	
		Max RFC	Queue
AM	B-C	0.588	1.40
	B-ACD	0.207	0.26
	C-AB	0.302	0.48
PM	B-C	0.650	1.80
	B-ACD	0.192	0.23
	C-AB	0.607	2.19

Table 6: Three Arm Priority T junction of B6478 / Railway View Road - 2011 Sensitivity Test PICADY Results

It can be seen from Table 6 that in the sensitivity test the junction of B6478 / Railway View Road operates within capacity in 2011 assuming all site trips use the junction, an unlikely occurrence.

Assessment Summary

The network has been assessed with and without the development and has been shown to operate with spare capacity at all junctions assessed across the network.

Impact During Construction

The development of the site will provide an element of HGV traffic during construction. Whilst this is unavoidable, movements will be restricted where appropriate to hours that would not cause undue disturbance to the local area

Mode splits

In order to understand more fully the potential trip generation for all modes reference has been made to the 2001 census data.

Travel to Work (K515)	site, 50 units @ 2.2 per household	Clitheroe	Ribble Valley	North West	England
In employment	110	3545	26407	2900020	22441498
Home	10	9.14	12.97	8.36	9.16
Underground, Metro, Light Rail or Tram	0	0	0.03	0.55	3.16
Train	1	1.07	0.67	1.87	4.23
Bus, Mini Bus or Coach	2	1.61	2.17	8.56	7.51
Motorcycle, Scooter or Moped	1	1.07	0.87	0.92	1.11
Driving a Car or Van	64	58.7	64.46	58.43	54.92
Passenger in a Car or Van	6	5.16	5.65	7.5	6.11
Taxi or Minicab	0	0.2	0.2	0.81	0.52
Bicycle	4	3.61	1.98	2.27	2.83
On foot	21	19.32	10.55	10.27	9.99
Other	0	0.11	0.46	0.46	0.46
	109	99.99	100.01	100	100

This shows that the potential for walk is good and that this will most probably be combined a shared trip with Public Transport. Locally cycling is higher than the area level and would be likely to be maintained in level.

Clearly cars usage for driver and passengers is the highest trip generation as would be expected for such a location but it is lower than the wider council area

Summary

The site has little or no impact on the surrounding network from a vehicular point of view

Private house ownership has the potential for reduced car dependency if walking and public transport modes are accessible from day one

7. SUMMARY

320110892P

The scheme accords with local and national policy to site development adjacent to good transport linkages and other attractions to minimise trips and share trip movements

The site has a highly sustainable location and the layout accords with good practice.

Traffic flows have been assessed for up to date levels, based on a robust view of the flows and no capacity issues are expected to arise with the adjacent junctions to the site.

As such the scheme would have little or no impact on the local network

The scale of the site access and mitigation levels for non car movements are felt to be appropriate and will be promoted before occupation.

As such it is considered that there are no reasons why the scheme should not be approved from a transportation point of view.

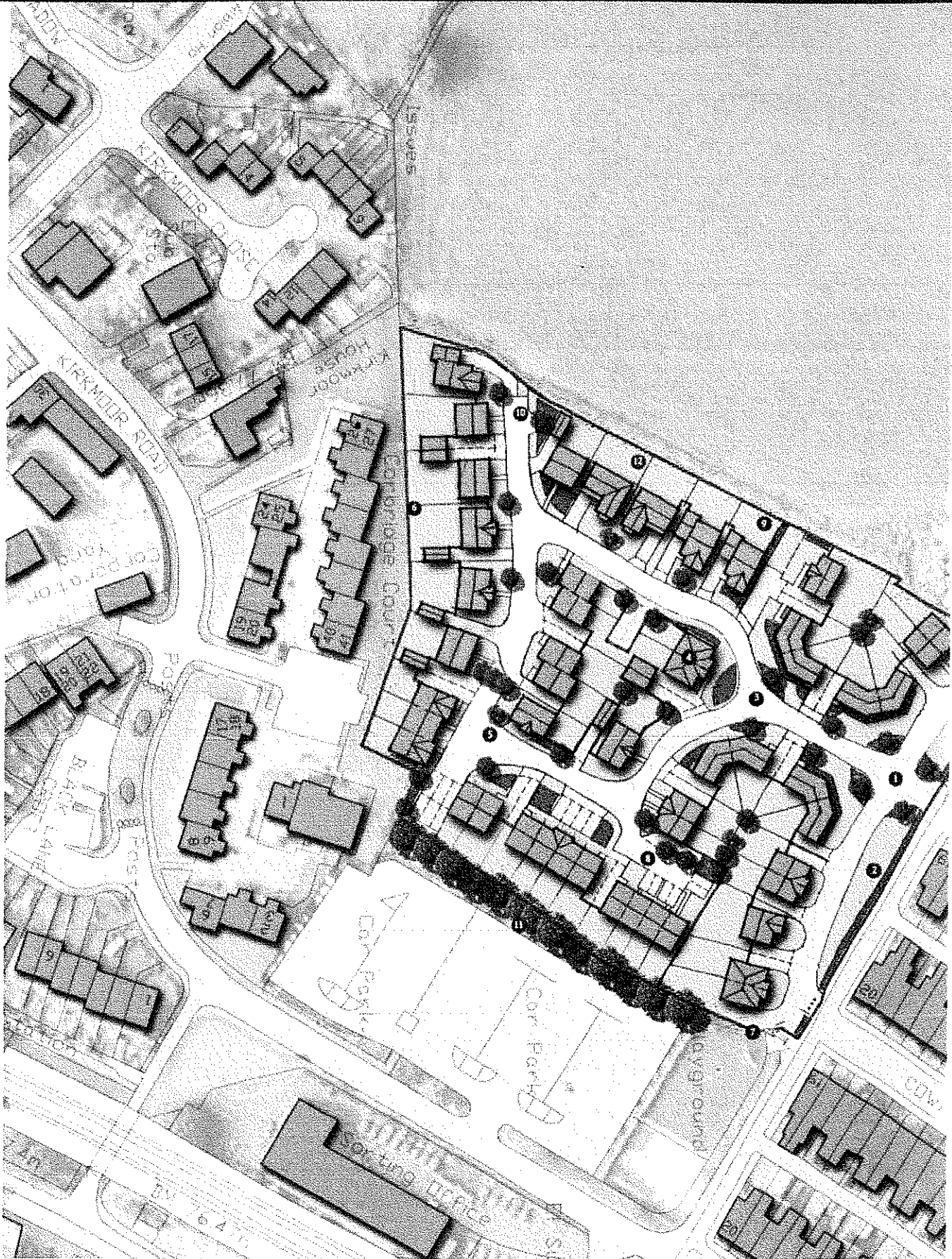
930601030

Figures

320110892P

Masterplan

Wadd



Chapel

The Beeches

Fairfield

Riverside

Glenwood

BRIMLEY AVENUE

MILTON AVENUE

COOPER AVENUE

Track

North

41260-100

Appendices

756701500

Appendix A

Traffic survey

Summary

Site 1 : B6478 Waddington Road/Railway View Road

A: B6478 Clitheroe

Day: Thursday

B: Railway View Road

Date: 21 July 2011

C: B6478 Waddington

Weather: Fine/Cloudy

320110892P

Time	From A								From B								C
	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	
07:30	35	10	4	0	1	0	1	51	38	10	2	1	0	0	3	54	4
07:45	53	13	5	1	2	1	0	75	40	12	1	0	2	0	1	56	4
08:00	61	18	3	1	0	0	4	87	54	14	6	0	2	1	1	78	9
08:15	68	13	1	1	1	0	1	85	72	10	2	2	4	1	7	98	6
08:30	55	9	0	2	0	1	1	68	56	12	2	0	1	0	5	76	6
08:45	61	10	0	0	1	0	1	73	62	13	1	0	1	0	2	79	5
09:00	99	24	4	0	3	0	1	131	66	15	2	2	1	0	4	90	8
09:15	70	17	2	0	0	0	0	89	51	15	3	0	0	1	3	73	4
Total	502	114	19	5	8	2	9	659	439	101	19	5	11	3	26	604	49

16:30	128	6	0	0	1	2	0	137	93	5	2	1	2	0	3	106	5
16:45	125	13	1	0	5	4	1	149	77	13	2	1	0	1	2	96	8
17:00	116	24	1	0	3	0	0	144	119	13	1	0	1	1	4	139	6
17:15	109	14	0	0	6	3	2	134	94	11	2	0	1	1	0	109	7
17:30	123	15	0	0	4	2	1	145	120	6	2	0	1	0	2	131	7
17:45	111	10	1	0	1	2	1	126	96	5	0	1	0	0	1	103	6
18:00	107	15	1	0	2	0	1	126	82	8	0	0	1	1	3	95	3
18:15	84	13	1	0	0	3	1	102	80	4	0	0	2	0	1	87	4
Total	903	110	5	0	22	16	7	1063	761	65	9	3	8	4	16	866	49

To A									To B									
Time	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	C	
07:30	72	13	2	1	0	0	3	91	27	6	2	0	0	0	0	35		
07:45	67	19	3	0	2	0	1	92	42	7	5	1	1	0	0	56	2	
08:00	125	21	6	0	3	1	1	157	52	9	1	0	0	0	3	65		
08:15	111	17	3	3	6	1	9	150	55	6	0	1	1	0	0	63	4	
08:30	97	13	3	1	1	0	5	120	43	2	0	1	1	0	1	48	3	
08:45	87	14	2	0	0	0	2	105	57	6	1	0	0	0	1	65		
09:00	120	18	3	2	0	1	5	149	73	14	4	0	3	0	1	95	5	
09:15	65	13	5	1	0	0	3	87	53	6	1	0	1	0	0	61		
Total	744	128	27	8	12	3	29	951	402	56	14	3	7	0	6	488	28	

16:30	111	9	2	2	0	0	2	126	83	4	0	0	1	1	0	89	7
16:45	124	16	1	1	0	1	2	145	83	10	1	0	5	3	0	102	7
17:00	135	20	1	0	1	2	4	163	78	16	1	0	1	0	0	96	7
17:15	132	16	2	0	0	3	1	154	66	9	0	0	4	1	0	80	7
17:30	138	14	3	0	1	0	2	158	68	12	0	0	3	2	1	86	16
17:45	112	10	0	1	1	0	1	125	70	6	1	0	1	2	0	80	5
18:00	86	11	0	0	4	2	3	106	64	10	1	0	1	0	1	77	7
18:15	84	4	0	0	2	2	1	93	51	7	0	0	0	0	1	59	7
Total	922	100	9	4	9	10	16	1070	563	74	4	0	16	9	3	669	67

Site 2 : B6478 Waddington Road/Park Avenue/Chester Avenue

A: Park Avenue

Day: Thursday

B: B6478 Clitheroe

Date: 21 July 2011

C: Chester Avenue

Weather: Fine/Cloudy

D: B6478 Waddington

320110892P

A - B									A - C								
Time	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Ce
07:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
07:45	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
08:00	5	0	0	0	1	0	0	6	0	0	0	0	0	0	0	0	2
08:15	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1	0
08:30	3	0	0	0	1	0	0	4	0	0	0	0	0	0	0	0	1
08:45	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
09:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
09:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Total	24	0	0	0	2	0	0	26	1	0	0	0	0	0	0	1	4

16:30	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
16:45	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
17:00	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
17:15	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1
17:30	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
17:45	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
18:00	1	1	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0
18:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Total	29	1	0	0	1	0	0	31	0	0	0	0	0	0	0	0	1

B - A									B - C									
Time	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Ca	
07:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2		
07:45	1	0	0	0	0	0	0	1	4	0	0	0	0	1	0	5	2	
08:00	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4	2	
08:15	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4		
08:30	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	5	3	
08:45	2	0	0	0	0	0	0	2	6	2	0	0	0	0	0	8	2	
09:00	1	0	0	0	1	0	0	2	3	1	0	0	0	0	0	4		
09:15	3	1	0	0	0	0	0	4	5	2	0	0	0	0	0	7	3	
Total	8	1	0	0	1	0	0	10	30	8	0	0	0	1	0	39	2	

16:30	5	0	0	0	1	0	0	6	3	0	0	0	0	1	0	4	
16:45	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	
17:00	7	0	0	0	0	0	0	7	1	2	0	0	0	0	0	3	8
17:15	3	1	0	0	2	0	0	6	1	1	0	0	1	0	0	3	
17:30	2	0	0	0	0	0	0	2	4	1	0	0	0	0	0	5	1
17:45	8	1	0	0	0	0	0	9	0	0	0	0	0	0	0	0	8
18:00	6	0	0	0	0	0	0	6	4	1	0	0	0	0	0	5	
18:15	8	1	0	0	0	0	0	9	2	0	0	0	0	0	0	2	
Total	41	3	0	0	3	0	0	47	16	5	0	0	1	1	0	23	6

320110892P

C - A

C - B

Time	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Ce
07:30	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	1
07:45	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	3	0
08:00	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	6	0
08:15	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	3	2
08:30	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	2
08:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
09:00	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	1
09:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	3
Total	0	0	0	0	0	0	0	0	18	5	1	0	1	0	0	25	9

16:30	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	1
16:45	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	2
17:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	1
17:15	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	2
17:30	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	7	4
17:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
18:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2	0
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	21	3	0	0	0	1	0	25	11

9568611050

D - A

D - B

Time	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Ca
07:30	1	0	0	0	0	0	0	1	44	5	0	0	0	0	0	49	
07:45	0	0	0	0	0	0	0	0	42	9	1	0	0	0	0	52	
08:00	0	0	0	0	0	0	0	0	78	5	0	0	0	0	0	83	2
08:15	1	0	0	0	0	0	0	1	67	9	1	1	1	0	3	82	
08:30	0	0	0	0	0	0	0	0	61	5	1	1	0	0	0	68	6
08:45	0	0	0	0	0	0	0	0	59	5	2	0	0	0	1	67	1
09:00	1	0	0	0	0	0	0	1	65	5	2	0	0	1	0	73	
09:15	1	0	0	0	0	0	0	1	36	2	1	1	1	0	0	41	0
Total	4	0	0	0	0	0	0	4	452	45	8	3	2	1	4	515	

16:30	0	0	0	0	0	0	0	0	49	5	0	1	0	0	0	55	
16:45	0	0	0	0	0	0	0	0	73	11	0	0	0	0	0	84	
17:00	1	0	0	0	0	0	0	1	61	10	0	0	1	1	0	73	4
17:15	0	0	0	0	0	0	0	0	65	8	0	0	0	2	1	76	
17:30	0	0	0	0	0	0	0	0	58	12	1	0	1	0	0	72	
17:45	0	0	0	0	0	0	0	0	60	5	0	0	1	0	0	66	0
18:00	0	1	0	0	0	0	0	1	37	2	0	0	2	0	0	41	
18:15	1	0	0	0	0	0	0	1	41	2	0	0	0	2	0	45	
Total	2	1	0	0	0	0	0	3	444	55	1	1	5	5	1	512	

Site 3 : B6478 Waddington Road/Eastham Street/Milton Avenue

A: Eastham Street

Day: Thursday

B: B6478 Clitheroe

Date: 21 July 2011

C: Milton Avenue

Weather: Fine/Cloudy

D: B6478 Waddington

320110892P

Time	A - B								A - C								Ca
	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	
07:30	8	2	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0
07:45	10	4	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0
08:00	22	3	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0
08:15	18	3	1	0	1	0	1	24	0	0	0	0	0	0	0	0	1
08:30	18	1	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0
08:45	10	4	0	0	0	0	0	14	0	0	0	0	0	0	0	0	1
09:00	19	1	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0
09:15	5	1	0	0	1	0	0	7	0	0	0	0	0	0	0	0	0
Total	110	19	1	0	2	0	1	133	0	0	0	0	0	0	0	0	2

16:30	9	3	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0
16:45	8	2	0	0	0	0	0	10	0	0	0	0	0	0	0	0	1
17:00	14	3	0	0	0	0	0	17	0	0	0	0	0	0	0	0	1
17:15	16	3	0	0	0	0	0	19	0	0	0	0	0	0	0	0	1
17:30	14	2	0	0	1	0	0	17	0	0	0	0	0	0	0	0	0
17:45	15	1	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0
18:00	13	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0
18:15	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	2
Total	101	14	0	0	1	0	0	116	0	0	0	0	0	0	0	0	5

B - A

B - C

Time	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Ca
07:30	9	2	1	0	0	0	0	12	1	0	0	0	0	0	0	1	1
07:45	13	0	0	0	1	0	0	14	0	0	0	0	0	0	0	0	1
08:00	8	2	0	0	0	0	0	10	1	0	0	0	0	0	0	1	10
08:15	16	3	0	0	1	0	1	21	1	0	0	0	0	0	0	1	2
08:30	6	2	0	0	0	1	0	9	0	0	0	0	0	0	0	0	3
08:45	12	2	0	0	0	0	0	14	0	0	0	0	0	0	0	0	20
09:00	12	1	0	0	0	0	0	13	0	0	0	0	0	0	0	0	2
09:15	6	3	0	0	0	0	0	9	1	0	0	0	0	0	0	1	2
Total	82	15	1	0	2	1	1	102	4	0	0	0	0	0	0	4	1

16:30	11	0	0	0	0	0	0	11	2	0	0	0	0	0	0	2	5
16:45	14	2	0	0	0	0	0	16	3	0	0	0	0	0	0	3	4
17:00	12	5	0	0	2	0	0	19	2	0	0	0	0	0	0	2	50
17:15	13	2	0	0	0	0	0	15	0	0	0	0	0	0	0	0	5
17:30	22	1	0	0	0	0	0	23	3	0	0	0	0	0	0	3	7
17:45	15	2	0	0	0	0	0	17	2	0	0	0	0	0	0	2	60
18:00	7	1	0	0	1	0	0	9	3	0	0	0	0	0	0	3	4
18:15	13	2	0	0	0	0	0	15	0	0	0	0	0	0	0	0	4
Total	107	15	0	0	3	0	0	125	15	0	0	0	0	0	0	15	4

320110892P

C - A

C - B

Time	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Ce
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	0

16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
17:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	2

D - A

D - B

Time	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	OGV2	P/C	M/C	PSV	Total	Ca
07:30	0	0	0	0	0	0	0	0	31	3	0	0	0	0	0	34	
07:45	0	0	0	0	0	0	0	0	26	5	1	0	0	0	0	32	
08:00	1	0	0	0	0	0	0	1	45	3	0	0	0	0	0	48	
08:15	4	0	0	0	0	0	0	4	49	4	0	1	1	0	2	57	
08:30	0	0	0	0	0	0	0	0	40	4	1	1	0	0	0	46	
08:45	1	0	0	0	0	0	0	1	40	5	2	0	0	0	1	48	
09:00	1	0	0	0	0	0	0	1	43	4	2	0	0	1	0	50	
09:15	0	0	0	0	0	0	0	0	28	2	1	1	0	0	0	32	
Total	7	0	0	0	0	0	0	7	302	30	7	3	1	1	3	347	

16:30	0	0	0	0	0	0	0	0	36	2	0	1	0	0	0	39	
16:45	0	0	0	0	0	0	0	0	64	10	0	0	0	0	0	74	
17:00	0	0	0	0	0	0	0	0	47	5	1	0	0	1	0	54	
17:15	1	0	0	0	0	0	0	1	50	4	0	0	0	2	1	57	
17:30	1	0	0	0	0	0	0	1	40	9	1	0	0	0	0	50	
17:45	0	0	0	0	0	0	0	0	34	3	0	0	1	0	0	38	
18:00	0	0	0	0	0	0	0	0	21	3	0	0	2	0	0	26	
18:15	0	0	0	0	0	0	0	0	26	2	0	0	0	2	0	30	
Total	2	0	0	0	0	0	0	2	318	38	2	1	3	5	1	368	

320110892P

Appendix B
Network Flow Diagrams

9308011058

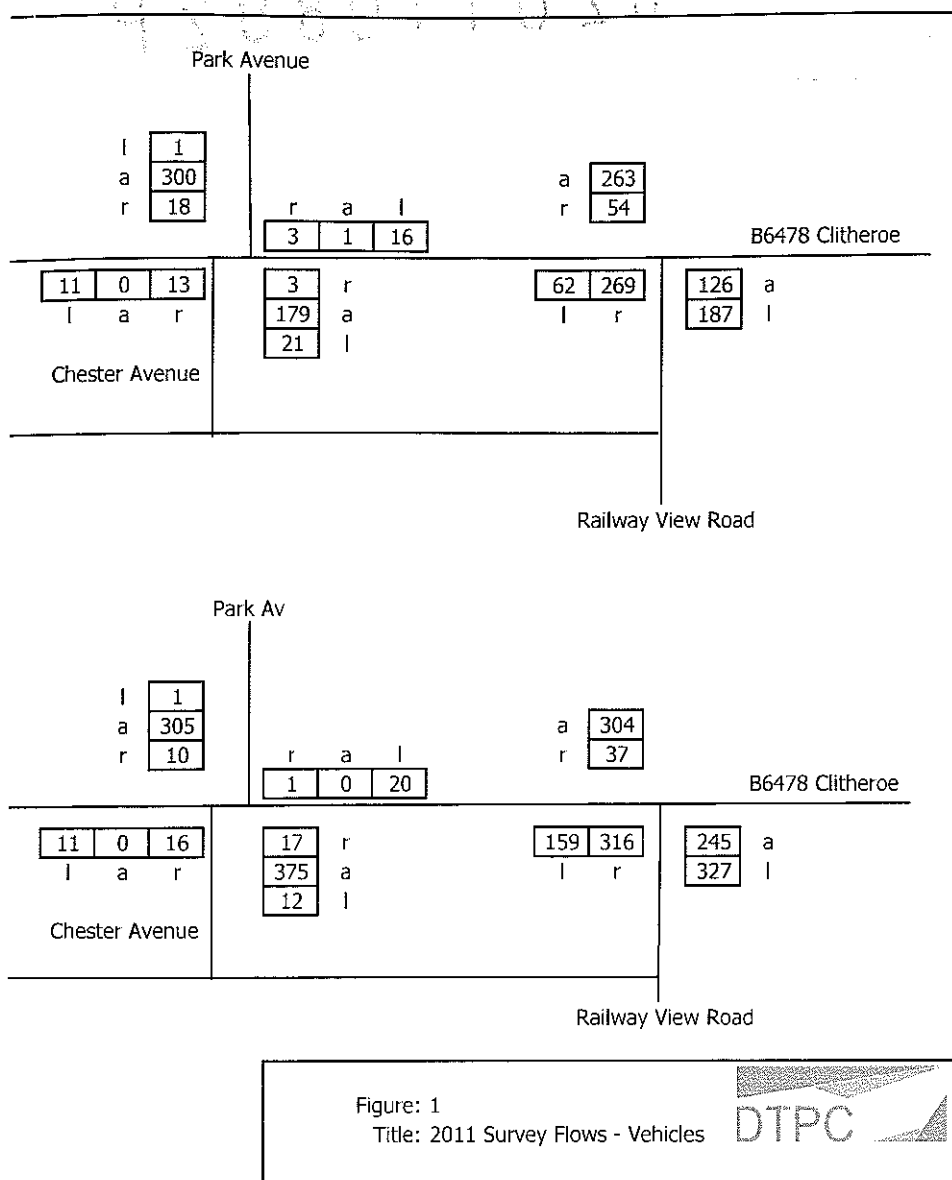
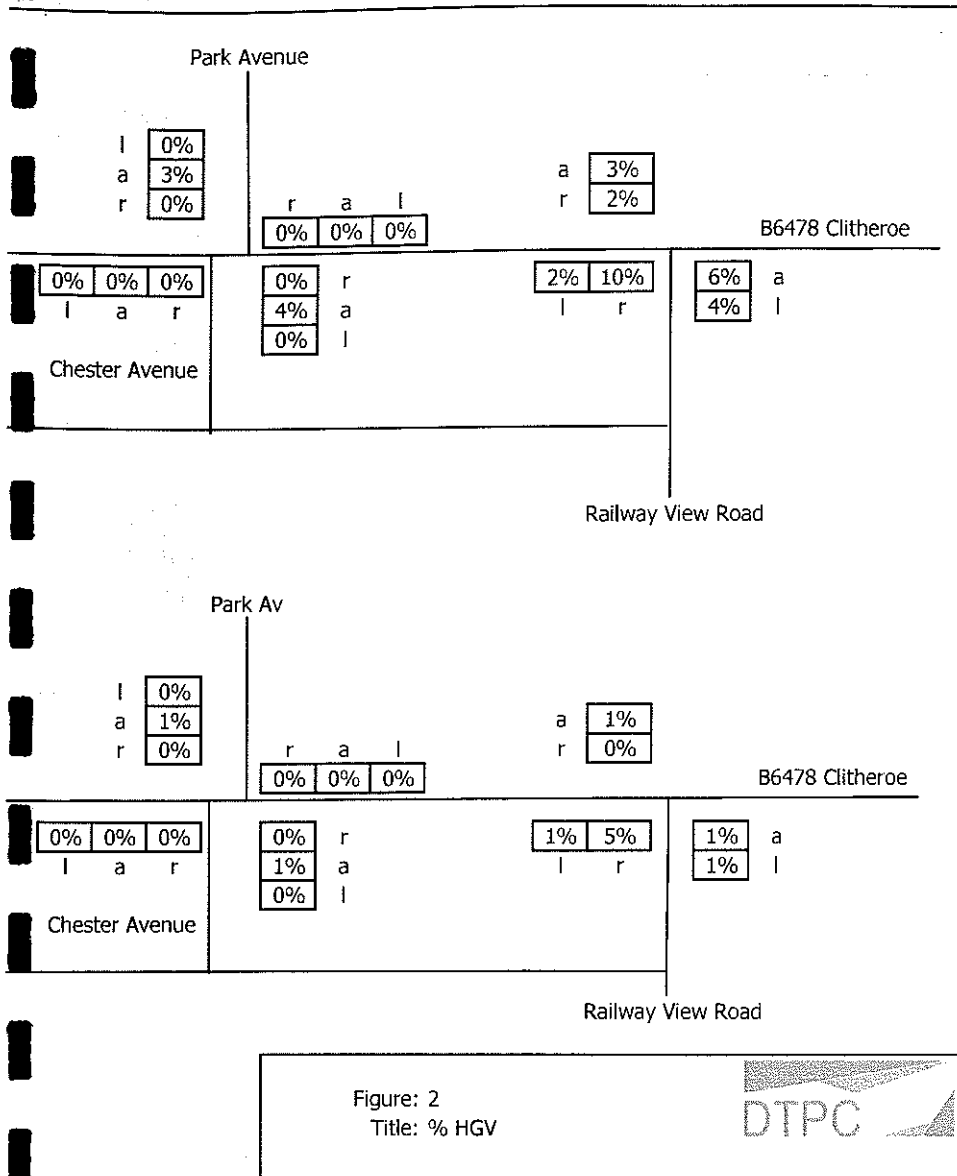


Figure: 1
Title: 2011 Survey Flows - Vehicles



320110892P



198011058

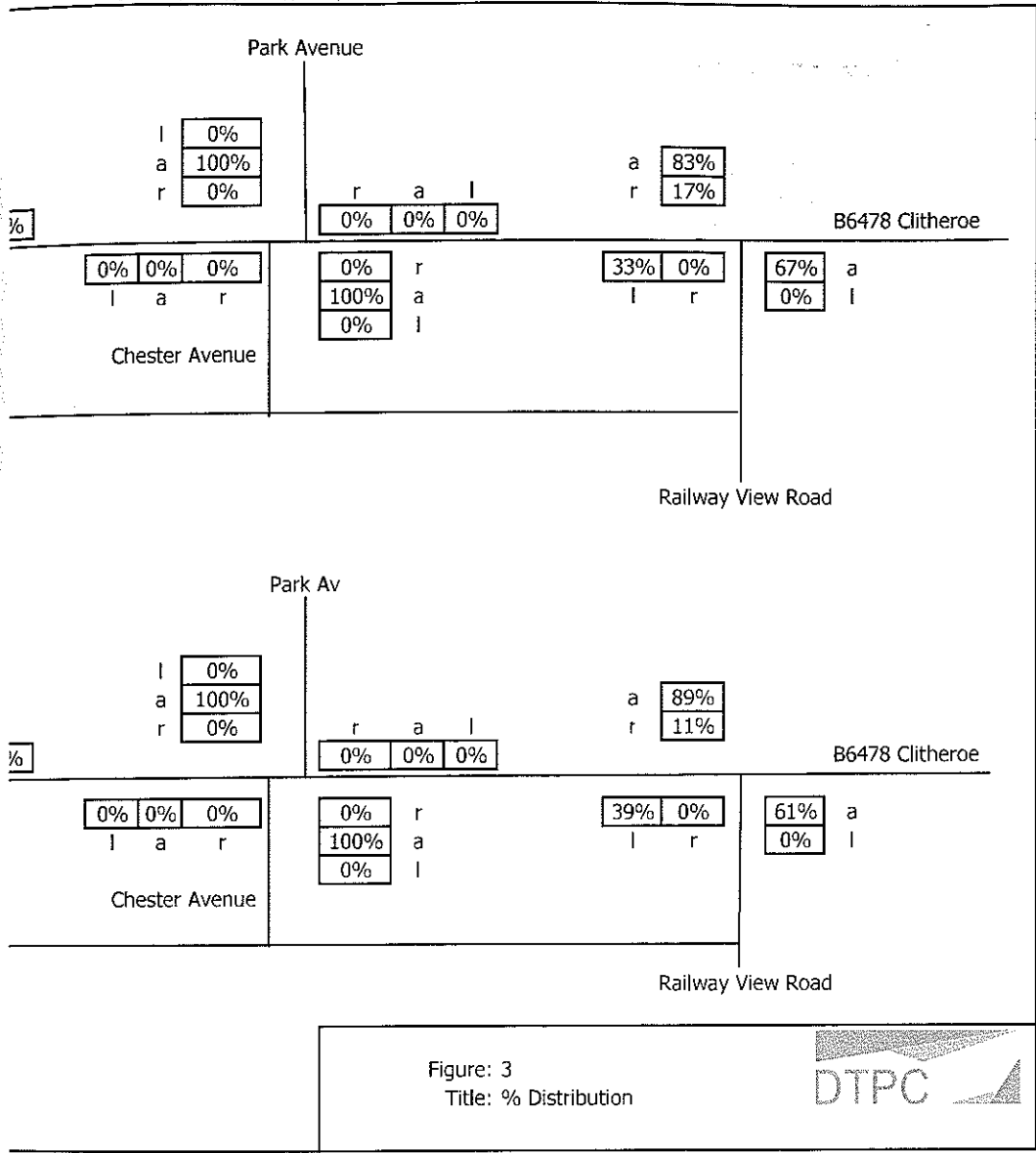
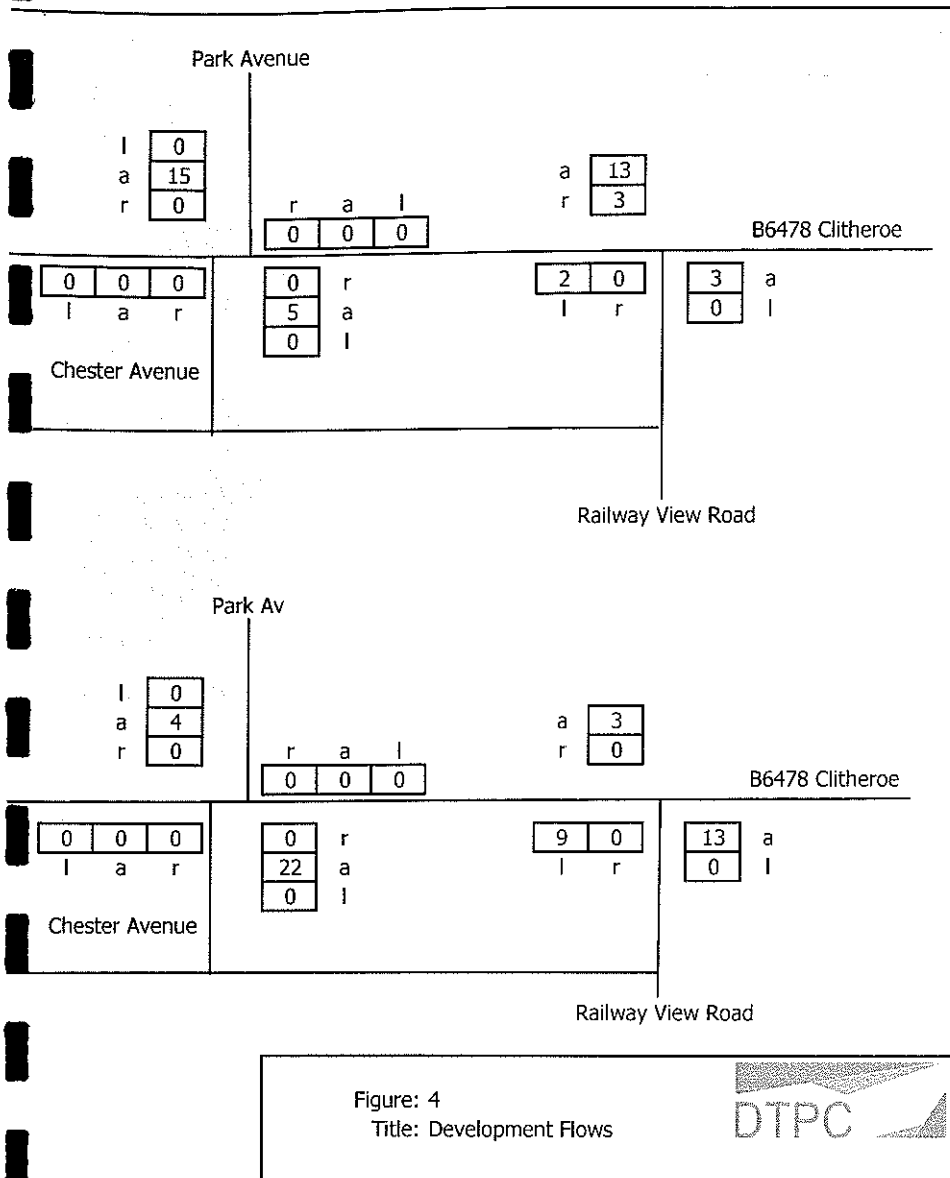


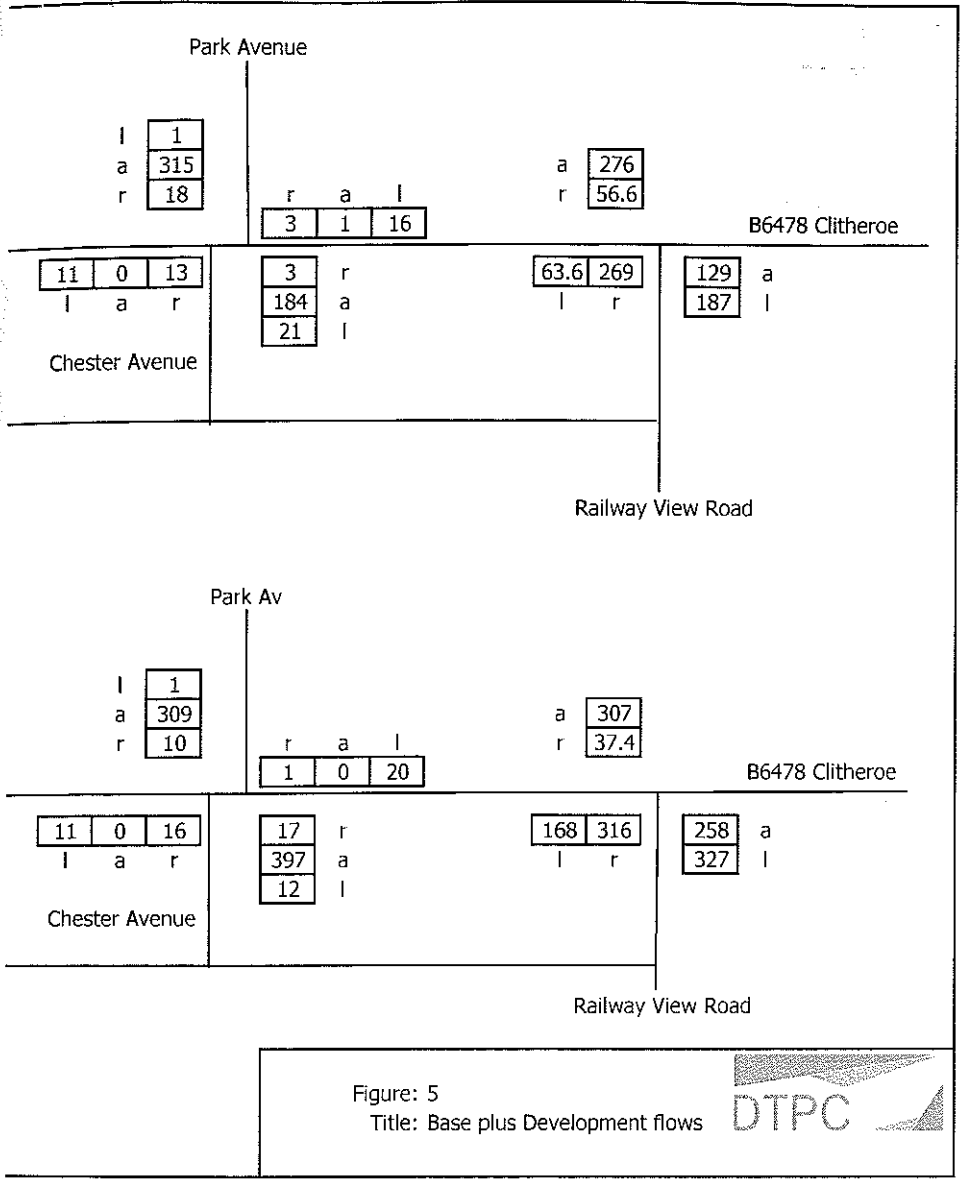
Figure: 3
Title: % Distribution



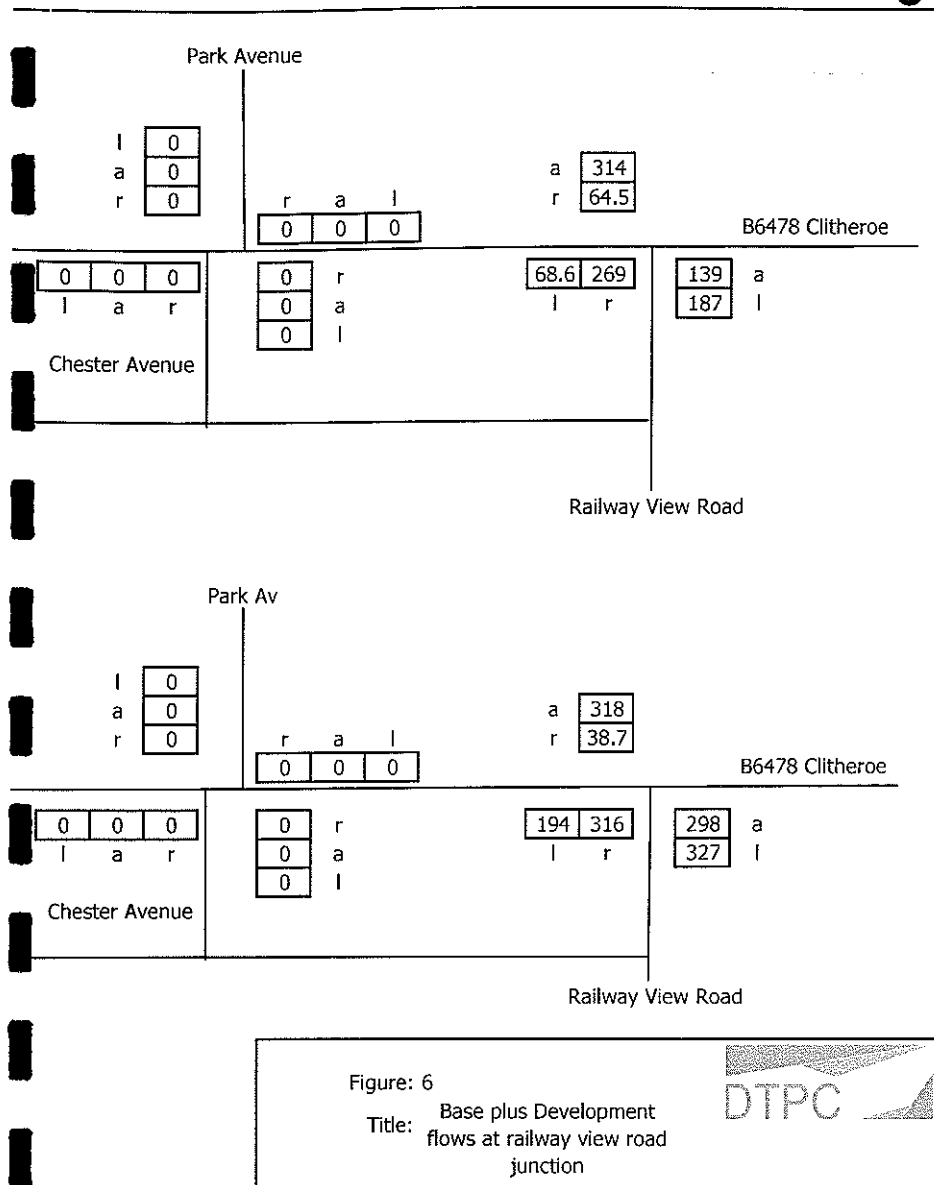
320110892P



938011050



320110892P



9508011088

Appendix C

Catterick Trip Assessments

Residential Trip Generation

320110892P

Table 1 below details the trips to and from the residential area located to the east of Gatherley Road which is accessed from Citadilla Close and Stephenson Road. It is understood that this residential area contains 200 households. Utilising this information a trip rate per household has been derived as well as the likely level of trips that could be generated by the proposed 285 residential development.

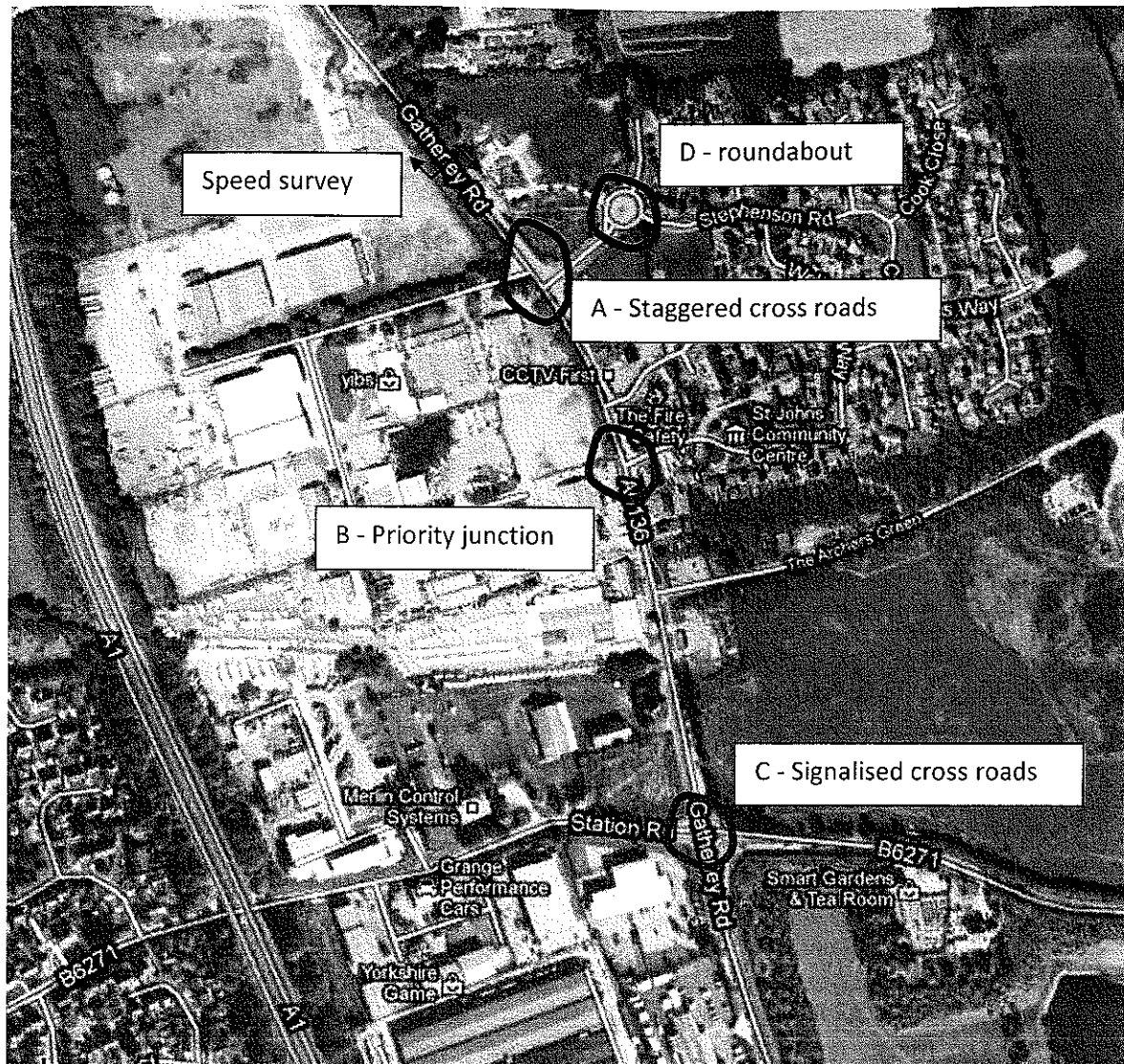
Peak Period	Number of Residential Trips based on 2011 Survey*		Trip Rate per Household**		285 Household Development Trip Generation	
	Arr	Dep	Arr	Dep	Arr	Dep
AM	30	100	0.150	0.500	43	143
PM	88	34	0.440	0.170	125	48

* Trips associated with traffic travelling to and from Stephenson Road and Citadilla Close

** Based on 200 Households

Table 1: Residential Trip Rates and Development Trips

988017038



Classified counts weekday peaks am 7 00 to 9 30 and pm 4 00 to 6 30

320110892P

1334 Catterick
MAY 11

MANUAL CLASSIFIED COUNT

SITE: 1

DAY: Thursday

LOCATION: Gatherley Rd/Gatherley Rd ind estate / Stephenson Rd

DATE: 26/05/2011

TIME	A - D					TOT	A - C					TOT
	CAR	LGV	HGV	PSV	MCL		CAR	LGV	HGV	PSV	MCL	
07:00	1	0	0	0	0	1	56	12	10	0	1	79
07:15	0	0	0	0	0	0	77	16	12	1	0	106
07:30	0	0	0	0	0	0	77	17	8	0	3	105
07:45	2	1	0	0	0	3	78	15	6	1	0	100
H/TOT	3	1	0	0	0	4	288	60	36	2	4	390
08:00	1	0	0	0	0	1	69	8	12	1	0	90
08:15	3	0	0	1	0	4	52	10	10	0	0	72
08:30	0	1	0	0	0	1	63	14	10	1	1	89
08:45	1	1	0	0	0	2	72	5	14	3	0	94
H/TOT	5	2	0	1	0	8	256	37	46	5	1	345
09:00	1	1	0	0	0	2	40	8	5	0	0	53
09:15	1	0	0	0	0	1	46	9	6	1	0	62
H/TOT	2	1	0	0	0	3	86	17	11	1	0	115
H/TOT	10	4	0	1	0	15	630	114	93	8	5	850

TIME	A - D					TOT	A - C					TOT
	CAR	LGV	HGV	PSV	MCL		CAR	LGV	HGV	PSV	MCL	
16:00	2	1	0	1	0	4	53	5	12	2	0	72
16:15	4	0	0	0	0	4	79	13	10	4	0	106
16:30	1	0	0	0	0	1	51	7	7	0	0	65
16:45	2	0	0	0	0	2	79	11	2	1	0	93
H/TOT	9	1	0	1	0	11	262	36	31	7	0	336
17:00	7	1	0	0	0	8	75	8	8	0	0	91
17:15	1	0	0	0	0	1	77	12	6	0	0	95
17:30	3	0	0	0	0	3	86	2	2	1	0	91
17:45	9	0	0	0	0	9	74	7	6	0	2	89
H/TOT	20	1	0	0	0	21	312	29	22	1	2	366
18:00	6	0	0	0	0	6	53	3	4	0	0	60
18:15	5	0	0	0	0	5	61	1	2	0	0	64
H/TOT	11	0	0	0	0	11	114	4	6	0	0	124
P/TOT	40	2	0	1	0	43	688	69	59	8	2	826



1334 Catterick
MAY 11
MANUAL CLASSIFIED COUNT

SITE: 1

DAY: Thursday

LOCATION: Gatherley Rd/Gatherley Rd ind estate / Stephenson Rd

DATE: 26/05/2011

TIME	CAR	LGV	A - B HGV	PSV	MCL	TOT	CAR	LGV	B - A HGV	PSV	MCL	TOT
07:00	5	2	0	0	0	7	0	0	0	0	0	0
07:15	11	2	2	0	0	15	2	0	2	0	0	4
07:30	10	1	0	0	0	11	0	2	4	0	0	6
07:45	6	1	3	0	0	10	1	7	2	0	0	10
H/TOT	32	6	5	0	0	43	3	9	8	0	0	20
08:00	2	1	0	0	0	3	0	1	3	0	0	4
08:15	4	2	2	0	0	8	0	2	0	0	0	2
08:30	20	2	0	0	0	22	0	1	2	0	0	3
08:45	5	1	2	0	0	8	1	1	0	0	0	2
H/TOT	31	6	4	0	0	41	1	5	5	0	0	11
09:00	1	1	0	0	0	2	2	2	0	0	0	4
09:15	4	0	1	0	0	5	1	2	3	0	0	6
H/TOT	5	1	1	0	0	7	3	4	3	0	0	10
H/TOT	68	13	10	0	0	91	7	18	16	0	0	41

TIME	CAR	LGV	A - B HGV	PSV	MCL	TOT	CAR	LGV	B - A HGV	PSV	MCL	TOT
07:00	8	1	1	0	0	10	16	1	0	0	0	17
07:15	0	2	2	0	0	4	9	2	1	0	0	12
16:30	2	1	3	0	0	6	4	1	0	0	0	5
16:45	1	1	0	0	0	2	4	0	0	0	0	4
H/TOT	11	5	6	0	0	22	33	4	1	0	0	38
17:00	1	0	0	0	0	1	20	1	0	0	0	21
17:15	1	0	2	0	0	3	4	0	0	0	0	4
17:30	2	1	2	0	0	5	6	0	0	0	0	6
17:45	0	0	5	0	0	5	4	1	0	0	0	5
H/TOT	4	1	9	0	0	14	34	2	0	0	0	36
18:00	2	0	0	0	0	2	5	2	2	0	0	9
18:15	0	0	2	0	0	2	3	0	0	0	0	3
H/TOT	2	0	2	0	0	4	8	2	2	0	0	12
P/TOT	17	6	17	0	0	40	75	8	3	0	0	86

320110892P



1334 Catterick

MAY 11

MANUAL CLASSIFIED COUNT

SITE: 1

DAY: Thursday

LOCATION: Gatherley Rd/Gatherley Rd ind estate / Stephenson Rd

DATE: 26/05/2011

TIME	CAR	LGV	B - D HGV	PSV	MCL	TOT	CAR	LGV	B - C HGV	PSV	MCL	TOT
07:00	0	0	0	0	0	0	0	0	2	0	0	2
07:15	0	0	0	0	0	0	2	0	0	0	0	2
07:30	0	0	0	0	0	0	2	0	3	0	0	5
07:45	0	0	0	0	0	0	1	0	4	0	0	5
H/TOT	0	0	0	0	0	0	5	0	9	0	0	14
08:00	0	0	1	0	0	1	1	1	2	0	0	4
08:15	1	0	0	0	0	1	3	1	1	0	0	5
08:30	0	1	0	0	0	1	0	1	3	0	0	4
08:45	0	0	0	0	0	0	2	4	4	0	0	10
H/TOT	1	1	1	0	0	3	6	7	10	0	0	23
09:00	0	1	0	0	0	1	2	2	1	0	0	5
09:15	0	0	0	0	0	0	1	1	2	0	0	4
H/TOT	0	1	0	0	0	1	3	3	3	0	0	9
H/TOT	1	2	1	0	0	4	14	10	22	0	0	46

TIME	CAR	LGV	B - D HGV	PSV	MCL	TOT	CAR	LGV	B - C HGV	PSV	MCL	TOT
07:00	0	0	0	0	0	0	10	4	0	0	0	14
07:15	0	0	0	0	0	0	13	3	3	0	0	19
16:30	0	1	0	0	0	1	11	0	1	0	0	12
16:45	0	0	0	0	0	0	7	0	1	0	0	8
H/TOT	0	1	0	0	0	1	41	7	5	0	0	53
17:00	0	0	0	0	0	0	27	2	0	0	0	29
17:15	0	0	0	0	0	0	12	0	1	0	0	13
17:30	0	0	0	0	0	0	13	3	1	0	0	17
17:45	1	0	0	0	0	1	3	0	0	0	0	3
H/TOT	1	0	0	0	0	1	55	5	2	0	0	62
18:00	0	0	0	0	0	0	7	1	0	0	0	8
18:15	0	0	0	0	0	0	1	0	1	0	0	2
H/TOT	0	0	0	0	0	0	8	1	1	0	0	10
P/TOT	1	1	0	0	0	2	104	13	8	0	0	125



1334 Catterick
MAY 11
MANUAL CLASSIFIED COUNT

SITE: 1

DAY: Thursday

LOCATION: Gatherley Rd/Gatherley Rd ind estate / Stephenson Rd

DATE: 26/05/2011

TIME	CAR	LGV	C - B HGV	PSV	MCL	TOT	CAR	LGV	C - A HGV	PSV	MCL	TOT
07:00	6	0	0	0	0	6	34	8	8	1	0	51
07:15	16	2	5	0	0	23	38	5	13	1	0	57
07:30	8	1	1	0	0	10	61	4	10	0	0	75
07:45	7	2	3	0	0	12	72	5	4	3	1	85
H/TOT	37	5	9	0	0	51	205	22	35	5	1	268
08:00	9	3	2	0	0	14	66	6	7	1	1	81
08:15	14	3	2	0	0	19	64	8	7	3	1	83
08:30	12	2	1	0	0	15	68	8	9	0	0	85
08:45	9	3	1	0	0	13	72	10	11	1	0	94
H/TOT	44	11	6	0	0	61	270	32	34	5	2	343
09:00	1	2	2	0	0	5	52	6	17	0	0	75
09:15	2	3	2	0	0	7	53	11	7	0	0	71
H/TOT	3	5	4	0	0	12	105	17	24	0	0	146
H/TOT	84	21	19	0	0	124	580	71	93	10	3	757

TIME	CAR	LGV	C - B HGV	PSV	MCL	TOT	CAR	LGV	C - A HGV	PSV	MCL	TOT
16:00	2	1	4	0	0	7	73	15	7	1	1	97
16:15	5	2	1	0	0	8	80	13	10	1	1	105
16:30	2	1	4	0	0	7	109	13	10	0	0	132
16:45	1	0	1	0	0	2	94	15	3	0	1	113
H/TOT	10	4	10	0	0	24	356	56	30	2	3	447
17:00	3	1	0	0	0	4	123	13	8	0	1	145
17:15	0	0	2	0	0	2	86	8	6	0	1	101
17:30	2	1	0	0	0	3	83	4	1	0	0	88
17:45	1	0	3	0	0	4	69	5	1	1	2	78
H/TOT	6	2	5	0	0	13	361	30	16	1	4	412
18:00	1	0	0	0	0	1	65	5	6	2	0	78
18:15	0	0	0	0	0	0	51	4	3	0	0	58
H/TOT	1	0	0	0	0	1	116	9	9	2	0	136
P/TOT	17	6	15	0	0	38	833	95	55	5	7	995

320110892P



1334 Catterick

MAY 11

MANUAL CLASSIFIED COUNT

SITE: 1

DAY: Thursday

LOCATION: Gatherley Rd/Gatherley Rd ind estate / Stephenson Rd

DATE: 26/05/2011

TIME	CAR	LGV	C - D HGV	PSV	MCL	TOT	CAR	LGV	D - C HGV	PSV	MCL	TOT
07:00	1	1	0	0	0	2	3	1	0	0	0	4
07:15	1	1	0	0	0	2	3	0	0	0	0	3
07:30	1	0	0	0	0	1	14	2	0	0	0	16
07:45	0	0	0	0	0	0	13	1	0	0	0	14
H/TOT	3	2	0	0	0	5	33	4	0	0	0	37
08:00	2	0	0	0	0	2	17	1	0	0	0	18
08:15	4	0	0	0	0	4	9	0	0	0	0	9
08:30	2	0	0	0	0	2	23	1	0	0	0	24
08:45	2	2	0	0	0	4	10	0	0	0	0	10
H/TOT	10	2	0	0	0	12	59	2	0	0	0	61
09:00	4	1	0	0	0	5	8	2	0	0	0	10
09:15	1	0	0	0	0	1	7	1	0	0	0	8
H/TOT	5	1	0	0	0	6	15	3	0	0	0	18
H/TOT	18	5	0	0	0	23	107	9	0	0	0	116

TIME	CAR	LGV	C - D HGV	PSV	MCL	TOT	CAR	LGV	D - C HGV	PSV	MCL	TOT
16:00	6	1	0	0	0	7	6	0	0	1	0	7
16:15	4	0	0	0	0	4	4	1	0	0	0	5
16:30	9	1	1	0	0	11	2	1	0	0	0	3
16:45	11	0	0	0	0	11	8	0	0	0	0	8
H/TOT	30	2	1	0	0	33	20	2	0	1	0	23
17:00	13	1	0	0	0	14	2	1	0	0	0	3
17:15	18	1	0	0	0	19	4	1	0	0	0	5
17:30	13	2	0	0	0	15	9	0	0	0	0	9
17:45	16	1	0	0	0	17	5	0	1	0	0	6
H/TOT	60	5	0	0	0	65	20	2	1	0	0	23
18:00	12	0	0	0	0	12	8	0	0	0	0	8
18:15	5	0	0	0	0	5	4	0	0	0	0	4
H/TOT	17	0	0	0	0	17	12	0	0	0	0	12
P/TOT	107	7	1	0	0	115	52	4	1	1	0	58



1334 Catterick
MAY 11
MANUAL CLASSIFIED COUNT

SITE: 1

DAY: Thursday

LOCATION: Gatherley Rd/Gatherley Rd ind estate / Stephenson Rd

DATE: 26/05/2011

TIME	CAR	LGV	D - B HGV	PSV	MCL	TOT	CAR	LGV	D - A HGV	PSV	MCL	TOT
07:00	0	0	0	0	0	0	4	0	0	0	0	4
07:15	0	0	0	0	0	0	3	0	0	0	0	3
07:30	0	0	0	0	0	0	5	0	0	0	0	5
07:45	0	0	0	0	0	0	3	0	0	0	0	3
H/TOT	0	0	0	0	0	0	15	0	0	0	0	15
08:00	0	0	0	0	0	0	3	1	0	0	0	4
08:15	0	0	0	0	0	0	5	0	0	0	0	5
08:30	0	0	0	0	0	0	6	0	0	1	0	7
08:45	0	1	0	0	0	1	4	0	0	0	0	4
H/TOT	0	1	0	0	0	1	18	1	0	1	0	20
09:00	0	0	0	0	0	0	3	1	0	0	0	4
09:15	0	0	0	0	0	0	6	0	0	0	0	6
H/TOT	0	0	0	0	0	0	9	1	0	0	0	10
H/TOT	0	1	0	0	0	1	42	2	0	1	0	45

TIME	CAR	LGV	D - B HGV	PSV	MCL	TOT	CAR	LGV	D - A HGV	PSV	MCL	TOT
16:00	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	4	0	0	0	0	4
16:30	0	0	0	0	0	0	1	0	0	0	0	1
16:45	0	0	0	0	0	0	1	0	0	0	0	1
H/TOT	0	0	0	0	0	0	6	0	0	0	0	6
17:00	0	0	0	0	0	0	1	0	0	0	0	1
17:15	0	0	0	0	0	0	1	0	0	0	0	1
17:30	0	0	0	0	0	0	2	0	0	0	0	2
17:45	0	0	0	0	0	0	2	0	0	0	0	2
H/TOT	0	0	0	0	0	0	6	0	0	0	0	6
18:00	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	2	0	0	0	0	2
H/TOT	0	0	0	0	0	0	2	0	0	0	0	2
P/TOT	0	0	0	0	0	0	14	0	0	0	0	14

NDC for
DTPC

320110892P



1334 Catterick
MAY 11
MANUAL CLASSIFIED COUNT

SITE: 1

DAY: Thursday

LOCATION: Gatherley Rd/Gatherley Rd ind estate / Stephens DATE: 26/05/2011

TIME	TO ARM A						FROM ARM A					
	CAR	LGV	HGV	PSV	MCL	TOT	CAR	LGV	HGV	PSV	MCL	TOT
07:00	38	8	8	1	0	55	62	14	10	0	1	87
07:15	43	5	15	1	0	64	88	18	14	1	0	121
07:30	66	6	14	0	0	86	87	18	8	0	3	116
07:45	76	12	6	3	1	98	86	17	9	1	0	113
H/TOT	223	31	43	5	1	303	323	67	41	2	4	437
08:00	69	8	10	1	1	89	72	9	12	1	0	94
08:15	69	10	7	3	1	90	59	12	12	1	0	84
08:30	74	9	11	1	0	95	83	17	10	1	1	112
08:45	77	11	11	1	0	100	78	7	16	3	0	104
H/TOT	289	38	39	6	2	374	292	45	50	6	1	394
09:00	57	9	17	0	0	83	42	10	5	0	0	57
09:15	60	13	10	0	0	83	51	9	7	1	0	68
H/TOT	117	22	27	0	0	166	93	19	12	1	0	125
H/TOT	629	91	109	11	3	843	708	131	103	9	5	956

TIME	TO ARM A						FROM ARM A					
	CAR	LGV	HGV	PSV	MCL	TOT	CAR	LGV	HGV	PSV	MCL	TOT
16:00	89	16	7	1	1	114	63	7	13	3	0	86
16:15	93	15	11	1	1	121	83	15	12	4	0	114
16:30	114	14	10	0	0	138	54	8	10	0	0	72
16:45	99	15	3	0	1	118	82	12	2	1	0	97
H/TOT	395	60	31	2	3	491	282	42	37	8	0	369
17:00	144	14	8	0	1	167	83	9	8	0	0	100
17:15	91	8	6	0	1	106	79	12	8	0	0	99
17:30	91	4	1	0	0	96	91	3	4	1	0	99
17:45	75	6	1	1	2	85	83	7	11	0	2	103
H/TOT	401	32	16	1	4	454	336	31	31	1	2	401
18:00	70	7	8	2	0	87	61	3	4	0	0	0
18:15	56	4	3	0	0	63	66	1	4	0	0	0
H/TOT	126	11	11	2	0	150	127	4	8	0	0	139
P/TOT	922	103	58	5	7	1095	745	77	76	9	2	909



1334 Catterick
MAY 11
MANUAL CLASSIFIED COUNT

SITE: 1 DAY: Thursday
LOCATION: Gatherley Rd/Gatherley Rd ind estate / Stephenson Rd DATE: 26/05/2011

TIME	TO ARM B					TOT	FROM ARM B					TOT
	CAR	LGV	HGV	PSV	MCL		CAR	LGV	HGV	PSV	MCL	
07:00	11	2	0	0	0	13	0	0	2	0	0	2
07:15	27	4	7	0	0	38	4	0	2	0	0	6
07:30	18	2	1	0	0	21	2	2	7	0	0	11
07:45	13	3	6	0	0	22	2	7	6	0	0	15
H/TOT	69	11	14	0	0	94	8	9	17	0	0	34
08:00	11	4	2	0	0	17	1	2	6	0	0	9
08:15	18	5	4	0	0	27	4	3	1	0	0	8
08:30	32	4	1	0	0	37	0	3	5	0	0	8
08:45	14	5	3	0	0	22	3	5	4	0	0	12
H/TOT	75	18	10	0	0	103	8	13	16	0	0	37
09:00	2	3	2	0	0	7	4	5	1	0	0	10
09:15	6	3	3	0	0	12	2	3	5	0	0	10
H/TOT	8	6	5	0	0	19	6	8	6	0	0	20
H/TOT	152	35	29	0	0	216	22	30	39	0	0	91

TIME	TO ARM B					TOT	FROM ARM B					TOT
	CAR	LGV	HGV	PSV	MCL		CAR	LGV	HGV	PSV	MCL	
16:00	10	2	5	0	0	17	26	5	0	0	0	31
16:15	5	4	3	0	0	12	22	5	4	0	0	31
16:30	4	2	7	0	0	13	15	2	1	0	0	18
16:45	2	1	1	0	0	4	11	0	1	0	0	12
H/TOT	21	9	16	0	0	46	74	12	6	0	0	92
17:00	4	1	0	0	0	5	47	3	0	0	0	50
17:15	1	0	4	0	0	5	16	0	1	0	0	17
17:30	4	2	2	0	0	8	19	3	1	0	0	23
17:45	1	0	8	0	0	9	8	1	0	0	0	9
H/TOT	10	3	14	0	0	27	90	7	2	0	0	99
18:00	3	0	0	0	0	3	12	3	2	0	0	17
18:15	0	0	2	0	0	2	4	0	1	0	0	5
H/TOT	3	0	2	0	0	5	16	3	3	0	0	22
P/TOT	34	12	32	0	0	78	180	22	11	0	0	213

320110892P



1334 Catterick
MAY 11
MANUAL CLASSIFIED COUNT

SITE: 1 DAY: Thursday
LOCATION: Gatherley Rd/Gatherley Rd ind estate / Stephenson Rd DATE: 26/05/2011

TIME	TO ARM C					TOT	FROM ARM C					TOT
	CAR	LGV	HGV	PSV	MCL		CAR	LGV	HGV	PSV	MCL	
07:00	59	13	12	0	1	85	41	9	8	1	0	59
07:15	82	16	12	1	0	111	55	8	18	1	0	82
07:30	93	19	11	0	3	126	70	5	11	0	0	86
07:45	92	16	10	1	0	119	79	7	7	3	1	97
H/TOT	326	64	45	2	4	441	245	29	44	5	1	324
08:00	87	10	14	1	0	112	77	9	9	1	1	97
08:15	64	11	11	0	0	86	82	11	9	3	1	106
08:30	86	16	13	1	1	117	82	10	10	0	0	102
08:45	84	9	18	3	0	114	83	15	12	1	0	111
H/TOT	321	46	56	5	1	429	324	45	40	5	2	416
09:00	50	12	6	0	0	68	57	9	19	0	0	85
09:15	54	11	8	1	0	74	56	14	9	0	0	79
H/TOT	104	23	14	1	0	142	113	23	28	0	0	164
H/TOT	751	133	115	8	5	1012	682	97	112	10	3	904

TIME	TO ARM C					TOT	FROM ARM C					TOT
	CAR	LGV	HGV	PSV	MCL		CAR	LGV	HGV	PSV	MCL	
16:00	69	9	12	3	0	93	81	17	11	1	1	111
16:15	96	17	13	4	0	130	89	15	11	1	1	117
16:30	64	8	8	0	0	80	120	15	15	0	0	150
16:45	94	11	3	1	0	109	106	15	4	0	1	126
H/TOT	323	45	36	8	0	412	396	62	41	2	3	504
17:00	104	11	8	0	0	123	139	15	8	0	1	163
17:15	93	13	7	0	0	113	104	9	8	0	1	122
17:30	108	5	3	1	0	117	98	7	1	0	0	106
17:45	82	7	7	0	2	98	86	6	4	1	2	99
H/TOT	387	36	25	1	2	451	427	37	21	1	4	490
18:00	68	4	4	0	0	76	78	5	6	2	0	91
18:15	66	1	3	0	0	70	56	4	3	0	0	63
H/TOT	134	5	7	0	0	146	134	9	9	2	0	154
P/TOT	844	86	68	9	2	1009	957	108	71	5	7	1148



1334 Catterick
MAY 11
MANUAL CLASSIFIED COUNT

SITE: 1

DAY: Thursday

LOCATION: Gatherley Rd/Gatherley Rd ind estate / Stephenson Rd

DATE: 26/05/2011

TIME	TO ARM D					TOT	FROM ARM D					TOT
	CAR	LGV	HGV	PSV	MCL		CAR	LGV	HGV	PSV	MCL	
07:00	2	1	0	0	0	3	7	1	0	0	0	8
07:15	1	1	0	0	0	2	6	0	0	0	0	6
07:30	1	0	0	0	0	1	19	2	0	0	0	21
07:45	2	1	0	0	0	3	16	1	0	0	0	17
H/TOT	6	3	0	0	0	9	48	4	0	0	0	52
08:00	3	0	1	0	0	4	20	2	0	0	0	22
08:15	8	0	0	1	0	9	14	0	0	0	0	14
08:30	2	2	0	0	0	4	29	1	0	1	0	31
08:45	3	3	0	0	0	6	14	1	0	0	0	15
H/TOT	16	5	1	1	0	23	77	4	0	1	0	82
09:00	5	3	0	0	0	8	11	3	0	0	0	14
09:15	2	0	0	0	0	2	13	1	0	0	0	14
H/TOT	7	3	0	0	0	10	24	4	0	0	0	28
H/TOT	29	11	1	1	0	42	149	12	0	1	0	162

TIME	TO ARM D					TOT	FROM ARM D					TOT
	CAR	LGV	HGV	PSV	MCL		CAR	LGV	HGV	PSV	MCL	
16:00	8	2	0	1	0	11	6	0	0	1	0	7
16:15	8	0	0	0	0	8	8	1	0	0	0	9
16:30	10	2	1	0	0	13	3	1	0	0	0	4
16:45	13	0	0	0	0	13	9	0	0	0	0	9
H/TOT	39	4	1	1	0	45	26	2	0	1	0	29
17:00	20	2	0	0	0	22	3	1	0	0	0	4
17:15	19	1	0	0	0	20	5	1	0	0	0	6
17:30	16	2	0	0	0	18	11	0	0	0	0	11
17:45	26	1	0	0	0	27	7	0	1	0	0	8
H/TOT	81	6	0	0	0	87	26	2	1	0	0	29
18:00	18	0	0	0	0	18	8	0	0	0	0	8
18:15	10	0	0	0	0	10	6	0	0	0	0	6
H/TOT	28	0	0	0	0	28	14	0	0	0	0	14
P/TOT	148	10	1	1	0	160	66	4	1	1	0	72

320110892P

Appendix D
TRIC's review

KTP Norfolk Norfolk

Licence No: 550501

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
 VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	BD BEDFORDSHIRE	2 days
	EX ESSEX	1 days
	SC SURREY	1 days
03	SOUTH WEST	
	CW CORNWALL	2 days
	DC DORSET	1 days
	WL WILTSHIRE	1 days
04	EAST ANGLIA	
	SF SUFFOLK	3 days
05	EAST MIDLANDS	
	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	2 days
08	NORTH WEST	
	CH CHESHIRE	3 days
	LC LANCASHIRE	2 days
09	NORTH	
	CB CUMBRIA	1 days
	TV TEES VALLEY	1 days
	TW TYNE & WEAR	1 days
10	WALES	
	CF CARDIFF	3 days
	CP CAERPHILLY	1 days
	WR WREXHAM	1 days
11	SCOTLAND	
	EA EAST AYRSHIRE	1 days
	FI FIFE	2 days
	HI HIGHLAND	2 days
	SR STIRLING	1 days

KTP Norfolk Norfolk

Licence No: 550501

Filtering Stage 2 selection:

Parameter: Number of dwellings
Range: 9 to 237 (units:)

320110892P

Public Transport Provision:

Selection by:

Include all surveys

Date Range: 01/01/02 to 05/09/10

Selected survey days:

Monday	12 days
Tuesday	12 days
Wednesday	6 days
Thursday	11 days
Friday	5 days

Selected survey types:

Manual count	46 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	22
Edge of Town	24

Selected Location Sub Categories:

Residential Zone	34
Out of Town	1
No Sub Category	11

Filtering Stage 3 selection:

Use Class:

C3	46 days
----	---------

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	8 days
10,001 to 15,000	11 days
15,001 to 20,000	12 days
20,001 to 25,000	4 days
25,001 to 50,000	9 days

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	7 days
50,001 to 75,000	2 days
75,001 to 100,000	9 days
100,001 to 125,000	7 days
125,001 to 250,000	12 days
250,001 to 500,000	7 days

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	21 days
1.1 to 1.5	24 days

KTP Norfolk Norfolk

Licence No: 550501

Filtering Stage 3 selection (Cont):

Travel Plan:

Not Known

No

2 days

44 days

and set: 2011 Base Flows with dev PM

320110892P

PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

AND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	I	NUMBER OF MINUTES FROM START WHEN			I	RATE OF FLOW (VEH/MIN)			I
		I FLOW STARTS	I TOP OF PEAK	I FLOW STOPS		I BEFORE	I AT TOP	I AFTER	
	I	I TO RISE	I IS REACHED	I FALLING	I	I PEAK	I OF PEAK	I PEAK	I
	I	I	I	I	I	I	I	I	I
ARM A	I	15.00	I 45.00	I 75.00	I	4.74	I 7.11	I 4.74	I
ARM B	I	15.00	I 45.00	I 75.00	I	0.15	I 0.23	I 0.15	I
ARM C	I	15.00	I 45.00	I 75.00	I	2.96	I 4.44	I 2.96	I
ARM D	I	15.00	I 45.00	I 75.00	I	0.86	I 1.29	I 0.86	I

and set: 2011 Base Flows with dev PM

	I	TURNING PROPORTIONS						I								
	I	TURNING COUNTS						I								
	I	(PERCENTAGE OF H V.S)						I								
TIME	I	FROM/TO	I	ARM	A	I	ARM	B	I	ARM	C	I	ARM	D	I	
16 45 - 17.00	I		I		I		I		I		I		I		I	
	I	ARM	A	I	0.000	I	0.079	I	0.728	I	0.193	I				
	I		I	0.0	I	30.0	I	276	0	I	73.0	I				
	I		I	(0.0)	I	(0.0)	I	(1.0)	I	(0.0)	I					
	I		I		I		I		I		I					
	I	ARM	B	I	0.583	I	0.000	I	0.417	I	0.000	I				
	I		I	7.0	I	0.0	I	5.0	I	0.0	I					
	I		I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I					
	I		I		I		I		I		I					
	I	ARM	C	I	0.992	I	0.000	I	0.000	I	0.008	I				
	I		I	235	0	I	0.0	I	0.0	I	2.0	I				
	I		I	(1.0)	I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I			
	I		I		I		I		I		I					
	I	ARM	D	I	0.913	I	0.000	I	0.087	I	0.000	I				
	I		I	63	0	I	0.0	I	6.0	I	0.0	I				
	I		I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I			
I		I		I		I		I		I						

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2011 Base Flows with dev PM
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-ACD	0.15	9.05	0.017		0.00	0.02	0.2		0.11
A-BCD	0.92	9.65	0.095		0.00	0.11	1.6		0.11
D-ABC	0.87	12.52	0.069		0.00	0.07	1.1		0.09
C-ABD	0.00	8.27	0.000		0.00	0.00	0.0		0.00

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-ACD	0.18	8.73	0.021		0.02	0.02	0.3		0.12
A-BCD	1.09	9.53	0.115		0.11	0.14	2.0		0.12
D-ABC	1.03	12.31	0.084		0.07	0.09	1.3		0.09
C-ABD	0.00	8.07	0.000		0.00	0.00	0.0		0.00

STREAM A-D

Intercept For STREAM A-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	I
617.98	0.21	0.31	I

-D Stream From Left Hand Lane

Intercept For STREAM B-D	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-B	I
575.31	0.24	0.24	0.09	0.34	I
Slope For Opposing STREAM C-A					I
0.15					I

-D Stream From Right Hand Lane

Intercept For STREAM B-D	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-B	I
575.31	0.24	0.24	0.09	0.34	I
Slope For Opposing STREAM C-A					I
0.15					I

-B Stream From Left Hand Lane

Intercept For STREAM D-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-D	I
643.08	0.27	0.27	0.11	0.38	I
Slope For Opposing STREAM A-C					I
0.17					I

-B Stream From Right Hand Lane

Intercept For STREAM B-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing STREAM A-D	I
643.08	0.27	0.27	0.11	0.38	I
Slope For Opposing STREAM A-C					I
0.17					I

TRAFFIC DEMAND DATA

ARM I FLOW SCALE(%) I

A	I	100	I
B	I	100	I
C	I	100	I
D	I	100	I

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

SIREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I	I	I	I	* DELAY *	I	* DELAY *	I
I	I	I	I	I	I	I	I
I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN/VEH)
B-ACD	I	4.1	I	2.8	I	0.6	I
A-BCD	I	100.5	I	67.0	I	12.7	I
D-ABC	I	95.0	I	63.3	I	8.4	I
C-ABD	I	0.0	I	0.0	I	0.0	I
ALL	I	916.7	I	611.1	I	21.7	I

DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD

*****END OF RUN*****

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

STREAM B-C

Intercept For	Slope For Opposing	Slope For Opposing	I
STREAM B-C	STREAM A-C	STREAM A-B	I
745.29	0.26	0.10	I

STREAM D-A

Intercept For	Slope For Opposing	Slope For Opposing	I
STREAM D-A	STREAM C-A	STREAM C-D	I
832.54	0.29	0.11	I

STREAM B-A

Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
STREAM B-A	STREAM A-C	STREAM A-D	STREAM D-A	STREAM D-B	I
575.31	0.24	0.24	0.24	0.24	I
	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
	STREAM A-B	STREAM C-A	STREAM C-B	STREAM D-C	I
	0.09	0.15	0.34	0.12	I

STREAM D-C

Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
STREAM D-C	STREAM C-A	STREAM C-B	STREAM B-C	STREAM B-D	I
643.08	0.27	0.27	0.27	0.27	I
	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
	STREAM C-D	STREAM A-C	STREAM A-D	STREAM B-A	I
	0.11	0.17	0.38	0.13	I

STREAM C-B

Intercept For	Slope For Opposing	Slope For Opposing	I
STREAM C-B	STREAM A-C	STREAM A-D	I

320110892P

QUEUE FOR SIREAM D-ABC

TIME	NO. OF VEHICLES IN QUEUE
17 00	0.1
17 15	0.1
17 30	0.1
17 45	0.1
18 00	0.1
18 15	0.1

QUEUE FOR SIREAM C-ABD

TIME	NO. OF VEHICLES IN QUEUE
17 00	0.0
17 15	0.0
17 30	0.0
17 45	0.0
18 00	0.0
18 15	0.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.15-17.30										I
B-ACD	0.06	7.09	0.008		0.01	0.01	0.1		0.14	I
A-BCD	1.34	9.35	0.143		0.14	0.18	2.7		0.12	I
D-ABC	1.27	12.04	0.105		0.09	0.12	1.7		0.09	I
C-ABD	0.00	7.88	0.000		0.00	0.00	0.0		0.00	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.30-17.45										I
B-ACD	0.06	7.09	0.008		0.01	0.01	0.1		0.14	I
A-BCD	1.34	9.35	0.143		0.18	0.18	2.7		0.12	I
D-ABC	1.27	12.04	0.105		0.12	0.12	1.8		0.09	I
C-ABD	0.00	7.88	0.000		0.00	0.00	0.0		0.00	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.45-18.00										I
B-ACD	0.04	7.55	0.006		0.01	0.01	0.1		0.13	I
A-BCD	1.09	9.53	0.115		0.18	0.14	2.1		0.12	I
D-ABC	1.03	12.32	0.084		0.12	0.09	1.4		0.09	I
C-ABD	0.00	8.14	0.000		0.00	0.00	0.0		0.00	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
18.00-18.15										I
B-ACD	0.04	7.88	0.005		0.01	0.00	0.1		0.13	I
A-BCD	0.92	9.65	0.095		0.14	0.11	1.6		0.11	I
D-ABC	0.87	12.52	0.069		0.09	0.07	1.1		0.09	I
C-ABD	0.00	8.32	0.000		0.00	0.00	0.0		0.00	I

WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1
18.15	0.1

AND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)								
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER						
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK						
ARM A	I	15.00	I	45.00	I	75.00	I	4.46	I	6.69	I	4.46
ARM B	I	15.00	I	45.00	I	75.00	I	0.04	I	0.06	I	0.04
ARM C	I	15.00	I	45.00	I	75.00	I	2.96	I	4.44	I	2.96
ARM D	I	15.00	I	45.00	I	75.00	I	0.86	I	1.29	I	0.86

and set: 2011 Base Flows PM

	I	TURNING PROPORTIONS	I
	I	TURNING COUNTS	I
	I	(PERCENTAGE OF H V S)	I
TIME	I FROM/IO I ARM A I ARM B I ARM C I ARM D I		
16 45 - 17 00	I	I	I
	I ARM A	I 0 000 I 0 022 I 0 773 I 0 204 I	I
	I	I 0 0 I 8 0 I 276 0 I 73 0 I	I
	I	I { 0 0 } I { 0 0 } I { 1 0 } I { 0 0 } I	I
	I	I I I I I	I
	I ARM B	I 1 000 I 0 000 I 0 000 I 0 000 I	I
	I	I 3 0 I 0 0 I 0 0 I 0 0 I	I
	I	I { 0 0 } I { 0 0 } I { 0 0 } I { 0 0 } I	I
	I	I I I I I	I
	I ARM C	I 0 992 I 0 000 I 0 000 I 0 008 I	I
	I	I 235 0 I 0 0 I 0 0 I 2 0 I	I
	I	I { 1 0 } I { 0 0 } I { 0 0 } I { 0 0 } I	I
	I	I I I I I	I
	I ARM D	I 0 913 I 0 000 I 0 087 I 0 000 I	I
	I	I 63 0 I 0 0 I 6 0 I 0 0 I	I
	I	I { 0 0 } I { 0 0 } I { 0 0 } I { 0 0 } I	I
	I	I I I I I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
 PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SEI 2011 Base Flows PM
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-ACD	0.04	7.88	0.005		0.00	0.00	0.1		0.13
A-BCD	0.92	9.65	0.095		0.00	0.11	1.6		0.11
D-ABC	0.87	12.52	0.069		0.00	0.07	1.1		0.09
C-ABD	0.00	8.32	0.000		0.00	0.00	0.0		0.00

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RPC)	PEDESIRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH·MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH·MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-ACD	0.04	7.55	0.006		0.00	0.01	0.1		0.13
A-BCD	1.09	9.53	0.115		0.11	0.14	2.0		0.12
D-ABC	1.03	12.32	0.084		0.07	0.09	1.3		0.09
C-ABD	0.00	8.14	0.000		0.00	0.00	0.0		0.00

STREAM A-D

Intercept For STREAM A-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	I
617.98	0.21	0.31	I

D Stream From Left Hand Lane

Intercept For STREAM B-D	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-B	I
575.31	0.24	0.24	0.09	0.34	I
	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-D	Slope For Opposing	Slope For Opposing	I
	0.15	0.15			I

D Stream From Right Hand Lane

Intercept For STREAM B-D	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-B	I
575.31	0.24	0.24	0.09	0.34	I
	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-D	Slope For Opposing	Slope For Opposing	I
	0.15	0.15			I

B Stream From Left Hand Lane

Intercept For STREAM D-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-D	I
643.08	0.27	0.27	0.11	0.38	I
	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing	Slope For Opposing	I
	0.17	0.17			I

B Stream From Right Hand Lane

Intercept For STREAM B-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing STREAM A-D	I
643.08	0.27	0.27	0.11	0.38	I
	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing	Slope For Opposing	I
	0.17	0.17			I

TRAFFIC DEMAND DATA

ARM I FLOW SCALE(%) I

A	I	100	I
B	I	100	I
C	I	100	I
D	I	100	I

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM I	TOTAL DEMAND I	* QUEUEING * I	* INCLUSIVE QUEUEING * I
I	I	* DELAY * I	* DELAY * I
I	I	I	I
I (VEH)	(VEH/H) I	(MIN) (MIN/VEH) I	(MIN) (MIN/VEH) I
B-ACD I	5.5 I	3.7 I	0.7 I
A-BCD I	74.3 I	49.6 I	8.9 I
D-ABC I	117.0 I	78.0 I	10.4 I
C-ABD I	1.4 I	0.9 I	0.1 I
ALL I	653.8 I	435.9 I	20.1 I

DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
 WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*****END OF RUN*****

SLOPES AND INTERCEPTS

(NB: Streams may be combined, in which case capacity will be adjusted)

STREAM B-C

Intercept For	Slope For Opposing	Slope For Opposing I
STREAM B-C	STREAM A-C	STREAM A-B
745.29	0.26	0.10

STREAM D-A

Intercept For	Slope For Opposing	Slope For Opposing I
STREAM D-A	STREAM C-A	STREAM C-D
832.54	0.29	0.11

STREAM B-A

Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing I
STREAM B-A	STREAM A-C	STREAM A-D	STREAM D-A	STREAM D-B
575.31	0.24	0.24	0.24	0.24
	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing I
	STREAM A-B	STREAM C-A	STREAM C-B	STREAM D-C
	0.09	0.15	0.34	0.12

STREAM D-C

Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing I
STREAM D-C	STREAM C-A	STREAM C-B	STREAM B-C	STREAM B-D
643.08	0.27	0.27	0.27	0.27
	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing I
	STREAM C-D	STREAM A-C	STREAM A-D	STREAM B-A
	0.11	0.17	0.38	0.13

STREAM C-B

Intercept For	Slope For Opposing	Slope For Opposing I
STREAM C-B	STREAM A-C	STREAM A-D

QUEUE FOR SIREAM D-ABC

TIME	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

320110892P

QUEUE FOR SIREAM C-ABD

TIME	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
08.30-08.45										I
B-ACD	0.07	7.82	0.009		0.01	0.01	0.1		0.13	I
A-BCD	0.99	9.27	0.107		0.09	0.12	1.8		0.12	I
D-ABC	1.56	12.33	0.126		0.11	0.14	2.1		0.09	I
C-ABD	0.02	9.37	0.002		0.00	0.00	0.0		0.11	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
08.45-09.00										I
B-ACD	0.07	7.82	0.009		0.01	0.01	0.1		0.13	I
A-BCD	0.99	9.27	0.107		0.12	0.12	1.8		0.12	I
D-ABC	1.56	12.33	0.126		0.14	0.14	2.2		0.09	I
C-ABD	0.02	9.37	0.002		0.00	0.00	0.0		0.11	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
09.00-09.15										I
B-ACD	0.06	8.14	0.007		0.01	0.01	0.1		0.12	I
A-BCD	0.81	9.42	0.086		0.12	0.10	1.4		0.12	I
D-ABC	1.27	12.54	0.102		0.14	0.11	1.7		0.09	I
C-ABD	0.01	9.52	0.002		0.00	0.00	0.0		0.11	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
09.15-09.30										I
B-ACD	0.05	8.38	0.006		0.01	0.01	0.1		0.12	I
A-BCD	0.68	9.53	0.071		0.10	0.08	1.2		0.11	I
D-ABC	1.07	12.70	0.084		0.11	0.09	1.4		0.09	I
C-ABD	0.01	9.63	0.001		0.00	0.00	0.0		0.10	I

WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

and set: 2011 Base Flows AM

320110892P

PERIOD BEGINS 08 00 AND ENDS 09 30

LENGTH OF TIME PERIOD - 90 MIN
LENGTH OF TIME SEGMENT - 15 MIN

AND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	I	NUMBER OF MINUTES FROM START WHEN			I	RATE OF FLOW (VEH/MIN)			I
		FLOW STARTS	TOP OF PEAK	FLOW STOPS		BEFORE	AT TOP	AFTER	
	I	TO RISE	IS REACHED	FALLING	I	PEAK	OF PEAK	PEAK	I
	I	I	I	I	I	I	I	I	I
ARM A	I	15.00	I	45.00	I	75.00	I	2.25	I
ARM B	I	15.00	I	45.00	I	75.00	I	0.05	I
ARM C	I	15.00	I	45.00	I	75.00	I	2.58	I
ARM D	I	15.00	I	45.00	I	75.00	I	1.06	I

and set: 2011 Base Flows AM

	I	TURNING PROPORTIONS								I					
	I	TURNING COUNTS								I					
	I	(PERCENTAGE OF H.V.S)								I					
TIME	I	FROM/TO	I	ARM	A	I	ARM	B	I	ARM	C	I	ARM	D	I
08.00 - 08.15	I		I		I		I		I		I		I		I
	I	ARM	A	I	0.000	I	0.011	I	0.689	I	0.300	I			I
	I			I	0.0	I	2.0	I	124.0	I	54.0	I			I
	I			I	(0.0)	I	(0.0)	I	(6.0)	I	(2.0)	I			I
	I			I		I		I		I		I			I
	I	ARM	B	I	1.000	I	0.000	I	0.000	I	0.000	I			I
	I			I	4.0	I	0.0	I	0.0	I	0.0	I			I
	I			I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I			I
	I			I		I		I		I		I			I
	I	ARM	C	I	0.966	I	0.005	I	0.000	I	0.029	I			I
	I			I	199.0	I	1.0	I	0.0	I	6.0	I			I
	I			I	(4.0)	I	(0.0)	I	(0.0)	I	(0.0)	I			I
	I			I		I		I		I		I			I
	I	ARM	D	I	0.965	I	0.000	I	0.035	I	0.000	I			I
	I			I	82.0	I	0.0	I	3.0	I	0.0	I			I
	I			I	(2.0)	I	(0.0)	I	(0.0)	I	(0.0)	I			I
	I			I		I		I		I		I			I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2011 Base Flows AM
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-ACD	0.05	8.38	0.006		0.00	0.01	0.1		0.12
A-BCD	0.68	9.53	0.071		0.00	0.08	1.1		0.11
D-ABC	1.07	12.70	0.084		0.00	0.09	1.3		0.09
C-ABD	0.01	9.63	0.001		0.00	0.00	0.0		0.10

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-ACD	0.06	8.14	0.007		0.01	0.01	0.1		0.12
A-BCD	0.81	9.42	0.086		0.08	0.09	1.4		0.12
D-ABC	1.27	12.54	0.102		0.09	0.11	1.7		0.09
C-ABD	0.01	9.52	0.002		0.00	0.00	0.0		0.11

Intercept For STREAM B-D	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D
575.31	0.24	0.24	0.09	0.34	0.15

Intercept For STREAM B-D	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-B	Intercept For STREAM C-D
575 31	0 24	0 24	0 09	0 34	575 31
	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-B	
	0 15	0 15			

Intercept For STREAM D-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM I
643.08	0.27	0.27	0.11	0.38	0.1
	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM I	Slope For Opposing STREAM D-B	Slope For Opposing STREAM C-B
	0.17	0.17	0.1	0.11	0.27

Intercept For STREAM B-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing STREAM A-D	Intercept For STREAM A-B
643.08	0.27	0.27	0.11	0.38	1.00
	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Intercept For STREAM C-D
	0.17	0.17			0.11

A	I	100	I
B	I	100	I
C	I	100	I
D	I	100	I

SOMEIRIC DAIA

DAIA ITEM	I	MINOR ROAD B	I	MINOR ROAD D	I
IOIAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 8.30 M.	I	(W) 8.30 M.	I
CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I	(WCR) 0.00 M.	I
	I		I		I
MAJOR ROAD RIGHI IURN - WIDTH	I	(WC-B) 2.20 M	I	(WA-D) 2.20 M	I
- VISIBILIYY	I	(VC-B) 66.00 M	I	(VA-D) 76.00 M	I
- BLOCKS ITRAFFIC	I	YES	I	YES	I
	I		I		I
MINOR ROAD - VISIBILIYY TO LEFI	I	(VB-C) 12.0 M.	I	(VD-A) 13.0 M.	I
- VISIBILIYY TO RIGHI	I	(VB-A) 12.0 M.	I	(VD-C) 120.0 M.	I
- LANE 1 WIDTH	I	(WB-C) 4.80 M.	I	(WD-A) 4.90 M.	I
- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I	(WD-C) 0.00 M.	I

SLOPES AND INIERCEPT

(NB:Streams may be combined in which case capacity will be adjusted)

REAM B-C

Intercept For	Slope For	Opposing	Slope For	Opposing	I
STREAM B-C	SIREAM	A-C	STREAM	A-B	
745.29	0.26		0.10		I

REAM D-A

Intercept For	Slope For	Opposing	Slope For	Opposing	I
STREAM D-A	STREAM	C-A	STREAM	C-D	
832.54	0.29		0.11		I

REAM B-A

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
STREAM B-A	STREAM	A-C	STREAM	A-D	SIREAM	D-A	
575.31	0.24		0.24		0.24		I
	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
	STREAM	A-B	STREAM	C-A	SIREAM	C-B	
	0.09		0.15		0.34		I

REAM D-C

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
STREAM D-C	SIREAM	C-A	STREAM	C-B	SIREAM	B-C	
643.08	0.27		0.27		0.27		I
	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
	STREAM	C-D	STREAM	A-C	STREAM	A-D	
	0.11		0.17		0.38		I

REAM C-B

Intercept For	Slope For	Opposing	Slope For	Opposing	I
STREAM C-B	STREAM	A-C	STREAM	A-D	
612.18	0.21		0.30		I

REAM A-D

IRL LIMITED

(C) COPYRIGHT 2006

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4 0 (SEPT 2008)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
BY PERMISSION OF THE CONTROLLER OF HMSO

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
IRL SOFTWARE BUREAU
TEL: CROWI HORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
NO WAY RELIEVED OF HIS/HER RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

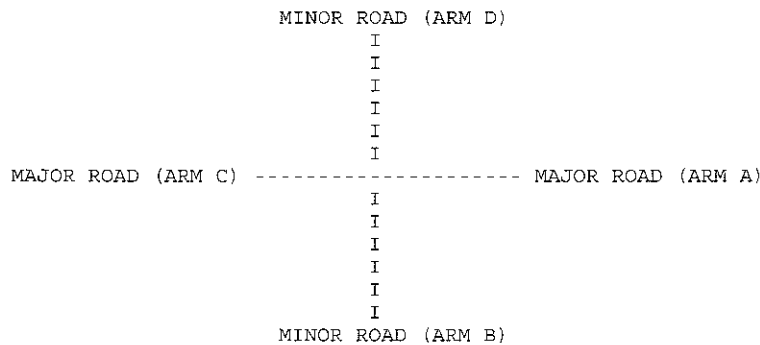
in with file:-
P:\A05022 ADoc Technical Work-DIPC\Analysis\Clitheroe\PICADY\Milton Av\Milton Av B6478 vpi"
(ve-on-the-left) at 15:34:51 on Tuesday, 9 August 2011

IN INFORMATION

IN TITLE : Run 1
LOCATION :
DATE : 09/08/11
USER :
OPERATOR :
JOB NUMBER :
STATUS :
DESCRIPTION :

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



A IS B6478 Clitheroe
B IS Milton Avenue
C IS B6478 Waddington
D IS Eastham Street

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

KTP Norfolk Norfolk

Licence No: 550501

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

320110892P

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	99	0 080	46	99	0 289	46	99	0 369
08:00 - 09:00	46	99	0 163	46	99	0 443	46	99	0 606
09:00 - 10:00	46	99	0 177	46	99	0 233	46	99	0 410
10:00 - 11:00	46	99	0 161	46	99	0 193	46	99	0 354
11:00 - 12:00	46	99	0 185	46	99	0 180	46	99	0 365
12:00 - 13:00	46	99	0 211	46	99	0 191	46	99	0 402
13:00 - 14:00	46	99	0 194	46	99	0 187	46	99	0 381
14:00 - 15:00	46	99	0 198	46	99	0 199	46	99	0 397
15:00 - 16:00	46	99	0 297	46	99	0 212	46	99	0 509
16:00 - 17:00	46	99	0 348	46	99	0 210	46	99	0 558
17:00 - 18:00	46	99	0 416	46	99	0 238	46	99	0 654
18:00 - 19:00	46	99	0 292	46	99	0 228	46	99	0 520
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:			2.722			2.803			5.525

Parameter summary

Trip rate parameter range selected: 9 - 237 (units:)
 Survey date range: 01/01/02 - 05/09/10
 Number of weekdays (Monday-Friday): 46
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 3

KTP Norfolk Norfolk

Licence No: 550501

LIST OF SITES relevant to selection parameters (Cont.)

- | | | | |
|----|------------------------------------|---------------------------|---------------------|
| 43 | WO-03-A-02 | SEMI DETACHED REDDITCH | WORCESTERSHIRE |
| | MEADOWHILL ROAD | | |
| | REDDITCH | | |
| | Edge of Town | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 48 | |
| | Survey date: TUESDAY | 02/05/06 | Survey Type: MANUAL |
| 44 | WO-03-A-03 | DETACHED, KIDDERMINSTER | WORCESTERSHIRE |
| | BLAKEBROOK | | |
| | BLAKEBROOK | | |
| | KIDDERMINSTER | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 138 | |
| | Survey date: FRIDAY | 05/05/06 | Survey Type: MANUAL |
| 45 | WO-03-A-06 | DET / TERRACED BROMSGROVE | WORCESTERSHIRE |
| | ST GODWALDS ROAD | | |
| | ASTON FIELDS | | |
| | BROMSGROVE | | |
| | Edge of Town | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 232 | |
| | Survey date: THURSDAY | 30/06/05 | Survey Type: MANUAL |
| 46 | WR-03-A-01 | SEMI DETACHED WREXHAM | WREXHAM |
| | MOLD ROAD | | |
| | RHOSDDU | | |
| | WREXHAM | | |
| | Edge of Town | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 82 | |
| | Survey date: MONDAY | 05/07/04 | Survey Type: MANUAL |

KTP Norfolk Norfolk

Licence No: 550501

LIST OF SITES relevant to selection parameters (Cont.)

320110892P
TEES VALLEY

36 TV-03-A-01 MIXED HOUSES/FLATS HARTLEPL
POWLETT ROAD

HARTLEPOOL

Suburban Area (PPS6 Out of Centre)

No Sub Category

Total Number of dwellings: 225

Survey date: THURSDAY 14/04/05

37 TW-03-A-01 SEMI DETACHED SUNDERLAND

LEECHMERE ROAD

HILLVIEW

SUNDERLAND

Edge of Town

Residential Zone

Total Number of dwellings: 81

Survey date: WEDNESDAY 18/09/02

38 WL-03-A-01 SEMI D /TERRACED W BASSETT

MAPLE DRIVE

WOOTTON BASSETT

Edge of Town

Residential Zone

Total Number of dwellings: 99

Survey date: MONDAY 02/10/06

39 WM-03-A-01 TERRACED COVENTRY

FOLESHILL ROAD

FOLESHILL

COVENTRY

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Number of dwellings: 79

Survey date: FRIDAY 03/02/06

40 WM-03-A-02 DETACHED/SEMI D STRBRIDGE

HEATH STREET

STOURBRIDGE

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Number of dwellings: 12

Survey date: WEDNESDAY 26/04/06

41 WM-03-A-03 MIXED HOUSING COVENTRY

BASELEY WAY

ROWLEYS GREEN

COVENTRY

Edge of Town

Residential Zone

Total Number of dwellings: 84

Survey date: MONDAY 24/09/07

42 WO-03-A-01 DETACHED BROMSGROVE

MARLBOROUGH AVENUE

ASTON FIELDS

BROMSGROVE

Suburban Area (PPS6 Out of Centre)

Residential Zone

Total Number of dwellings: 10

Survey date: THURSDAY 23/06/05

Survey Type: MANUAL
TYNE & WEAR

Survey Type: MANUAL
WILTSHIRE

Survey Type: MANUAL
WEST MIDLANDS

Survey Type: MANUAL
WEST MIDLANDS

Survey Type: MANUAL
WEST MIDLANDS

Survey Type: MANUAL
WORCESTERSHIRE

Survey Type: MANUAL

KTP Norfolk Norfolk

Licence No: 550501

LIST OF SITES relevant to selection parameters (Cont.)

- | | | | |
|----|------------------------------------|----------------------------|---------------------|
| 29 | SF-03-A-01 | SEMI DETACHED IPSWICH | SUFFOLK |
| | A1156 FELIXSTOWE ROAD | | |
| | RACECOURSE | | |
| | IPSWICH | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 77 | |
| | Survey date: WEDNESDAY | 23/05/07 | Survey Type: MANUAL |
| 30 | SF-03-A-02 | SEMI DET /TERRACED IPSWICH | SUFFOLK |
| | STOKE PARK DRIVE | | |
| | MAIDENHALL | | |
| | IPSWICH | | |
| | Edge of Town | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 230 | |
| | Survey date: THURSDAY | 24/05/07 | Survey Type: MANUAL |
| 31 | SF-03-A-03 | MIXED HOUSES BURY ST EDMDS | SUFFOLK |
| | BARTON HILL | | |
| | FORNHAM ST MARTIN | | |
| | BURY ST EDMUNDS | | |
| | Edge of Town | | |
| | Out of Town | | |
| | Total Number of dwellings: | 101 | |
| | Survey date: MONDAY | 15/05/06 | Survey Type: MANUAL |
| 32 | SH-03-A-03 | DETACHED SHREWSBURY | SHROPSHIRE |
| | SOMERBY DRIVE | | |
| | BICTON HEATH | | |
| | SHREWSBURY | | |
| | Edge of Town | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 10 | |
| | Survey date: FRIDAY | 26/06/09 | Survey Type: MANUAL |
| 33 | SH-03-A-04 | TERRACED SHREWSBURY | SHROPSHIRE |
| | ST MICHAEL S STREET | | |
| | SHREWSBURY | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 108 | |
| | Survey date: THURSDAY | 11/06/09 | Survey Type: MANUAL |
| 34 | SR-03-A-01 | DETACHED STIRLING | STIRLING |
| | BENVIEW | | |
| | STIRLING | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 115 | |
| | Survey date: MONDAY | 23/04/07 | Survey Type: MANUAL |
| 35 | ST-03-A-05 | TERRACED/DETACHED STOKE | STAFFORDSHIRE |
| | WATERMEET GROVE | | |
| | ETRURIA | | |
| | STOKE-ON-TRENT | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 14 | |
| | Survey date: WEDNESDAY | 26/11/08 | Survey Type: MANUAL |

KTP Norfolk Norfolk

Licence No: 550501

LIST OF SITES relevant to selection parameters (Cont.)

320110892P

- 22 LE-03-A-01 DETACHED, MELTON MOWBRAY
REDWOOD AVENUE
LEICESTERSHIRE

MELTON MOWBRAY
Edge of Town
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY 03/05/05
Survey Type: MANUAL
- 23 LN-03-A-01 MIXED HOUSES LINCOLN
BRANT ROAD
BRACEBRIDGE
LINCOLN
LEICESTERSHIRE
Edge of Town
Residential Zone
Total Number of dwellings: 150
Survey date: TUESDAY 15/05/07
Survey Type: MANUAL
- 24 LN-03-A-02 MIXED HOUSES LINCOLN
HYKEHAM ROAD
LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 186
Survey date: MONDAY 14/05/07
Survey Type: MANUAL
- 25 NT-03-A-03 SEMI DETACHED KIRKBY-IN-ASHFD
B6018 SUTTON ROAD
NOTTINGHAMSHIRE
KIRKBY-IN-ASHFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 166
Survey date: WEDNESDAY 28/06/06
Survey Type: MANUAL
- 26 NY-03-A-01 MIXED HOUSES NORTHALLERTON
GRAMMAR SCHOOL LANE
NORTH YORKSHIRE
NORTHALLERTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 52
Survey date: TUESDAY 25/09/07
Survey Type: MANUAL
- 27 NY-03-A-05 HOUSES AND FLATS, RIPON
BOROUGHBRIDGE ROAD
NORTH YORKSHIRE
RIPON
Edge of Town
No Sub Category
Total Number of dwellings: 71
Survey date: MONDAY 22/09/08
Survey Type: MANUAL
- 28 SC-03-A-03 DETACHED EAST MOLESEY
A3050 HURST ROAD
HURST PARK
EAST MOLESEY
SURREY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 54
Survey date: TUESDAY 12/11/02
Survey Type: MANUAL

KTP Norfolk Norfolk

Licence No: 550501

LIST OF SITES relevant to selection parameters (Cont.)

- 15 EX-03-A-01 SEMI-DET STANFORD-LE-HOPE ESSEX
MILTON ROAD
CORRINGHAM
STANFORD-LE-HOPE
Edge of Town
Residential Zone
Total Number of dwellings: 237
Survey date: TUESDAY 13/05/08
Survey Type: MANUAL
- 16 FI-03-A-02 SEMI DETACHED, GLENROTHES FIFE
WAROUT ROAD

GLENROTHES
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 58
Survey date: MONDAY 16/05/05
Survey Type: MANUAL
- 17 FI-03-A-03 MIXED HOUSES DUNFERMLINE FIFE
WOODMILL ROAD

DUNFERMLINE
Edge of Town
Residential Zone
Total Number of dwellings: 155
Survey date: MONDAY 30/04/07
Survey Type: MANUAL
- 18 HI-03-A-11 BUNGALOWS INVERNESS HIGHLAND
STEVENSON ROAD
INSHES
INVERNESS
Edge of Town
Residential Zone
Total Number of dwellings: 85
Survey date: MONDAY 05/06/06
Survey Type: MANUAL
- 19 HI-03-A-13 HOUSING, INVERNESS HIGHLAND
KINGSMILLS ROAD

INVERNESS
Edge of Town
Residential Zone
Total Number of dwellings: 9
Survey date: THURSDAY 21/05/09
Survey Type: MANUAL
- 20 LC-03-A-22 BUNGALOWS BLACKPOOL LANCASHIRE
CLIFTON DRIVE NORTH

BLACKPOOL
Edge of Town
Residential Zone
Total Number of dwellings: 98
Survey date: TUESDAY 18/10/05
Survey Type: MANUAL
- 21 LC-03-A-29 DETACHED/SEMI D BLACKBURN LANCASHIRE
REVIDGE ROAD
FOUR LANE ENDS
BLACKBURN
Edge of Town
Residential Zone
Total Number of dwellings: 185
Survey date: THURSDAY 10/06/04
Survey Type: MANUAL

KTP Norfolk Norfolk

Licence No: 550501

LIST OF SITES relevant to selection parameters (Cont.)

- 8 CH-03-A-05 DETACHED CREWE
SYDNEY ROAD
SYDNEY
CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 17
Survey date: TUESDAY 14/10/08
CHESHIRE
Survey Type: MANUAL
- 9 CH-03-A-06 SEMI-DET /BUNGALOWS CREWE
CREWE ROAD
CREWE
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 129
Survey date: TUESDAY 14/10/08
CHESHIRE
Survey Type: MANUAL
- 10 CP-03-A-02 SEMI DETACHED PENGAM
THE RISE
PENGAM
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 41
Survey date: MONDAY 05/09/05
CAERPHILLY
Survey Type: MANUAL
- 11 CW-03-A-01 TERRACED PENZANCE
ALVERTON ROAD
PENZANCE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 13
Survey date: THURSDAY 30/06/05
CORNWALL
Survey Type: MANUAL
- 12 CW-03-A-02 SEMI D /DETACHED TRURO
BOSVEAN GARDENS
TRURO
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 73
Survey date: TUESDAY 18/09/07
CORNWALL
Survey Type: MANUAL
- 13 DC-03-A-01 DETACHED POOLE
ISAACS CLOSE
POOLE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 51
Survey date: WEDNESDAY 16/07/08
DORSET
Survey Type: MANUAL
- 14 EA-03-A-01 DETACHED KILMARNOCK
TALISKER AVENUE
KILMARNOCK
Edge of Town
Residential Zone
Total Number of dwellings: 39
Survey date: THURSDAY 05/06/08
EAST AYRSHIRE
Survey Type: MANUAL

320110892P

KTP Norfolk Norfolk

Licence No: 550501

LIST OF SITES relevant to selection parameters

- 1 BD-03-A-01 SEMI DETACHED LUTON BEDFORDSHIRE
NEW BEDFORD ROAD

LUTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 131
Survey date: THURSDAY 08/07/04
Survey Type: MANUAL
- 2 BD-03-A-02 SEMI DETACHED, LUTON BEDFORDSHIRE
RIDDY LANE

LUTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 82
Survey date: TUESDAY 06/07/04
Survey Type: MANUAL
- 3 CB-03-A-04 SEMI DETACHED WORKINGTON CUMBRIA
MOORCLOSE ROAD
SALTERBACK
WORKINGTON
Edge of Town
No Sub Category
Total Number of dwellings: 82
Survey date: FRIDAY 24/04/09
Survey Type: MANUAL
- 4 CF-03-A-01 MIXED HOUSES CARDIFF CARDIFF
VIRGIL STREET
NINIAN PARK
CARDIFF
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 222
Survey date: THURSDAY 17/10/02
Survey Type: MANUAL
- 5 CF-03-A-02 MIXED HOUSES CARDIFF CARDIFF
DROPE ROAD

CARDIFF
Edge of Town
Residential Zone
Total Number of dwellings: 196
Survey date: FRIDAY 05/10/07
Survey Type: MANUAL
- 6 CF-03-A-03 DETACHED CARDIFF CARDIFF
LLANTRISANT ROAD

CARDIFF
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 29
Survey date: MONDAY 08/10/07
Survey Type: MANUAL
- 7 CH-03-A-02 HOUSES/FLATS CREWE CHESHIRE
SYDNEY ROAD

CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 174
Survey date: TUESDAY 14/10/08
Survey Type: MANUAL

320110892P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.15-17.30										I
B-ACD	0.22	8.30	0.027		0.02	0.03	0.4		0.12	I
A-BCD	1.34	9.35	0.143		0.14	0.18	2.7		0.12	I
D-ABC	1.27	12.03	0.105		0.09	0.12	1.7		0.09	I
C-ABD	0.00	7.80	0.000		0.00	0.00	0.0		0.00	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.30-17.45										I
B-ACD	0.22	8.30	0.027		0.03	0.03	0.4		0.12	I
A-BCD	1.34	9.35	0.143		0.18	0.18	2.7		0.12	I
D-ABC	1.27	12.03	0.105		0.12	0.12	1.8		0.09	I
C-ABD	0.00	7.80	0.000		0.00	0.00	0.0		0.00	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.45-18.00										I
B-ACD	0.18	8.73	0.021		0.03	0.02	0.3		0.12	I
A-BCD	1.09	9.53	0.115		0.18	0.14	2.1		0.12	I
D-ABC	1.03	12.31	0.084		0.12	0.09	1.4		0.09	I
C-ABD	0.00	8.07	0.000		0.00	0.00	0.0		0.00	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
18.00-18.15										I
B-ACD	0.15	9.04	0.017		0.02	0.02	0.3		0.11	I
A-BCD	0.92	9.65	0.095		0.14	0.11	1.6		0.11	I
D-ABC	0.87	12.52	0.069		0.09	0.07	1.1		0.09	I
C-ABD	0.00	8.27	0.000		0.00	0.00	0.0		0.00	I

WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1
18.15	0.1

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

320110892P

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I	
	I			I	* DELAY *		I	* DELAY *		I	
	I			I			I			I	
	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I	

A-ACD	I	16.5	I	11.0	I	1.9	I	0.12	I	0.12	I
A-BCD	I	100.5	I	67.0	I	12.8	I	0.13	I	0.13	I
D-ABC	I	95.0	I	63.3	I	8.4	I	0.09	I	0.09	I
C-ABD	I	0.0	I	0.0	I	0.0	I	0.00	I	0.00	I

ALL	I	959.4	I	639.6	I	23.2	I	0.02	I	0.02	I

DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
 WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF RUN**

SLOPES AND INTERCEPT

(Streams may be combined, in which case capacity will be adjusted)

STREAM B-C

Intercept For	Slope For	Opposing	Slope For	Opposing	I
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B	STREAM A-B	I
745.29	0.26	0.10			I

STREAM D-A

Intercept For	Slope For	Opposing	Slope For	Opposing	I
STREAM D-A	STREAM C-A	STREAM C-D	STREAM C-D	STREAM C-D	I
832.54	0.29	0.11			I

STREAM B-A

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
STREAM B-A	STREAM A-C	STREAM A-D	STREAM D-A	STREAM D-B	STREAM D-B	STREAM D-B	STREAM D-B	STREAM D-B	I
575.31	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	I
	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
	STREAM A-B	STREAM C-A	STREAM C-B	STREAM D-C	STREAM D-C	STREAM D-C	STREAM D-C	STREAM D-C	I
	0.09	0.15	0.34	0.12	0.12	0.12	0.12	0.12	I

STREAM D-C

Intercept For	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
STREAM D-C	STREAM C-A	STREAM C-B	STREAM B-C	STREAM B-D	STREAM B-D	STREAM B-D	STREAM B-D	STREAM B-D	I
643.08	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	I
	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	Slope For	Opposing	I
	STREAM C-D	STREAM A-C	STREAM A-D	STREAM B-A	STREAM B-A	STREAM B-A	STREAM B-A	STREAM B-A	I
	0.11	0.17	0.38	0.13	0.13	0.13	0.13	0.13	I

STREAM C-B

Intercept For	Slope For	Opposing	Slope For	Opposing	I
STREAM C-B	STREAM A-C	STREAM A-D	STREAM A-D	STREAM A-D	I

320110892P

Stream A-D

Intercept For STREAM A-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	I
617.98	0.21	0.31	I

Stream From Left Hand Lane

Intercept For STREAM B-D	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-B	I
575.31	0.24	0.24	0.09	0.34	I
Slope For Opposing STREAM C-A					I
0.15					I

Stream From Right Hand Lane

Intercept For STREAM B-D	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-B	I
575.31	0.24	0.24	0.09	0.34	I
Slope For Opposing STREAM C-A					I
0.15					I

Stream From Left Hand Lane

Intercept For STREAM D-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-D	I
643.08	0.27	0.27	0.11	0.38	I
Slope For Opposing STREAM A-C					I
0.17					I

Stream From Right Hand Lane

Intercept For STREAM B-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing STREAM A-D	I
643.08	0.27	0.27	0.11	0.38	I
Slope For Opposing STREAM A-C					I
0.17					I

TRAFFIC DEMAND DATA

FORM I FLOW SCALE(%)	I
A I 100	I
B I 100	I
I I 100	I
I I 100	I

emand set: 2011 Base Flows with dev AM

IME PERIOD BEGINS 08.00 AND ENDS 09.30

ENGIH OF IIME PERIOD - 90 MIN
ENGIH OF IIME SEGMENT - 15 MIN

EMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	I	NUMBER OF MINUTES FROM START WHEN			I	RATE OF FLOW (VEH/MIN)			I
		I FLOW STARTS	I TOP OF PEAK	I FLOW STOPS		I BEFORE	I AT TOP	I AFTER	
	I	I TO RISE	I IS REACHED	I FALLING	I	I PEAK	I OF PEAK	I PEAK	I
ARM A	I	15.00	I	45.00	I	75.00	I	2.31	I
ARM B	I	15.00	I	45.00	I	75.00	I	0.36	I
ARM C	I	15.00	I	45.00	I	75.00	I	2.61	I
ARM D	I	15.00	I	45.00	I	75.00	I	1.06	I

emand set: 2011 Base Flows with dev AM

TIME	TURNING PROPORTIONS									
	TURNING COUNTS									
	(PERCENTAGE OF H.V.S)									
TIME	FROM/TO	ARM	A	ARM	B	ARM	C	ARM	D	
08.00 - 08.15	I	I	I	I	I	I	I	I	I	I
	I ARM A	I	0.000	I	0.038	I	0.670	I	0.292	I
	I	I	0.0	I	7.0	I	124.0	I	54.0	I
	I	I (	0.0)	I (	0.0)	I (	6.0)	I (	2.0)	I
	I	I	I	I	I	I	I	I	I	I
	I ARM B	I	0.655	I	0.000	I	0.345	I	0.000	I
	I	I	19.0	I	0.0	I	10.0	I	0.0	I
	I	I (	0.0)	I (	0.0)	I (	0.0)	I (	0.0)	I
	I	I	I	I	I	I	I	I	I	I
	I ARM C	I	0.952	I	0.019	I	0.000	I	0.029	I
	I	I	199.0	I	4.0	I	0.0	I	6.0	I
	I	I (	4.0)	I (	0.0)	I (	0.0)	I (	0.0)	I
	I	I	I	I	I	I	I	I	I	I
	I ARM D	I	0.965	I	0.000	I	0.035	I	0.000	I
	I	I	82.0	I	0.0	I	3.0	I	0.0	I
	I	I (	2.0)	I (	0.0)	I (	0.0)	I (	0.0)	I
	I	I	I	I	I	I	I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN IIME SEGMENT

FOR DEMAND SET 2011 Base Flows with dev AM
AND FOR TIME PERIOD 1

IIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ IIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ IIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-ACD	0.36	9.33	0.039		0.00	0.04	0.6		0.11
A-BCD	0.68	9.52	0.071		0.00	0.08	1.1		0.11
D-ABC	1.07	12.69	0.084		0.00	0.09	1.3		0.09
C-ABD	0.05	9.62	0.005		0.00	0.01	0.1		0.10

IIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ IIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ IIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-ACD	0.43	9.12	0.048		0.04	0.05	0.7		0.12
A-BCD	0.81	9.41	0.086		0.08	0.10	1.4		0.12
D-ABC	1.27	12.54	0.102		0.09	0.11	1.7		0.09
C-ABD	0.06	9.51	0.006		0.01	0.01	0.1		0.11

320110892P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
08.30-08.45										I
B-ACD	0.53	8.82	0.060		0.05	0.06	0.9		0.12	I
A-BCD	0.99	9.25	0.107		0.10	0.12	1.8		0.12	I
D-ABC	1.56	12.33	0.127		0.11	0.14	2.1		0.09	I
C-ABD	0.07	9.35	0.008		0.01	0.01	0.1		0.11	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
08.45-09.00										I
B-ACD	0.53	8.82	0.060		0.06	0.06	1.0		0.12	I
A-BCD	0.99	9.25	0.107		0.12	0.12	1.9		0.12	I
D-ABC	1.56	12.33	0.127		0.14	0.14	2.2		0.09	I
C-ABD	0.07	9.35	0.008		0.01	0.01	0.1		0.11	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
09.00-09.15										I
B-ACD	0.43	9.12	0.048		0.06	0.05	0.8		0.12	I
A-BCD	0.81	9.41	0.086		0.12	0.10	1.4		0.12	I
D-ABC	1.27	12.54	0.102		0.14	0.11	1.7		0.09	I
C-ABD	0.06	9.51	0.006		0.01	0.01	0.1		0.11	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
09.15-09.30										I
B-ACD	0.36	9.33	0.039		0.05	0.04	0.6		0.11	I
A-BCD	0.68	9.52	0.071		0.10	0.08	1.2		0.11	I
D-ABC	1.07	12.69	0.084		0.11	0.09	1.4		0.09	I
C-ABD	0.05	9.62	0.005		0.01	0.01	0.1		0.10	I

WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR SIREAM B-ACD

TIME	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.0

QUEUE FOR SIREAM A-BCD

TIME	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	
	I		I	* DELAY *	I	* DELAY *	I	
	I		I		I		I	
	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
B-ACD	I	39.9	I	26.6	I	4.6	I	0.12
A-BCD	I	74.3	I	49.6	I	8.9	I	0.12
D-ABC	I	117.0	I	78.0	I	10.4	I	0.09
C-ABD	I	5.5	I	3.7	I	0.6	I	0.11
ALL	I	699.2	I	466.1	I	24.5	I	0.04

DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
 WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*****END OF RUN*****

===== end of file =====

Printed at 15:35:16 on 09/08/2011

320110892P

TRL LIMITED

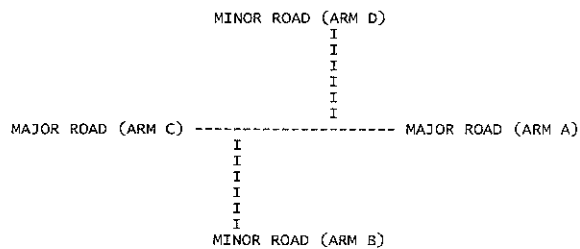
Chester Av Park Av B6478 vpo

(C) COPYRIGHT 2006

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
BY PERMISSION OF THE CONTROLLER OF HMSO-----
FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk
-----THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS/HER RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-

"P:\A05022 ADoc Technical work-DTPC\Analysis\Clitheroe\PICADY\Chester Av\Chester Av Park Av B6478.vpi
(drive-on-the-left) at 14:03:38 on Tuesday, 9 August 2011RUN INFORMATION
*****RUN TITLE : Run 1
LOCATION :
DATE : 09/08/11
CLIENT :
ENUMERATOR :
JOB NUMBER :
STATUS :
DESCRIPTION :MAJOR/MINOR JUNCTION CAPACITY AND DELAY
*****INPUT DATA
-----ARM A IS B6478 Clitheroe
ARM B IS Chester Avenue
ARM C IS B6478 Waddington
ARM D IS Park AvenueSTREAM LABELLING CONVENTION
-----STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 8.20 M.	I	(W) 8.00 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I	(WCR) 0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 2.20 M.	I	(WA-D) 2.20 M.	I
I	- VISIBILITY	I	(VC-B) 70.00 M.	I	(VA-D) 67.00 M.	I
I	- BLOCKS TRAFFIC	I	YES	I	YES	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 12.0 M.	I	(VD-A) 11.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 12.0 M.	I	(VD-C) 12.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 4.90 M.	I	(WD-A) 4.60 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I	(WD-C) 0.00 M.	I

SLOPES AND INTERCEPT

(NB: Streams may be combined in which case capacity will be adjusted)

B-C Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-C	STREAM D-C	STREAM A-B	STREAM D-B	I
I	751.61	0.26	0.26	0.10	0.10	I

B-AD Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-AD	STREAM A-C	STREAM A-D	STREAM D-A	STREAM D-B	I
I	580.19	0.24	0.24	0.10	0.10	I

I	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing STREAM C-E
I	0.15	0.15	0.35	0.35

D-A Stream

I	Intercept	For Slope	For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing				
I	STREAM	D-A	STREAM	C-A	STREAM	D-C	STREAM	A-B	STREAM	D-B	I
I	732.65		0.26		0.26		0.10		0.10		I

D-BC Stream

I	Intercept For I STREAM D-BC	Slope For STREAM C-A	Slope For Opposing STREAM B-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-D	I
I	565.18	0.24	0.24	0.09	0.09	I

I	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-E
I	0.15	0.15	0.34	0.15

C-B Stream

I	Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM D-B	I
I	614.50	0.22	0.22	0.22	0.22	I

A-D Stream

I	Intercept For I STREAM A-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-A	Slope For Opposing STREAM B-D	I
I	614.50	0.22	0.22	0.22	0.22	I

TRAFFIC DEMAND DATA

I	ARM	I	FLOW	SCALE(%)	I
I	A	I		100	I
I	B	I		100	I
I	C	I		100	I
I	D	I		100	I

Demand set: 2011 base Flows AM

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	2.54	3.81	2.54
ARM B	15.00	45.00	75.00	0.30	0.45	0.30
ARM C	15.00	45.00	75.00	3.99	5.98	3.99
ARM D	15.00	45.00	75.00	0.25	0.38	0.25

Demand set: 2011 Base Flows AM

TIME		FROM/TO	ARM	A	ARM	B	ARM	C	ARM	D
08.00	- 08.15	ARM A	0.000	0.103	0.882	0.015				
			0.0	21.0	179.0	3.0				
			(0.0)	(0.0)	(4.0)	(0.0)				
		ARM B	0.542	0.000	0.458	0.000				
			13.0	0.0	11.0	0.0				
			(0.0)	(0.0)	(0.0)	(0.0)				
		ARM C	0.940	0.056	0.000	0.003				
			300.0	18.0	0.0	1.0				
			(3.0)	(0.0)	(0.0)	(0.0)				
		ARM D	0.800	0.050	0.150	0.000				
			16.0	1.0	3.0	0.0				
			(0.0)	(0.0)	(0.0)	(0.0)				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

320110892P

Chester Av Park Av 86478.vpo
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2011 Base Flows AM
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-ACD	0.30	9.70	0.031		0.00	0.03	0.5		0.11
A-BCD	0.04	9.33	0.004		0.00	0.00	0.1		0.11
D-ABC	0.25	10.36	0.024		0.00	0.02	0.4		0.10
C-ABD	0.23	9.67	0.023		0.00	0.02	0.4		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-ACD	0.36	9.48	0.038		0.03	0.04	0.6		0.11
A-BCD	0.04	9.16	0.005		0.00	0.00	0.1		0.11
D-ABC	0.30	10.14	0.030		0.02	0.03	0.4		0.10
C-ABD	0.27	9.56	0.028		0.02	0.03	0.4		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-ACD	0.44	9.18	0.048		0.04	0.05	0.7		0.11
A-BCD	0.06	8.93	0.006		0.00	0.01	0.1		0.11
D-ABC	0.37	9.82	0.037		0.03	0.04	0.6		0.11
C-ABD	0.33	9.41	0.035		0.03	0.04	0.6		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-ACD	0.44	9.18	0.048		0.05	0.05	0.8		0.11
A-BCD	0.06	8.93	0.006		0.01	0.01	0.1		0.11
D-ABC	0.37	9.82	0.037		0.04	0.04	0.6		0.11
C-ABD	0.33	9.41	0.035		0.04	0.04	0.6		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-ACD	0.36	9.48	0.038		0.05	0.04	0.6		0.11
A-BCD	0.04	9.16	0.005		0.01	0.00	0.1		0.11
D-ABC	0.30	10.13	0.030		0.04	0.03	0.5		0.10
C-ABD	0.27	9.56	0.028		0.04	0.03	0.4		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-ACD	0.30	9.70	0.031		0.04	0.03	0.5		0.11
A-BCD	0.04	9.33	0.004		0.00	0.00	0.1		0.11
D-ABC	0.25	10.36	0.024		0.03	0.02	0.4		0.10
C-ABD	0.23	9.67	0.023		0.03	0.02	0.4		0.11

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.1
09.00	0.1
09.15	0.0
09.30	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I
I	I	I	(VEH)	I	(VEH/H)	I	(MIN)	I
I	I	I	(VEH/H)	I	(MIN/VEH)	I	(MIN)	I
I	B-ACD	I	33.0	I	22.0	I	3.6	I
I	A-BCD	I	4.1	I	2.8	I	0.5	I
I	D-ABC	I	27.5	I	18.4	I	2.8	I
I	C-ABD	I	24.8	I	16.5	I	2.7	I
I	ALL	I	779.1	I	519.4	I	9.6	I

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
 WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*****END OF RUN*****

SLOPES AND INTERCEPT

(NB:Streams may be combined in which case capacity will be adjusted)

B-C Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-C	STREAM D-C	STREAM A-B	STREAM D-B	I
I	751.61	0.26	0.26	0.10	0.10	I

B-AD Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-AD	STREAM A-C	STREAM A-D	STREAM D-A	STREAM D-B	I
I	580.19	0.24	0.24	0.10	0.10	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM C-A	STREAM C-B	STREAM C-D	STREAM C-D	I
I	0.15	0.15	0.35		I

D-A Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-A	STREAM C-A	STREAM D-C	STREAM A-B	STREAM D-B	I
I	732.65	0.26	0.26	0.10	0.10	I

D-BC Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-BC	STREAM C-A	STREAM B-A	STREAM C-D	STREAM B-D	I
I	565.18	0.24	0.24	0.09	0.09	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM A-C	STREAM A-B	STREAM A-D	STREAM A-D	I
I	0.15	0.15	0.34		I

C-B Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-B	STREAM D-C	STREAM D-B	I
I	614.50	0.22	0.22	0.22	0.22	I

A-D Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM A-D	STREAM C-A	STREAM C-D	STREAM B-A	STREAM B-D	I
I	614.50	0.22	0.22	0.22	0.22	I

TRAFFIC DEMAND DATA

320110892P

I ARM I FLOW SCALE(%) I

I A I	100	I
I B I	100	I
I C I	100	I
I D I	100	I

Demand set: 2011 Base Flows PM

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	I	I	I	I	I	I	I	I	I
ARM	NUMBER OF	MINUTES FROM START WHEN	RATE OF FLOW (VEH/MIN)							
	FLOW STARTS	TOP OF PEAK	BEFORE	AT TOP	AFTER					
	TO RISE	IS REACHED	PEAK	OF PEAK	PEAK					
		I FALLING								
I ARM A I	15.00	I 45.00	I 75.00	I 5.05	I 7.58	I 5.05	I	I	I	I
I ARM B I	15.00	I 45.00	I 75.00	I 0.34	I 0.51	I 0.34	I	I	I	I
I ARM C I	15.00	I 45.00	I 75.00	I 3.95	I 5.93	I 3.95	I	I	I	I
I ARM D I	15.00	I 45.00	I 75.00	I 0.26	I 0.39	I 0.26	I	I	I	I

Demand set: 2011 Base Flows PM

I	I	I	I	I	I	I	I	I	I	I
TIME	TURNING PROPORTIONS									
	TURNING COUNTS									
	(PERCENTAGE OF H.V.S)									
FROM/TO	ARM A	ARM B	ARM C	ARM D						
I 16.45 - 17.00	I	I	I	I	I	I	I	I	I	I
I ARM A	I 0.000	I 0.030	I 0.928	I 0.042	I	I	I	I	I	I
I	I 0.0	I 12.0	I 375.0	I 17.0	I	I	I	I	I	I
I	I (0.0)	I (0.0)	I (1.0)	I (0.0)	I	I	I	I	I	I
I ARM B	I 0.593	I 0.000	I 0.407	I 0.000	I	I	I	I	I	I
I	I 16.0	I 0.0	I 11.0	I 0.0	I	I	I	I	I	I
I	I (0.0)	I (0.0)	I (0.0)	I (0.0)	I	I	I	I	I	I
I ARM C	I 0.965	I 0.032	I 0.000	I 0.003	I	I	I	I	I	I
I	I 305.0	I 10.0	I 0.0	I 1.0	I	I	I	I	I	I
I	I (1.0)	I (0.0)	I (0.0)	I (0.0)	I	I	I	I	I	I
I ARM D	I 0.952	I 0.000	I 0.048	I 0.000	I	I	I	I	I	I
I	I 20.0	I 0.0	I 1.0	I 0.0	I	I	I	I	I	I
I	I (0.0)	I (0.0)	I (0.0)	I (0.0)	I	I	I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2011 Base Flows PM
AND FOR TIME PERIOD 2

I	I	I	I	I	I	I	I	I	I	I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	AVERAGE DELAY	
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	PER ARRIVING	
			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)	
I 16.45-17.00	I	I	I	I	I	I	I	I	I	I
I B-ACD	I 0.34	I 8.97	I 0.038	I	I 0.00	I 0.04	I 0.6	I	I 0.12	I
I A-BCD	I 0.21	I 9.33	I 0.023	I	I 0.00	I 0.02	I 0.4	I	I 0.11	I
I D-ABC	I 0.26	I 10.92	I 0.024	I	I 0.00	I 0.02	I 0.4	I	I 0.09	I
I C-ABD	I 0.13	I 9.18	I 0.014	I	I 0.00	I 0.01	I 0.2	I	I 0.11	I

I	I	I	I	I	I	I	I	I	I	I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	AVERAGE DELAY	
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	PER ARRIVING	
			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)	
I 17.00-17.15	I	I	I	I	I	I	I	I	I	I
I B-ACD	I 0.40	I 8.64	I 0.047	I	I 0.04	I 0.05	I 0.7	I	I 0.12	I
I A-BCD	I 0.25	I 9.16	I 0.028	I	I 0.02	I 0.03	I 0.4	I	I 0.11	I
I D-ABC	I 0.31	I 10.70	I 0.029	I	I 0.02	I 0.03	I 0.4	I	I 0.10	I
I C-ABD	I 0.15	I 8.98	I 0.017	I	I 0.01	I 0.02	I 0.3	I	I 0.11	I

I	I	I	I	I	I	I	I	I	I	I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	AVERAGE DELAY	
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	PER ARRIVING	
			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)	
I 17.15-17.30	I	I	I	I	I	I	I	I	I	I
I B-ACD	I 0.50	I 8.17	I 0.061	I	I 0.03	I 0.06	I 0.9	I	I 0.13	I
I A-BCD	I 0.31	I 8.92	I 0.035	I	I 0.03	I 0.04	I 0.6	I	I 0.12	I
I D-ABC	I 0.39	I 10.39	I 0.037	I	I 0.03	I 0.04	I 0.6	I	I 0.10	I
I C-ABD	I 0.18	I 8.69	I 0.021	I	I 0.02	I 0.02	I 0.3	I	I 0.12	I

I	I	I	I	I	I	I	I	I	I	I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	AVERAGE DELAY	
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	PER ARRIVING	
			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)	
I 17.30-17.45	I	I	I	I	I	I	I	I	I	I
I B-ACD	I 0.50	I 8.17	I 0.061	I	I 0.06	I 0.06	I 1.0	I	I 0.13	I
I A-BCD	I 0.31	I 8.92	I 0.035	I	I 0.04	I 0.04	I 0.6	I	I 0.12	I
I D-ABC	I 0.39	I 10.39	I 0.037	I	I 0.04	I 0.04	I 0.6	I	I 0.10	I
I C-ABD	I 0.18	I 8.69	I 0.021	I	I 0.02	I 0.02	I 0.3	I	I 0.12	I

I	I	I	I	I	I	I	I	I	I	I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	AVERAGE DELAY	
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	PER ARRIVING	

						Chester Av Park Av B6478.vpo		TIME SEGMENT)	VEHICLE (MIN)	
		(RFC)	(PDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)				
I	17.45-18.00									I
I	B-ACD	0.40	8.64	0.047	0.06	0.05	0.8		0.12	I
I	A-BCD	0.25	9.16	0.028	0.04	0.03	0.4		0.11	I
I	D-ABC	0.31	10.70	0.029	0.04	0.03	0.5		0.10	I
I	C-ABD	0.15	8.98	0.017	0.02	0.02	0.3		0.11	I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-ACD	0.34	8.97	0.038		0.05	0.04	0.6		0.12
A-BCD	0.21	9.33	0.023		0.03	0.02	0.4		0.11
D-ABC	0.26	10.92	0.024		0.03	0.02	0.4		0.09
C-ABD	0.13	9.18	0.014		0.02	0.01	0.2		0.11

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-ACD	37.2	24.8	4.5	0.12	4.5	0.12
A-BCD	23.4	15.6	2.7	0.12	2.7	0.12
D-ABC	28.9	19.3	2.8	0.10	2.8	0.10
C-ABD	13.8	9.2	1.6	0.12	1.6	0.12
ALL	1057.1	704.7	11.6	0.01	11.6	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
 WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD

*****END OF RUN*****

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

B-C Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-C	STREAM D-C	STREAM A-B	STREAM D-B	I
I	751.61	0.26	0.26	0.10	0.10	I

B-AD Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-AD	STREAM A-C	STREAM A-D	STREAM D-A	STREAM D-B	I
I	580.19	0.24	0.24	0.10	0.10	I

320110892P

Chester Av Park Av B6478.vpo

I	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing STREAM D-B	I
I	0.15	0.15	0.35		I

D-A Stream

I	Intercept For STREAM D-A	Slope For Opposing STREAM C-A	Slope For Opposing STREAM D-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-B	I
I	732.65	0.26	0.26	0.10	0.10	I

D-BC Stream

I	Intercept For STREAM D-BC	Slope For Opposing STREAM C-A	Slope For Opposing STREAM B-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-D	I
I	565.18	0.24	0.24	0.09	0.09	I

I	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM A-D	Slope For Opposing STREAM D-B	I
I	0.15	0.15	0.34		I

C-B Stream

I	Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM D-C	Slope For Opposing STREAM D-B	I
I	614.50	0.22	0.22	0.22	0.22	I

A-D Stream

I	Intercept For STREAM A-D	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-D	Slope For Opposing STREAM B-A	Slope For Opposing STREAM B-D	I
I	614.50	0.22	0.22	0.22	0.22	I

TRAFFIC DEMAND DATA

I	ARM	I	FLOW SCALE(%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I
I	D	I	100	I

Demand set: 2011 Base Flows with dev PM

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN

LENGTH OF TIME SEGMENT - 15 MIN

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	ARM	I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	I	TOP OF PEAK IS REACHED	I	MINUTES FROM START WHEN FLOW STOPS FALLING	I	RATE OF FLOW (VEH/MIN) BEFORE PEAK	I	AT TOP OF PEAK	I	AFTER PEAK	I
I	ARM A	I	15.00	I	45.00	I	75.00	I	5.32	I	7.99	I	5.32	I
I	ARM B	I	15.00	I	45.00	I	75.00	I	0.34	I	0.51	I	0.34	I
I	ARM C	I	15.00	I	45.00	I	75.00	I	4.00	I	6.00	I	4.00	I
I	ARM D	I	15.00	I	45.00	I	75.00	I	0.26	I	0.39	I	0.26	I

Demand set: 2011 Base Flows with dev PM

I	TIME	I	FROM/TO	I	ARM	I	ARM	I	ARM	I	ARM	I	ARM	I	ARM	I	ARM	I
I	16.45 - 17.00	I	ARM A	I	0.000	I	0.028	I	0.932	I	0.040	I		I		I		I
I		I	ARM B	I	0.593	I	0.000	I	0.407	I	0.000	I		I		I		I
I		I	ARM C	I	0.966	I	0.031	I	0.000	I	0.003	I		I		I		I
I		I	ARM D	I	0.952	I	0.000	I	0.048	I	0.000	I		I		I		I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

Chester Av Park Av B6478 vpo
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2011 Base Flows with dev PM
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-ACD	0.34	8.89	0.038		0.00	0.04	0.6		0.12
A-BCD	0.21	9.32	0.023		0.00	0.02	0.4		0.11
D-ABC	0.26	10.90	0.024		0.00	0.02	0.4		0.09
C-ABD	0.13	9.12	0.014		0.00	0.01	0.2		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-ACD	0.40	8.55	0.047		0.04	0.05	0.7		0.12
A-BCD	0.25	9.14	0.028		0.02	0.03	0.4		0.11
D-ABC	0.31	10.68	0.029		0.02	0.03	0.4		0.10
C-ABD	0.15	8.91	0.017		0.01	0.02	0.3		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-ACD	0.50	8.06	0.061		0.05	0.06	1.0		0.13
A-BCD	0.31	8.90	0.035		0.03	0.04	0.6		0.12
D-ABC	0.39	10.36	0.037		0.03	0.04	0.6		0.10
C-ABD	0.18	8.61	0.021		0.02	0.02	0.3		0.12

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-ACD	0.50	8.06	0.061		0.06	0.07	1.0		0.13
A-BCD	0.31	8.90	0.035		0.04	0.04	0.6		0.12
D-ABC	0.39	10.36	0.037		0.04	0.04	0.6		0.10
C-ABD	0.18	8.61	0.021		0.02	0.02	0.3		0.12

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-ACD	0.40	8.55	0.047		0.07	0.05	0.8		0.12
A-BCD	0.25	9.14	0.028		0.04	0.03	0.4		0.11
D-ABC	0.31	10.67	0.029		0.04	0.03	0.5		0.10
C-ABD	0.15	8.91	0.017		0.02	0.02	0.3		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-ACD	0.34	8.89	0.038		0.05	0.04	0.6		0.12
A-BCD	0.21	9.32	0.023		0.03	0.02	0.4		0.11
D-ABC	0.26	10.90	0.024		0.03	0.02	0.4		0.09
C-ABD	0.13	9.12	0.014		0.02	0.01	0.2		0.11

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

320110892P

Chester Av Park Av B6478.vpo

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I
I	I	I	(VEH)	I	(VEH/H)	I	(MIN)	I
I	I	I	(VEH)	I	(VEH/H)	I	(MIN/VEH)	I
I	B-ACD	I	37.2	I	24.8	I	4.6	I
I	A-BCD	I	23.4	I	15.6	I	2.7	I
I	D-ABC	I	28.9	I	19.3	I	2.8	I
I	C-ABD	I	13.8	I	9.2	I	1.6	I
I	ALL	I	1092.9	I	728.6	I	11.7	I

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
 WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*****END OF RUN*****

SLOPES AND INTERCEPT

(NB:Streams may be combined in which case capacity will be adjusted)

B-C Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-C	STREAM D-C	STREAM A-B	STREAM D-B	I
I	751.61	0.26	0.26	0.10	0.10	I

B-AD Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-AD	STREAM A-C	STREAM A-D	STREAM D-A	STREAM D-B	I
I	580.19	0.24	0.24	0.10	0.10	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM C-A	STREAM C-B	STREAM C-D	STREAM C-D	I
I	0.15	0.15	0.35		I

D-A Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-A	STREAM C-A	STREAM D-C	STREAM A-B	STREAM D-B	I
I	732.65	0.26	0.26	0.10	0.10	I

D-BC Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-BC	STREAM C-A	STREAM B-A	STREAM C-D	STREAM B-D	I
I	565.18	0.24	0.24	0.09	0.09	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM A-C	STREAM A-B	STREAM A-D	STREAM A-D	I
I	0.15	0.15	0.34		I

C-B Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-B	STREAM D-C	STREAM D-B	I
I	614.50	0.22	0.22	0.22	0.22	I

A-D Stream

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM A-D	STREAM C-A	STREAM C-D	STREAM B-A	STREAM B-D	I
I	614.50	0.22	0.22	0.22	0.22	I

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

Demand set: 2011 Base Flows with dev AM

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM START WHEN TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	2.60	3.90	2.60
ARM B	15.00	45.00	75.00	0.30	0.45	0.30
ARM C	15.00	45.00	75.00	4.18	6.26	4.18
ARM D	15.00	45.00	75.00	0.25	0.38	0.25

Demand set: 2011 Base Flows with dev AM

		TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S.)			
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.00 - 08.15	ARM A	0.000	0.101	0.885	0.014
		0.0	21.0	184.0	3.0
		(0.0)	(0.0)	(4.0)	(0.0)
	ARM B	0.542	0.000	0.458	0.000
		13.0	0.0	11.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.943	0.054	0.000	0.003
		315.0	18.0	0.0	1.0
		(3.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.800	0.050	0.150	0.000
		16.0	1.0	3.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-ACD	0.30	9.66	0.031		0.00	0.03	0.5		0.11
A-BCD	0.04	9.29	0.004		0.00	0.00	0.1		0.11
D-ABC	0.25	10.31	0.024		0.00	0.02	0.4		0.10
C-ABD	0.23	9.66	0.023		0.00	0.02	0.4		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-ACD	0.36	9.44	0.038		0.03	0.04	0.6		0.11
A-BCD	0.04	9.11	0.005		0.00	0.00	0.1		0.11
D-ABC	0.30	10.07	0.030		0.02	0.03	0.4		0.10
C-ABD	0.27	9.54	0.028		0.02	0.03	0.4		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-ACD	0.44	9.12	0.048		0.04	0.05	0.7		0.12
A-BCD	0.06	8.87	0.006		0.00	0.01	0.1		0.11
D-ABC	0.37	9.74	0.038		0.03	0.04	0.6		0.11
C-ABD	0.33	9.39	0.035		0.03	0.04	0.6		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-ACD	0.44	9.12	0.048		0.05	0.05	0.8		0.12
A-BCD	0.06	8.87	0.006		0.01	0.01	0.1		0.11
D-ABC	0.37	9.74	0.038		0.04	0.04	0.6		0.11
C-ABD	0.33	9.39	0.035		0.04	0.04	0.6		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING
------	---------------------	-----------------------	---------------------	--------------------	----------------	--------------	-------------------------------------	---	-------------------------------

320110892P

	(RFC)	(PEDS/MIN)	Chester (VEHS)	Av Park (VEHS)	Av B6478.vpo TIME SEGMENT	TIME SEGMENT	VEHICLE (MIN)
I 09.00-09.15							
I B-ACD	0.36	9.44	0.038	0.05	0.04	0.6	0.11
I A-BCD	0.04	9.11	0.005	0.01	0.01	0.1	0.11
I D-ABC	0.30	10.07	0.030	0.04	0.03	0.5	0.10
I C-ABD	0.27	9.54	0.028	0.04	0.03	0.4	0.11

I TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
I 09.15-09.30									
I B-ACD	0.30	9.66	0.031		0.04	0.03	0.5		0.11
I A-BCD	0.04	9.29	0.004		0.01	0.00	0.1		0.11
I D-ABC	0.25	10.31	0.024		0.03	0.03	0.4		0.10
I C-ABD	0.23	9.66	0.023		0.03	0.02	0.4		0.11

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.1
09.00	0.1
09.15	0.0
09.30	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I STREAM	I TOTAL DEMAND	I * QUEUEING *	I * INCLUSIVE QUEUEING *
I	I	I * DELAY *	I * DELAY *
I	I (VEH)	I (VEH/H)	I (MIN)
I	I	I (MIN/VEH)	I (MIN)
I	I	I (MIN/VEH)	I (MIN/VEH)
I B-ACD	I 33.0	I 22.0	I 3.6
I A-BCD	I 4.1	I 2.8	I 0.5
I D-ABC	I 27.5	I 18.4	I 2.8
I C-ABD	I 24.8	I 16.5	I 2.7
I ALL	I 806.6	I 537.7	I 9.7

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
 WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*****END OF RUN*****

IRL LIMITED

(C) COPYRIGHT 2006

CAPACITIES, QUEUES AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 4.0 (SEPT 2008)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
BY PERMISSION OF THE CONTROLLER OF HMSO

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
IRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: Software@trl.co.uk

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS/HER RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
P:\A05022 ADoc Technical Work-DIPC\Analysis\Clitheroe\PICADY\Railway View Rd\Railway View Road.vpi"
(drive-on-the-left) at 15:03:28 on Tuesday, 9 August 2011

JN INFORMATION

JN TITLE : Run 1
LOCATION :
DATE : 09/08/11
CLIENT :
NUMERATOR :
JOB NUMBER :
CAUS :
DESCRIPTION :

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)

I
I
I
I
I
I
MINOR ROAD (ARM B)

RM A IS Railway View Road
RM B IS B6478 Waddington
RM C IS B6478 Clitheroe

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
Etc.

320110892P

MEIRIC DAIA

DAIA IIEM	I	MINOR ROAD B	I
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 7.20 M.	I
CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I
	I		I
MAJOR ROAD RIGHI TURN - WIDTH	I	(WC-B) 2.20 M	I
- VISIBILITY	I	(VC-B) 33.00 M.	I
- BLOCKS TRAFFIC	I	YES	I
	I		I
MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 38 0 M.	I
- VISIBILITY TO RIGHI	I	(VB-A) 25 0 M.	I
- LANE 1 WIDTH	I	(WB-C) -	I
- LANE 2 WIDTH	I	(WB-A) -	I
WIDTH AT 0 M FROM JUNCTION	I	9.00 M.	I
WIDTH AT 5 M FROM JUNCTION	I	3.60 M	I
WIDTH AT 10 M FROM JUNCTION	I	3.50 M.	I
WIDTH AT 15 M FROM JUNCTION	I	2.70 M.	I
WIDTH AT 20 M FROM JUNCTION	I	2.50 M.	I
- LENGTH OF FLARED SECTION	I	1 VEHs	I

SLOPES AND INTERCEPT

(NB: Streams may be combined, in which case capacity will be adjusted)

Intercept For	Slope For Opposing	Slope For Opposing	I
STREAM B-C	STREAM A-C	STREAM A-B	
0.00	0.00	0.00	I

Due to the presence of a flare, data is not available

Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	
0.00	0.00	0.00	0.00	0.00	I

Due to the presence of a flare, data is not available

Intercept For	Slope For Opposing	Slope For Opposing	I
STREAM C-B	STREAM A-C	STREAM A-B	
593.07	0.22	0.22	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

FORM I FLOW SCALE(%)	I
I 100	I
B I 100	I
C I 100	I

Demand set: 2011 Base flows AM

PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

MAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
	I	I	I	I	I	I
ARM A	15.00	45.00	75.00	4.14	6.21	4.14
ARM B	15.00	45.00	75.00	3.96	5.94	3.96
ARM C	15.00	45.00	75.00	3.91	5.87	3.91

Demand set: 2011 Base flows AM

TIME	TURNING PROPORTIONS					
	TURNING COUNTS					
	(PERCENTAGE OF H V S)					
	FROM/TO	ARM A	ARM B	ARM C		
08.00 - 08.15	ARM A	0.000	0.187	0.813		
		0.0	62.0	269.0		
		(0.0)	(2.0)	(10.0)		
	ARM B	0.170	0.000	0.830		
		54.0	0.0	263.0		
		(2.0)	(0.0)	(3.0)		
	ARM C	0.597	0.403	0.000		
		187.0	126.0	0.0		
		(4.0)	(6.0)	(0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2011 Base flows AM
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	3.30	9.61	0.344		0.00	0.51	7.3		0.16
B-A	0.68	6.90	0.098		0.00	0.11	1.5		0.16
C-AB	1.58	8.40	0.188		0.00	0.24	3.6		0.15
A-B	0.78								
A-C	3.38								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	3.94	9.34	0.422		0.51	0.72	10.3		0.18
B-A	0.81	6.33	0.128		0.11	0.14	2.1		0.18
C-AB	1.89	8.22	0.230		0.24	0.32	4.8		0.16
A-B	0.93								
A-C	4.03								

320110892P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
08.30-08.45										I
B-C	4.83	8.94	0.540		0.72	1.14	16.1		0.24	I
B-A	0.99	5.43	0.183		0.14	0.22	3.2		0.22	I
C-AB	2.31	7.97	0.290		0.32	0.45	6.7		0.18	I
A-B	1.14									I
A-C	4.94									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
08.45-09.00										I
B-C	4.83	8.93	0.540		1.14	1.15	17.2		0.24	I
B-A	0.99	5.41	0.183		0.22	0.22	3.3		0.23	I
C-AB	2.31	7.97	0.290		0.45	0.45	6.9		0.18	I
A-B	1.14									I
A-C	4.94									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
09.00-09.15										I
B-C	3.94	9.33	0.422		1.15	0.75	11.7		0.19	I
B-A	0.81	6.31	0.128		0.22	0.15	2.3		0.18	I
C-AB	1.89	8.22	0.230		0.45	0.33	4.9		0.16	I
A-B	0.93									I
A-C	4.03									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
09.15-09.30										I
B-C	3.30	9.60	0.344		0.75	0.53	8.3		0.16	I
B-A	0.68	6.88	0.098		0.15	0.11	1.7		0.16	I
C-AB	1.58	8.40	0.188		0.33	0.25	3.7		0.15	I
A-B	0.78									I
A-C	3.38									I

WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

TIME	NO. OF VEHICLES IN QUEUE	
08.15	0.5	*
08.30	0.7	*
08.45	1.1	*
09.00	1.2	*
09.15	0.7	*
09.30	0.5	*

TIME	NO. OF VEHICLES IN QUEUE	
08.15	0.1	
08.30	0.1	
08.45	0.2	
09.00	0.2	
09.15	0.1	
09.30	0.1	

320110892P

QUEUE FOR STREAM C-AB

TIME	NO. OF VEHICLES IN QUEUE
08.15	0.2
08.30	0.3
08.45	0.5
09.00	0.5
09.15	0.3
09.30	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
	I		I	* DELAY *	I	* DELAY *	I
	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	I	362.0	I	241.3	I	71.0	I
B-A	I	74.3	I	49.6	I	14.2	I
C-AB	I	173.4	I	115.6	I	30.6	I
A-B	I	85.3	I	56.9	I		I
A-C	I	370.3	I	246.8	I		I
ALL	I	1322.7	I	881.8	I	115.7	I

DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD

*****END OF RUN*****

SLOPES AND INTERCEPT

B:Streams may be combined, in which case capacity will be adjusted)

Intercept For	Slope For	Intercept For	Slope For
STREAM B-C	STREAM A-C	STREAM A-B	STREAM A-B
0.00	0.00	0.00	0.00

Due to the presence of a flare, data is not available

Intercept For	Slope For	Intercept For	Slope For	Intercept For	Slope For
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	STREAM C-B
0.00	0.00	0.00	0.00	0.00	0.00

Due to the presence of a flare, data is not available

Intercept For	Slope For	Intercept For	Slope For
STREAM C-B	STREAM A-C	STREAM A-B	STREAM A-B
593.07	0.22	0.22	0.22

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

mand set: 2011 Base flows PM

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

ENGIN OF TIME PERIOD - 90 MIN.
ENGIN OF TIME SEGMENT - 15 MIN.

MAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
	I	I	I	I	I	I
ARM A	15.00	45.00	75.00	5.94	8.91	5.94
ARM B	15.00	45.00	75.00	4.26	6.39	4.26
ARM C	15.00	45.00	75.00	7.15	10.73	7.15

mand set: 2011 Base flows PM

TIME	TURNING PROPORTIONS		
	TURNING COUNTS		
	(PERCENTAGE OF H.V.S)		
	FROM/TO	ARM A	ARM B
16.45 - 17.00	ARM A	0.000	0.335
		0.0	159.0
		(0.0)	(1.0)
	ARM B	0.109	0.000
		37.0	0.0
		(0.0)	(0.0)
	ARM C	0.572	0.428
		327.0	245.0
		(1.0)	(1.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2011 Base flows PM
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PES/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	3.81	9.64	0.396		0.00	0.64	9.1		0.17
B-A	0.46	5.97	0.078		0.00	0.08	1.2		0.18
C-AB	3.07	8.45	0.364		0.00	0.65	9.6		0.18
A-B	2.00								
A-C	3.97								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PES/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	4.55	9.33	0.488		0.64	0.93	13.3		0.21
B-A	0.55	5.14	0.108		0.08	0.12	1.7		0.22
C-AB	3.67	8.20	0.448		0.65	0.99	14.9		0.22
A-B	2.38								
A-C	4.73								

320110892P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.15-17.30										I
B-C	5.58	8.86	0.630		0.93	1.62	22.5		0.30	I
B-A	0.68	3.86	0.176		0.12	0.21	3.0		0.31	I
C-AB	4.50	7.84	0.574		0.99	1.83	27.2		0.30	I
A-B	2.92									I
A-C	5.80									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.30-17.45										I
B-C	5.58	8.85	0.630		1.62	1.66	24.6		0.30	I
B-A	0.68	3.82	0.178		0.21	0.21	3.2		0.32	I
C-AB	4.50	7.84	0.574		1.83	1.88	28.9		0.30	I
A-B	2.92									I
A-C	5.80									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.45-18.00										I
B-C	4.55	9.32	0.489		1.66	0.98	15.6		0.21	I
B-A	0.55	5.08	0.109		0.21	0.12	2.0		0.22	I
C-AB	3.67	8.20	0.448		1.88	1.07	16.3		0.23	I
A-B	2.38									I
A-C	4.73									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
18.00-18.15										I
B-C	3.81	9.63	0.396		0.98	0.67	10.4		0.17	I
B-A	0.46	5.93	0.078		0.12	0.09	1.3		0.18	I
C-AB	3.07	8.45	0.364		1.07	0.69	10.5		0.19	I
A-B	2.00									I
A-C	3.97									I

WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	0.9	*
17.30	1.6	**
17.45	1.7	**
18.00	1.0	*
18.15	0.7	*

QUEUE FOR STREAM B-A

TIME SEGMENT	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.1	
17.30	0.2	
17.45	0.2	
18.00	0.1	
18.15	0.1	

320110892P

QUEUE FOR STREAM C-AB

TIME	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	1.0	*
17.30	1.8	**
17.45	1.9	**
18.00	1.1	*
18.15	0.7	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
	I		I	* DELAY *	I	* DELAY *	I
	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	I	418.4	I 279.0	I 95.6	I 0.23	I 95.6	I 0.23
B-A	I	50.9	I 34.0	I 12.3	I 0.24	I 12.3	I 0.24
B-AB	I	337.2	I 224.8	I 107.4	I 0.32	I 107.5	I 0.32
A-B	I	218.9	I 145.9	I	I	I	I
A-C	I	435.0	I 290.0	I	I	I	I
ALL	I	1910.5	I 1273.7	I 215.4	I 0.11	I 215.4	I 0.11

DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD

*****END OF RUN*****

SLOPES AND INTERCEPT

(NB: Streams may be combined, in which case capacity will be adjusted)

Intercept For	Slope For Opposing	Slope For Opposing	
STREAM B-C	STREAM A-C	STREAM A-B	I
0.00	0.00	0.00	I

Due to the presence of a flare, data is not available

Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	I
0.00	0.00	0.00	0.00	0.00	I

Due to the presence of a flare, data is not available

Intercept For	Slope For Opposing	Slope For Opposing	
STREAM C-B	STREAM A-C	STREAM A-B	I
593.07	0.22	0.22	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	I	FLOW SCALE(%)	I
B	I	100	I
B	I	100	I
C	I	100	I

Demand set: 2011 Base flows with dev AM

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MIN
LENGTH OF TIME SEGMENT - 15 MIN

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	I	NUMBER OF MINUTES FROM START WHEN			I	RATE OF FLOW (VEH/MIN)			I
		FLOW STARTS	TOP OF PEAK	FLOW STOPS		BEFORE	AT TOP	AFTER	
	I	TO RISE	IS REACHED	FALLING	I	PEAK	OF PEAK	PEAK	I
	I	I	I	I	I	I	I	I	I
ARM A	I	15 00	I	45.00	I	75 00	I	4.16	I
ARM B	I	15 00	I	45.00	I	75.00	I	4.16	I
ARM C	I	15 00	I	45.00	I	75 00	I	3.95	I

Demand set: 2011 Base flows with dev AM

	I	TURNING PROPORTIONS				I						
	I	TURNING COUNTS				I						
	I	(PERCENTAGE OF H.V.S)				I						
TIME	I	FROM/IO	I	ARM	A	I	ARM	B	I	ARM	C	I
08.00 - 08.15	I		I		I		I		I		I	
	I	ARM	A	I	0.000	I	0.192	I	0.808	I		
	I			I	0.0	I	64.0	I	269.0	I		
	I			I	(0.0)	I	(2.0)	I	(10.0)	I		
	I			I		I		I		I		
	I	ARM	B	I	0.171	I	0.000	I	0.829	I		
	I			I	57.0	I	0.0	I	276.0	I		
	I			I	(2.0)	I	(0.0)	I	(3.0)	I		
	I			I		I		I		I		
	I	ARM	C	I	0.592	I	0.408	I	0.000	I		
	I			I	187.0	I	129.0	I	0.0	I		
	I			I	(4.0)	I	(6.0)	I	(0.0)	I		
I			I		I		I		I			

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2011 Base flows with dev AM
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	3.46	9.59	0.361		0.00	0.56	7.9		0.16
B-A	0.72	6.84	0.105		0.00	0.12	1.7		0.16
C-AB	1.62	8.39	0.193		0.00	0.25	3.7		0.15
A-B	0.80								
A-C	3.38								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	4.14	9.31	0.444		0.56	0.78	11.3		0.19
B-A	0.85	6.24	0.137		0.12	0.16	2.3		0.19
C-AB	1.93	8.21	0.235		0.25	0.33	4.9		0.16
A-B	0.96								
A-C	4.03								

320110892P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
08.30-08.45										I
B-C	5.06	8.89	0.570		0.78	1.27	17.9		0.26	I
B-A	1.05	5.24	0.199		0.16	0.24	3.5		0.24	I
C-AB	2.37	7.96	0.297		0.33	0.47	7.0		0.18	I
A-B	1.17									I
A-C	4.94									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
08.45-09.00										I
B-C	5.06	8.89	0.570		1.27	1.30	19.3		0.26	I
B-A	1.05	5.24	0.200		0.24	0.25	3.7		0.24	I
C-AB	2.37	7.96	0.297		0.47	0.47	7.2		0.18	I
A-B	1.17									I
A-C	4.94									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
09.00-09.15										I
B-C	4.14	9.30	0.444		1.30	0.82	12.9		0.20	I
B-A	0.85	6.22	0.137		0.25	0.16	2.5		0.19	I
C-AB	1.93	8.21	0.235		0.47	0.34	5.1		0.16	I
A-B	0.96									I
A-C	4.03									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
09.15-09.30										I
B-C	3.46	9.58	0.361		0.82	0.58	9.0		0.16	I
B-A	0.72	6.82	0.105		0.16	0.12	1.8		0.16	I
C-AB	1.62	8.39	0.193		0.34	0.26	3.8		0.15	I
A-B	0.80									I
A-C	3.38									I

WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

TIME	NO. OF VEHICLES IN QUEUE	
08.15	0.6	*
08.30	0.8	*
08.45	1.3	*
09.00	1.3	*
09.15	0.8	*
09.30	0.6	*

TIME	NO. OF VEHICLES IN QUEUE	
08.15	0.1	
08.30	0.2	
08.45	0.2	
09.00	0.2	
09.15	0.2	
09.30	0.1	

320110892P

QUEUE FOR STREAM C-AB

TIME	NO. OF VEHICLES IN QUEUE
08.15	0.2
08.30	0.3
08.45	0.5
09.00	0.5
09.15	0.3
09.30	0.3

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
	I		I	* DELAY *	I	* DELAY *	I
	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	I	379.9	I	253.3	I	78.3	I
B-A	I	78.5	I	52.3	I	15.5	I
C-AB	I	177.6	I	118.4	I	31.7	I
A-B	I	88.1	I	58.7	I		I
A-C	I	370.3	I	246.8	I		I
ALL	I	1351.7	I	901.1	I	125.5	I

DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*****END OF RUN*****

SLOPES AND INTERCEPT

B:Streams may be combined, in which case capacity will be adjusted)

Intercept For	Slope For Opposing	Slope For Opposing	
STREAM B-C	STREAM A-C	STREAM A-B	I
0.00	0.00	0.00	I

Due to the presence of a flare, data is not available

Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	I
0.00	0.00	0.00	0.00	0.00	I

Due to the presence of a flare, data is not available

Intercept For	Slope For Opposing	Slope For Opposing	
STREAM C-B	STREAM A-C	STREAM A-B	I
593.07	0.22	0.22	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	I	FLOW SCALE(%)	I
B	I	100	I
C	I	100	I

mand set: 2011 Base flows with dev sensitivity test AM

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

MAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
	I	I	I	I	I	I
ARM A	15 00	45 00	75 00	4.22	6.34	4.22
ARM B	15 00	45 00	75 00	4.74	7.11	4.74
ARM C	15 00	45 00	75 00	4.07	6.11	4.07

mand set: 2011 Base flows with dev sensitivity test AM

TIME	TURNING PROPORTIONS					
	TURNING COUNTS					
	(PERCENTAGE OF H.V.S)					
	FROM/TO	ARM A	ARM B	ARM C		
08.00 - 08.15	ARM A	0.000	0.204	0.796		
		0 0	69 0	269 0		
		(0.0)	(2.0)	(10.0)		
	ARM B	0.172	0.000	0.828		
		65 0	0 0	314 0		
		(2.0)	(0.0)	(3.0)		
	ARM C	0.574	0.426	0.000		
		187 0	139 0	0 0		
		(4.0)	(6.0)	(0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2011 Base flows with dev sensitivity test AM
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RPC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	3.94	9.53	0.413		0.00	0.69	9.8		0.18
B-A	0.82	6.65	0.123		0.00	0.14	2.0		0.17
C-AB	1.74	8.38	0.208		0.00	0.27	4.1		0.15
A-B	0.87								
A-C	3.38								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RPC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	4.70	9.23	0.510		0.69	1.01	14.4		0.22
B-A	0.97	5.93	0.164		0.14	0.19	2.8		0.20
C-AB	2.08	8.20	0.254		0.27	0.36	5.5		0.16
A-B	1.03								
A-C	4.03								

320110892P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
08.30-08.45										I
B-C	5.76	8.75	0.658		1.01	1.82	25.0		0.32	I
B-A	1.19	4.70	0.254		0.19	0.33	4.7		0.28	I
C-AB	2.55	7.94	0.321		0.36	0.53	7.9		0.18	I
A-B	1.27									I
A-C	4.94									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
08.45-09.00										I
B-C	5.76	8.75	0.659		1.82	1.87	27.7		0.33	I
B-A	1.19	4.65	0.256		0.33	0.34	5.1		0.29	I
C-AB	2.55	7.94	0.321		0.53	0.53	8.1		0.19	I
A-B	1.27									I
A-C	4.94									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
09.00-09.15										I
B-C	4.70	9.22	0.510		1.87	1.07	17.1		0.23	I
B-A	0.97	5.88	0.166		0.34	0.20	3.2		0.20	I
C-AB	2.08	8.20	0.254		0.53	0.38	5.7		0.16	I
A-B	1.03									I
A-C	4.03									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
09.15-09.30										I
B-C	3.94	9.52	0.414		1.07	0.72	11.3		0.18	I
B-A	0.82	6.62	0.123		0.20	0.14	2.2		0.17	I
C-AB	1.74	8.38	0.208		0.38	0.28	4.2		0.15	I
A-B	0.87									I
A-C	3.38									I

WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR SIREAM B-C

TIME SEGMENT	NO. OF VEHICLES IN QUEUE	
08.15	0.7	*
08.30	1.0	*
08.45	1.8	**
09.00	1.9	**
09.15	1.1	*
09.30	0.7	*

QUEUE FOR SIREAM B-A

TIME SEGMENT	NO. OF VEHICLES IN QUEUE	
08.15	0.1	
08.30	0.2	
08.45	0.3	
09.00	0.3	
09.15	0.2	
09.30	0.1	

320110892P

QUEUE FOR SIREAM C-AB

TIME	NO. OF VEHICLES IN QUEUE
08.15	0.3
08.30	0.4
08.45	0.5 *
09.00	0.5 *
09.15	0.4
09.30	0.3

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
	I		I	* DELAY *	I	* DELAY *	I
	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	I	432.2	I 288.1	I 105.4	I 0.24	I 105.4	I 0.24
B-A	I	89.5	I 59.6	I 19.9	I 0.22	I 19.9	I 0.22
C-AB	I	191.3	I 127.5	I 35.4	I 0.18	I 35.4	I 0.18
A-B	I	95.0	I 63.3	I	I	I	I
A-C	I	370.3	I 246.8	I	I	I	I
ALL	I	1435.6	I 957.1	I 160.7	I 0.11	I 160.7	I 0.11

DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
 WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD

*****END OF RUN*****

SLOPES AND INTERCEPT

(NB: Streams may be combined, in which case capacity will be adjusted)

Intercept For	Slope For Opposing	Slope For Opposing	I
STREAM B-C	STREAM A-C	STREAM A-B	I
0.00	0.00	0.00	I

Due to the presence of a flare, data is not available

Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	I
0.00	0.00	0.00	0.00	0.00	I

Due to the presence of a flare, data is not available

Intercept For	Slope For Opposing	Slope For Opposing	I
STREAM C-B	STREAM A-C	STREAM A-B	I
593.07	0.22	0.22	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	I	FLOW SCALE(%)	I
A	I	100	I
B	I	100	I
C	I	100	I

mand set: 2011 Base flows with dev PM

IME PERIOD BEGINS 16.45 AND ENDS 18.15

ENGIN OF IIME PERIOD - 90 MIN.
ENGIN OF IIME SEGMENT - 15 MIN.

MAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
	I	I	I	I	I	I
ARM A	15.00	45.00	75.00	6.05	9.08	6.05
ARM B	15.00	45.00	75.00	4.30	6.45	4.30
ARM C	15.00	45.00	75.00	7.31	10.97	7.31

mand set: 2011 Base flows with dev PM

IIME	TURNING PROPORTIONS					
	TURNING COUNTS					
	(PERCENTAGE OF H.V.S)					
	FROM/TO	ARM A	ARM B	ARM C		
16.45 - 17.00	ARM A	0.000	0.347	0.653		
		0.0	168.0	316.0		
		(0.0)	(1.0)	(5.0)		
	ARM B	0.108	0.000	0.892		
		37.0	0.0	307.0		
		(0.0)	(0.0)	(1.0)		
	ARM C	0.559	0.441	0.000		
		327.0	258.0	0.0		
		(1.0)	(1.0)	(0.0)		

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN IIME SEGMENT

FOR DEMAND SET 2011 Base flows with dev PM
AND FOR TIME PERIOD 2

IIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ IIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ IIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	3.85	9.62	0.400		0.00	0.66	9.3		0.17
B-A	0.46	5.89	0.079		0.00	0.08	1.2		0.18
C-AB	3.24	8.43	0.384		0.00	0.72	10.5		0.19
A-B	2.11								
A-C	3.97								

IIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ IIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ IIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	4.60	9.31	0.494		0.66	0.95	13.6		0.21
B-A	0.55	5.04	0.110		0.08	0.12	1.8		0.22
C-AB	3.87	8.17	0.473		0.72	1.11	16.7		0.23
A-B	2.52								
A-C	4.73								

320110892P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.15-17.30										I
B-C	5.63	8.83	0.638		0.95	1.67	23.2		0.30	I
B-A	0.68	3.75	0.181		0.12	0.22	3.1		0.32	I
C-AB	4.73	7.80	0.607		1.11	2.13	31.5		0.32	I
A-B	3.08									I
A-C	5.80									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.30-17.45										I
B-C	5.63	8.82	0.638		1.67	1.72	25.5		0.31	I
B-A	0.68	3.70	0.184		0.22	0.22	3.3		0.33	I
C-AB	4.73	7.80	0.607		2.13	2.19	33.7		0.33	I
A-B	3.08									I
A-C	5.80									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.45-18.00										I
B-C	4.60	9.30	0.494		1.72	1.00	16.0		0.22	I
B-A	0.55	4.98	0.111		0.22	0.13	2.0		0.23	I
C-AB	3.87	8.17	0.473		2.19	1.20	18.4		0.24	I
A-B	2.52									I
A-C	4.73									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
18.00-18.15										I
B-C	3.85	9.62	0.401		1.00	0.68	10.7		0.17	I
B-A	0.46	5.85	0.079		0.13	0.09	1.4		0.19	I
C-AB	3.24	8.43	0.384		1.20	0.76	11.6		0.20	I
A-B	2.11									I
A-C	3.97									I

WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	1.0	*
17.30	1.7	**
17.45	1.7	**
18.00	1.0	*
18.15	0.7	*

QUEUE FOR STREAM B-A

TIME SEGMENT	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.1	
17.30	0.2	
17.45	0.2	
18.00	0.1	
18.15	0.1	

320110892P

QUEUE FOR STREAM C-AB

TIME	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	1.1	*
17.30	2.1	**
17.45	2.2	**
18.00	1.2	*
18.15	0.8	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
	I		I	* DELAY *	I	* DELAY *	I
	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	I	422.6	I	281.7	I	98.2	I
B-A	I	50.9	I	34.0	I	12.7	I
C-AB	I	355.1	I	236.7	I	122.4	I
A-B	I	231.2	I	154.2	I		I
A-C	I	435.0	I	290.0	I		I
ALL	I	1944.9	I	1296.6	I	233.3	I

DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD

*****END OF RUN*****

SLOPES AND INTERCEPT

(Streams may be combined, in which case capacity will be adjusted)

Intercept For	Slope For Opposing	Slope For Opposing	
STREAM B-C	STREAM A-C	STREAM A-B	I
0.00	0.00	0.00	I

Due to the presence of a flare, data is not available

Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	
STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	I
0.00	0.00	0.00	0.00	0.00	I

Due to the presence of a flare, data is not available

Intercept For	Slope For Opposing	Slope For Opposing	
STREAM C-B	STREAM A-C	STREAM A-B	I
593.07	0.22	0.22	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

ARM	I	FLOW SCALE(%)	I
B	I	100	I
C	I	100	I

Demand set: 2011 Base flows with dev sensitivity test PM

TIME PERIOD BEGINS 16:45 AND ENDS 18:15

 LENGTH OF TIME PERIOD - 90 MIN
 LENGTH OF TIME SEGMENT - 15 MIN

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
	I	I	I	I	I	I
ARM A	15.00	45.00	75.00	6.38	9.56	6.38
ARM B	15.00	45.00	75.00	4.46	6.69	4.46
ARM C	15.00	45.00	75.00	7.81	11.72	7.81

Demand set: 2011 Base flows with dev sensitivity test PM

TIME	TURNING PROPORTIONS					
	TURNING COUNTS					
	(PERCENTAGE OF H V S)					
	FROM/TO	ARM A	ARM B	ARM C		
16.45 - 17.00	ARM A	0.000	0.380	0.620		
		0.0	194.0	316.0		
		(0.0)	(1.0)	(5.0)		
	ARM B	0.109	0.000	0.891		
		39.0	0.0	318.0		
		(0.0)	(0.0)	(1.0)		
	ARM C	0.523	0.477	0.000		
		327.0	298.0	0.0		
		(1.0)	(1.0)	(0.0)		

 TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
 HE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

 FOR DEMAND SET 2011 Base flows with dev sensitivity test PM
 AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	3.99	9.57	0.417		0.00	0.70	9.9		0.18
B-A	0.49	5.66	0.087		0.00	0.09	1.3		0.19
C-AB	3.74	8.36	0.447		0.00	0.95	13.9		0.21
A-B	2.43								
A-C	3.97								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-C	4.76	9.24	0.516		0.70	1.04	14.8		0.22
B-A	0.58	4.74	0.123		0.09	0.14	2.0		0.24
C-AB	4.46	8.08	0.552		0.95	1.57	23.5		0.27
A-B	2.91								
A-C	4.73								

320110892P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.15-17.30										I
B-C	5.84	8.71	0.670		1.04	1.91	26.1		0.33	I
B-A	0.72	3.36	0.213		0.14	0.26	3.7		0.38	I
C-AB	5.47	7.70	0.710		1.57	3.44	49.6		0.43	I
A-B	3.56									I
A-C	5.80									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.30-17.45										I
B-C	5.84	8.70	0.671		1.91	1.97	29.2		0.35	I
B-A	0.72	3.29	0.218		0.26	0.27	4.0		0.39	I
C-AB	5.47	7.70	0.710		3.44	3.61	55.9		0.47	I
A-B	3.56									I
A-C	5.80									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
17.45-18.00										I
B-C	4.76	9.23	0.516		1.97	1.10	17.6		0.23	I
B-A	0.58	4.65	0.126		0.27	0.15	2.3		0.25	I
C-AB	4.46	8.08	0.552		3.61	1.73	27.0		0.30	I
A-B	2.91									I
A-C	4.73									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESIRIAN FLOW (PEDS/MIN)	SIARI QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMEIRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
18.00-18.15										I
B-C	3.99	9.56	0.417		1.10	0.73	11.5		0.18	I
B-A	0.49	5.60	0.087		0.15	0.10	1.5		0.20	I
C-AB	3.74	8.36	0.447		1.73	1.02	15.6		0.22	I
A-B	2.43									I
A-C	3.97									I

WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

TIME	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	1.0	*
17.30	1.9	**
17.45	2.0	**
18.00	1.1	*
18.15	0.7	*

TIME	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.1	
17.30	0.3	
17.45	0.3	
18.00	0.1	
18.15	0.1	

QUEUE FOR STREAM C-AB

TIME	NO. OF VEHICLES IN QUEUE	
17.00	1.0	*
17.15	1.6	**
17.30	3.4	***
17.45	3.6	****
18.00	1.7	**
18.15	1.0	*

320110892P

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
	I		I	* DELAY *	I	* DELAY *	I
	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	I	437.7	I 291.8	I 109.0	I 0.25	I 109.0	I 0.25
B-A	I	53.7	I 35.8	I 14.9	I 0.28	I 14.9	I 0.28
C-AB	I	410.2	I 273.4	I 185.5	I 0.45	I 185.6	I 0.45
A-B	I	267.0	I 178.0	I	I	I	I
A-C	I	435.0	I 290.0	I	I	I	I
ALL	I	2053.6	I 1369.1	I 309.4	I 0.15	I 309.5	I 0.15

DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
 WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD

*****END OF RUN*****

===== end of file =====

Printed at 15:03:46 on 09/08/2011