Appendix 11.1

Transport Assessment

RED BANK OUTLINE APPLICATION
NT02-04 NEW TOWN, FULL PLANNING APPLICTION

Transport Assessment

April 2023

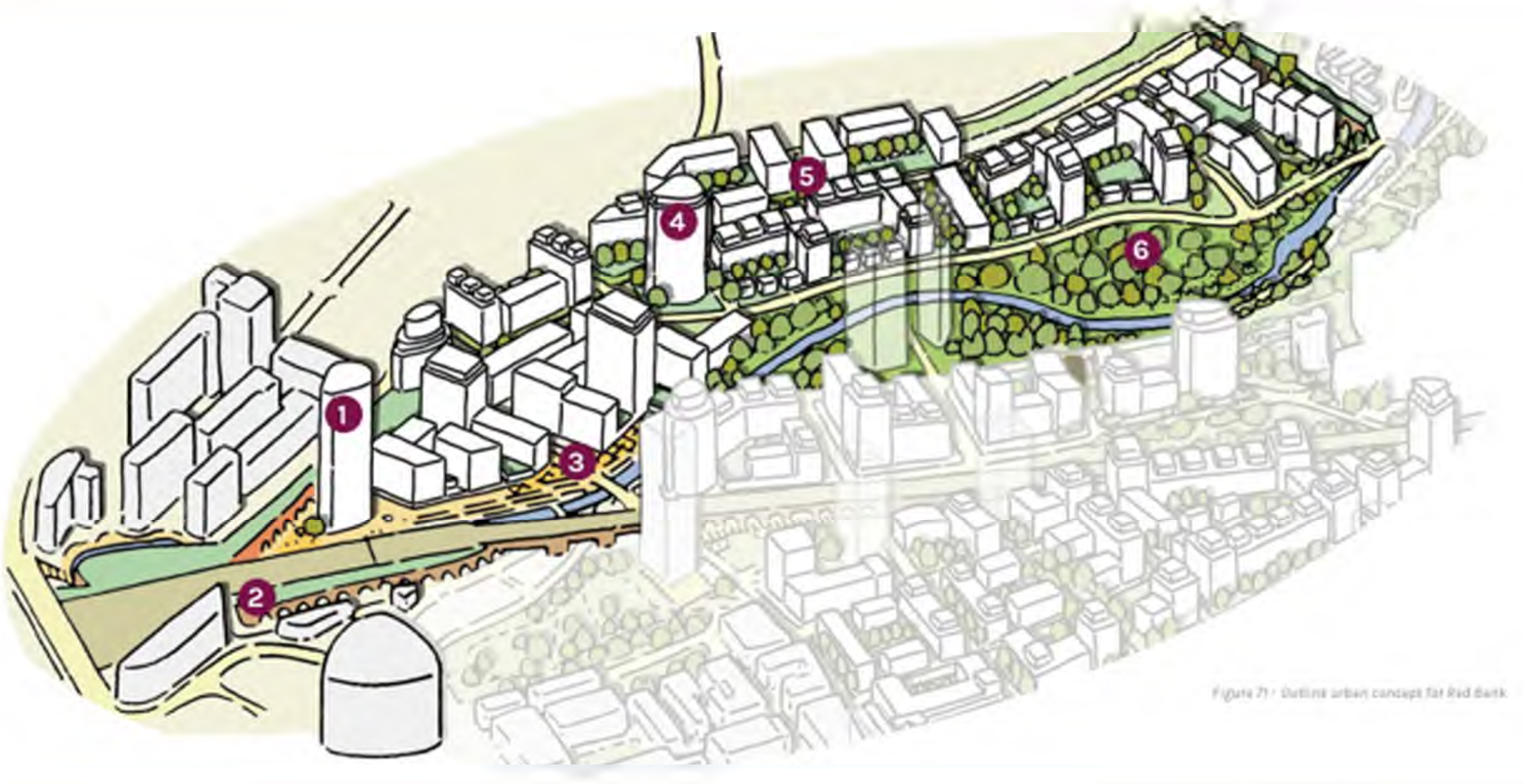


Far East Consortium

Far East Consortium

RED BANK AND DANTZIC STREET

Transport Assessment – Outline and Detailed Applications



APRIL 2023

PUBLIC

Far East Consortium

RED BANK AND DANTZIC STREET

Transport Assessment – Outline and Detailed Applications

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WSP

8 First Street
Manchester
M15 4RP

Phone: +44 161 200 5000

WSP.com

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CONTENTS

1 INTRODUCTION 1

1.1 BACKGROUND 1
1.2 PLANNING / DEVELOPMENT CONTEXT 2
1.3 DOCUMENT PURPOSE 2
1.4 SCOPE OF REPORT 3

2 EXISTING CONDITIONS 4

2.1 INTRODUCTION 4
2.2 SITE LOCATION 4
2.3 EXISTING HIGHWAY NETWORK 6
2.4 SUSTAINABLE TRANSPORT NETWORK 10
2.5 PUBLIC TRANSPORT 16
2.6 ROAD SAFETY 20

3 PROPOSED DEVELOPMENT 23

3.1 INTRODUCTION 23
3.2 OUTLINE APPLICATION (APPLICATION 4) 23
3.3 DETAILED APPLICATION (APPLICATION 5) 25

4 POLICY REVIEW 29

4.1 INTRODUCTION 29
4.2 NATIONAL POLICY 29
4.3 REGIONAL POLICY 31
4.4 LOCAL POLICY 33
4.5 SUMMARY 36

5 TRIP GENERATION AND DISTRIBUTION 37

5.1 INTRODUCTION 37
5.2 TRIP RATES AND TRIP GENERATION 37
5.3 BASELINE TRAFFIC SURVEYS 43
5.4 COMMITTED DEVELOPMENTS 43
5.5 BACKGROUND TRAFFIC GROWTH 44
5.6 TRAFFIC FLOW DIAGRAMS 44
6 ACTIVE TRAVEL AND SUSTAINABLE TRANSPORT STRATEGY 45
6.1 INTRODUCTION 45
6.2 ON-SITE FACILITIES 45
6.3 ON-SITE ACTIVE TRAVEL INFRASTRUCTURE 45
6.4 IMPROVEMENTS TO DANTZIC STREET 46
6.5 CYCLE PARKING AND EV PARKING 47
6.6 TRAVEL PLAN 47
6.7 ON SITE PARKING QUANTUM ERROR! BOOKMARK NOT DEFINED.
7 EMERGENCY VEHICLE, SERVICING AND REFUSE STRATEGY 48
7.1 FIRE VEHICLE ACCESS 48
APPLICATION 5 48
APPLICATION 4 49
7.2 SERVICING AND REFUSE 49
APPLICATION 5 49
APPLICATION 4 50
8 JUNCTION CAPACITY ASSESEMENTS 51
8.1 SCOPE OF ASSESSMENT 51
8.2 SCENARIOS 51
8.3 RESULTS 51
8.4 SUMMARY 65
9 SUMMARY 67

TABLES

Table 2-1 – Suggested Acceptable Walking Distance – CIHT 'Guidelines for Journeys on Foot' 11
Table 2-2 – Existing Local Amenities within 1,200 metres of the site 11
Table 2-3 – Cheetham Hill Road Bus Stops 16
Table 2-4 – Rochdale Road Bus Stops 16
Table 2-5 – Local Bus Services 17
Table 2-6 – Manchester Victoria Tram Services 18
Table 2-7 – Rail Destinations 19
Table 2-8 – Five-Year PIA Collision Data: Junction Summary 21
Table 2-9 – Red Bank Link – PIA Data Summary 21
Table 2-10 – Dantzic Street Link - PIA Data Summary 21
Table 5-1 – Residential Per Person (All Modes) Trip Generation 38
Table 5-2 – Journey to Work – Mode Share 39
Table 5-3 – Residential Vehicle Trip Rates 40
Table 5-4 – Residential Vehicle Trip Generation 40
Table 5-5 – Primary School Trip Rates and Trip Generation 41
Table 5-6 – Total Vehicle Trip Generation 41
Table 5-7 – Journey to Work Distribution 42
Table 5-8 – Assignment of development trips on local highway network 42
Table 5-9 – TEMPro growth rates 44
Table 8-1 –Red Bank / Honey Street: 2018 Base 52
Table 8-2 – Red Bank / Honey Street: 2034 Do-Minimum and Do-Something (App 5 only) 52
Table 8-3 – Red Bank / Honey Street: 2037 Do-Minimum and Do-Something 53
Table 8-4 – Red Bank / Roger Street / Lord Street: 2018 Base 54
Table 8-5 – Red Bank / Roger Street / Lord Street: 2034 Do-Minimum and Do-Something (App 5 Only) 54
Table 8-6 – Red Bank / Roger Street / Lord Street: 2037 Do-Minimum and Do-Something 55
Table 8-7 - Red Bank / Roger Street / Lord Street Mitigation: Do-Something Scenarios 56

Table 8-8 – Cheetham Hill Road / Lord Street: 2018 Base 57
Table 8-9 – Cheetham Hill Road / Lord Street: 2034 Do-Minimum and Do-Something (App 5 only) 58
Table 8-10 – Cheetham Hill Road / Lord Street: 2037 Do-Minimum and Do-Something 59
Table 8-11 – Cheetham Hill Road / Lord Street Mitigation: Do-Something scenarios 61
Table 8-12 – Dantzic Street / Angel St: 2018 Base 63
Table 8-13 – Dantzic Street / Angel St: 2034 Do-Minimum and Do-Something 63
Table 8-14 – Dantzic Street / Angel St: 2037 Do-Minimum and Do-Something 64

FIGURES

Figure 1-1 - Site Location in context of Manchester Northern Gateway (Victoria North) 1
Figure 2-1 - Site Location Plan – Application 4 4
Figure 5-1 - Manchester 054 MSOA Location 39

APPENDICES

APPENDIX A
RED LINE BOUNDARY
APPENDIX B
TA SCOPING
APPENDIX C
COLLISION DATA
APPENDIX D
PARAMETER PLANS AND USE SCHEDULE
APPENDIX E
TRICS REPORTS
APPENDIX F
DISTRIBUTION DATA
APPENDIX G
TRAFFIC FLOW DIAGRAMS

APPENDIX H

TRAFFIC SURVEY DATA

APPENDIX I

TRACKING DRAWINGS

APPENDIX J

JUNCTION CAPACITY ASSESSMENTS

APPENDIX K

MITIGATION DRAWING

1 INTRODUCTION

1.1 BACKGROUND

1.1.1. WSP have been commissioned by Far East Consortium (FEC) to produce a Transport Assessment (TA) to support the planning applications for proposed residential-led mixed-use development at Red Bank and Dantzic Street, Manchester.

1.1.2. The TA assesses the transport implications of the outline application (referred to as “Application 4”) and the detailed application for plots NT02-04 (referred to as “Application 5”). It also assesses the combined impacts of both applications.

1.1.3. The site is located in an area to the north of Manchester City Centre and Victoria station and the proposals are area part of the wider Victoria North regeneration area (formerly referred to as ‘Northern Gateway’), an area with the potential to deliver approximately 15,000 new homes over the next 15-20 years, along with a range of employment, social, community, cultural and ancillary uses.

1.1.4. The site is within the Initial Development Area for Victoria North, which is the development area located closest to Victoria Station, and is indicated on Figure 1-1 below. This includes Red Bank and the section of New Town located to the north of the railway line.

1.1.5. The Strategic Regeneration Framework for Manchester Northern Gateway produced in February 2019 describes the proposed development within the Red Bank area as ‘a residential-led neighbourhood, where the unique topography and river setting will make it a suitable location for high-density development’. New Town is also described as a residential-led neighbourhood with opportunity for higher-density housing types to support Manchester diverse and growing population.

Figure 1-1 - Site Location in context of Manchester Northern Gateway (Victoria North)



1.2 PLANNING / DEVELOPMENT CONTEXT

1.2.1. The development proposals build upon the principles established within both the Strategic Regeneration Framework for the Northern Gateway area (Feb 2019) and the Northern Gateway Initial Development Area Transport Strategy (March 2019). The Northern Gateway area has since been re-named as Victoria North and will be referred to such within this TA.

1.2.2. Development in the Initial Development Area is supported and enabled by a package of infrastructure works funded by MCC's successful application to the Housing Infrastructure Fund (HIF). Due to the HIF funding and programme requirements, a number of separate planning applications were required for the site, three of which have been approved, and two of which are the subject of this TA. The planning applications submitted by MCC for the enabling works, infrastructure works and utility works are detailed below for reference:

- HIF Advance Enabling Works (Planning Ref: 132252/VO/2021 - Approved December 2021)
- HIF Infrastructure Works (Planning Ref: 133143/VO/2022 - Approved July 2022)
- HIF Utility Works (Planning Ref: 135190/VO/2022 - Approved December 2022)

1.2.3. This TA supports the planning application for the application 4 and application 5 residential-led development proposals comprising:

Application 4: Outline

1.2.4. The application 4 boundary is shown on the site edge red location plan at **Appendix A**, and comprises 11.2 hectares. Planning approval is sought for the suite of parameter plans within **Appendix** , upon which the assessment within this TA is based.

1.2.5. The Application 4 area is proposed to comprise of up to 3,250 residential units, up to 6,300 sqm GIA of a mix of complementary non-residential uses (Class E, F and Sui Generis), up to 3,250 sqm GIA of clubhouse residential amenity buildings, up to 3,250 sqm GIA of Health Centre use and up to 2,750 sqm GIA of primary school use. The masterplan is of a scale to encourage internal trips, through a mix of complementary uses to the main residential uses.

Application 5: Detailed

1.2.6. The detailed application boundary is shown on the site edge red location plan at **Appendix A,** and comprises 2.8 hectares.

1.2.7. The detailed area is proposed to comprise of 1,551 dwellings across three plots, a clubhouse building (2,145 sqm GIA) and flexible non-residential units for Use Class E, F or Sui Generis (2,147 sqm GIA).

1.3 DOCUMENT PURPOSE

1.3.1. The purpose of this TA is to fully assess the potential impact of the development on the surrounding transport network.

1.3.2. A Framework Travel Plan (FrTP) has also been produced to accompany this TA, covering both applications 4 and 5, which further outlines how sustainable and active travel can be used to access the site, and how these sustainable modes of travel will be promoted to future users of the site.

1.3.3. This TA has been produced in accordance with local, regional and national policy guidance and highlights how the proposed development is located in a highly sustainable and accessible location and accords with the principles of the outlined planning policies.

1.3.4. In accordance with the National Planning Policy Framework (NPPF), this TA assesses the impact of the proposed development on the local highway and transport network.

1.4 SCOPE OF REPORT

1.4.1. A TA Scoping note was provided to Transport for Greater Manchester (TfGM) and Manchester City Council (MCC) development control on 8th April 2022 and is included in **Appendix B** of this TA. The scoping note outlines the proposed approach to the Transport Assessment. A scoping meeting was held between WSP, MCC and TfGM on 21st July 2022, and it was requested at this stage that WSP provide quantification of the likely traffic impact on the local network using the industry standard approach to trip generation and distribution.

1.4.2. WSP produced a Trip Rate and Trip Generation Technical Note, issued to TfGM and MCC on 31st August 2022 which is also included in **Appendix B** of this TA. TfGM provided comments via email, which are summarised and included in a WSP note summarising a response to these comments issued on 6th October 2022.

1.4.3. As a result of these scoping discussions the trip rates, distribution and scope of junction capacity assessment have been agreed and comments provided by TfGM and MCC officers have been used to inform the content and methodologies including within this Transport Assessment and Travel Plan. Relevant email correspondence between WSP, TfGM and MCC confirming this agreement is included in **Appendix B**.

1.4.4. The remainder of this document is structured as follows:

- Chapter 2 – Assessment of existing conditions
- Chapter 3 – Description of the proposed development
- Chapter 4 – National, regional and local policy compliance
- Chapter 5 – Trip generation and distribution
- Chapter 6 – Active Travel and Sustainable Transport Strategy
- Chapter 7 – Emergency Vehicles, Service and Refuse Strategy
- Chapter 8 – Junction capacity assessments
- Chapter 9 – Summary

2 EXISTING CONDITIONS

2.1 INTRODUCTION

2.1.1. The provision of safe and convenient access to from the proposed development for pedestrians, cyclists and public transport users is important in providing a choice of transport for all future users of the site to improve opportunities for travel using sustainable and active modes, reducing the need to travel by private vehicle.

2.1.2. It is therefore appropriate to conduct a comprehensive review of the existing active travel, public transport network and highway network in the vicinity of the site. The existing conditions are largely similar for the application 5 area and the application 4 area, but where there are specific differences (e.g. walking distances to local facilities) these are highlighted within this chapter of the TA.

2.2 SITE LOCATION

2.2.1. The application sites are located north of Manchester Victoria Station and sits between Red Bank and Dantzic Street, and incorporate the existing land between them including St Catherine's Wood and the various industrial land uses on either side of the River Irk. At its southern extent the site extends from junction of Red Bank and Scotland and at its northern extent reaches the most northern point of St Catherine's Wood. The extent of the Application 4 and Application 5 site boundaries has been identified in Figure 2-1 and Figure 2-2. A full version of these plans is included at **Appendix A.**

Figure 2-1 - Site Location Plan – Application 4

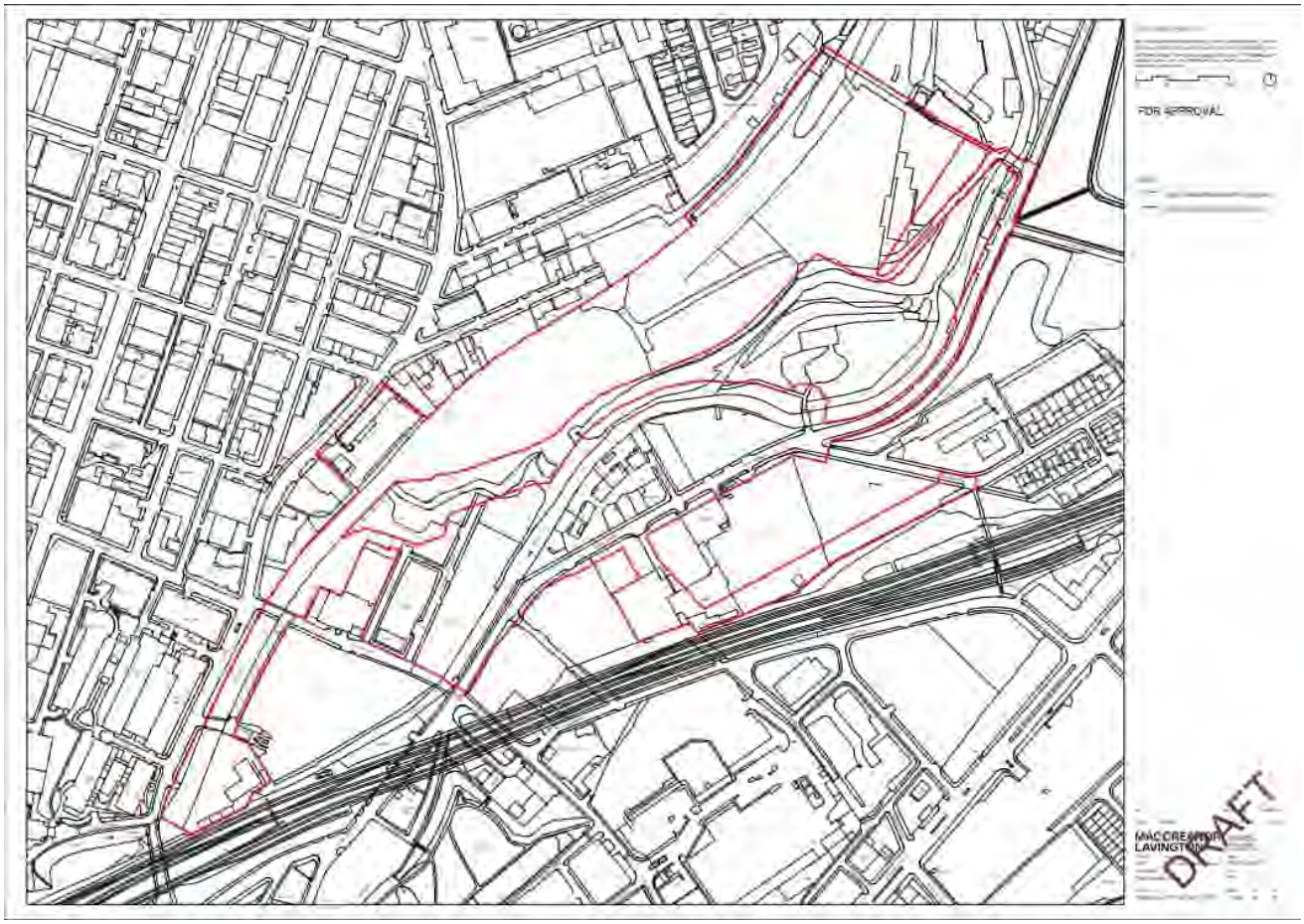
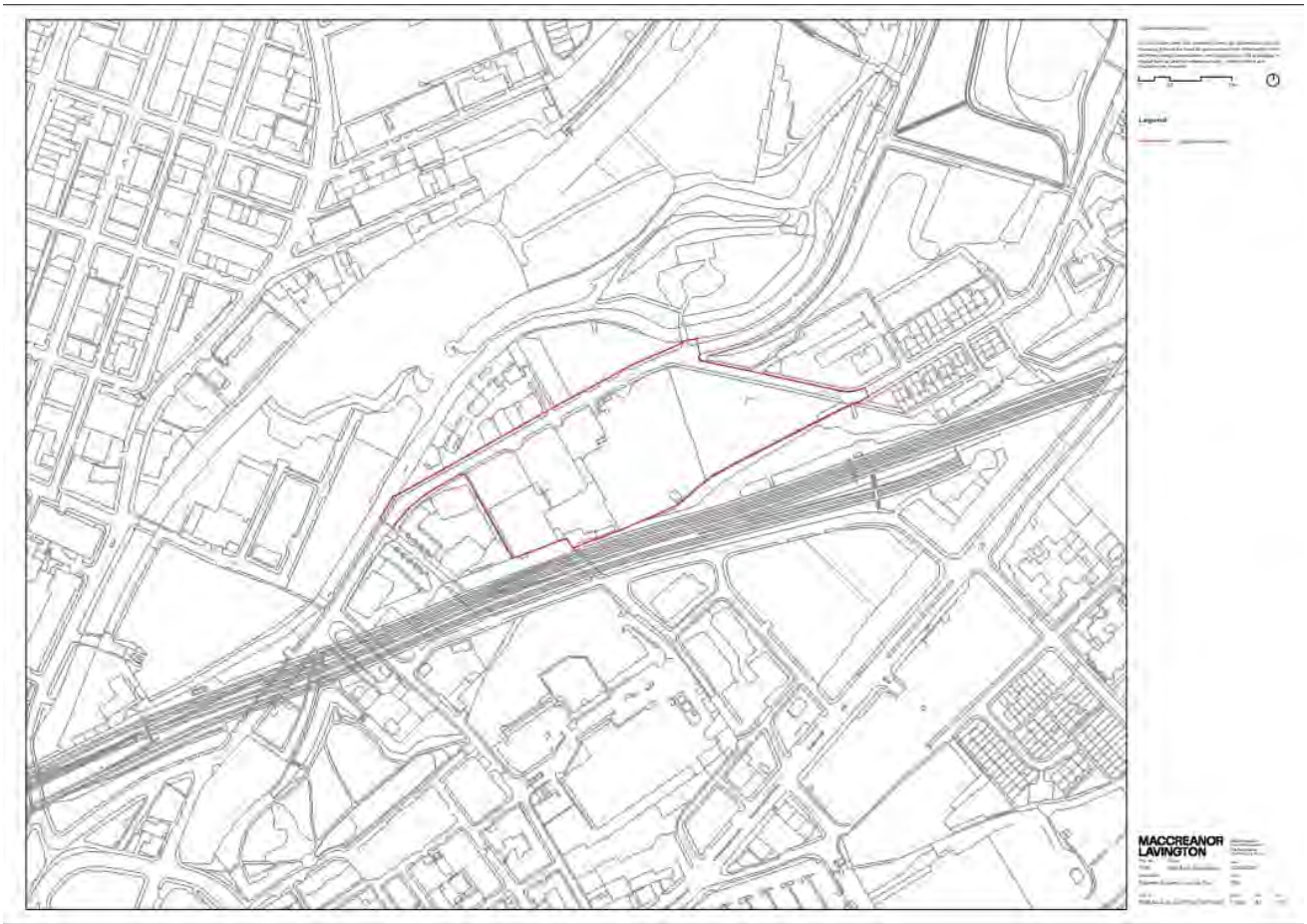

FOR APPROVAL
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Figure 2-2 - Site Location Plan – Application 5



2.3 EXISTING HIGHWAY NETWORK

2.3.1. A review of the existing highway network in the vicinity of the site has been conducted and is separated into major and minor roads. Roads outside the designated Red Bank site area have been included in this assessment due to their importance in providing vehicular movements in the local vicinity.

MAJOR ROADS

Red Bank

2.3.2. Red Bank is a single carriageway that runs from Corporation Street in the south to the Red Bank / Derby Street / Collingham Street junction in the north. At its southern extent, Red Bank turns into Corporation Street where the carriageway passes under the railway and is renamed as Dantzic Street approximately 130m to the northeast of the viaduct. The width of the highway at the southern extent is approximately 7m which increases to approximately 8.8m between the junctions of Scotland and Colenso Way. Footways of an approximate width of at least 2m are provided on both sides of the carriageway throughout the extent of the road.

2.3.3. Single-yellow lines are used extensively on both sides of the carriageways, and double-yellow lines at the access and egress to junctions, across the southern and central extent of Red Bank.

2.3.4. Tactile paving at junctions to indicate crossing facilities for pedestrians are located along Red Bank at the junctions with Scotland, Colenso Way, Hornbeam Way, Lord Street and Roger Street. These side roads are also all accessible by private vehicles providing links to various residential and industrial land uses.

2.3.5. There are no formal cycling facilities across the extent of Red Bank in its present state, and no public transport facilities or services using Red Bank.

Dantzic Street (leading to Collyhurst Road)

2.3.6. Dantzic Street is a single carriageway at approximately 7.5m wide and provides a connection between the City Centre and North Manchester and turns into Collyhurst Road as it progresses northwards towards the A6010 Queens Road. Footways of between approximately 2 and 2.5m are present on both sides of the carriageway with formal pedestrian crossing facilities located across the A664 / Angel Street junction and a pedestrian island between Mincing Street and Corporation Street.

2.3.7. Between Warford Street and Gould Street there is a single-yellow line on the southbound carriageway where on-street parking is observed on the northbound carriageway, and a single yellow line in both directions between Gould Street and the Corporation Street / Mincing Street junction. Double-yellow lines are present in both directions between the Corporation Street / Mincing Street junction and the A664.

2.3.8. There is no formal dedicated cycling infrastructure along Dantzic Street in its present state, and no public transport facilities or services using Dantzic Street.

Collyhurst Road (up to Fitzgeorge Street).

2.3.9. Collyhurst Road extends from Dantzic Street in the south and provides a connection between the site area and north Manchester and is a single carriageway at an approximate width of 6.8m with footways on both sides of the carriageway at 2.4m wide. No formal pedestrian crossings are provided throughout the extent of the road. A walking connection to Rochdale Road is provided from Fitzgeorge Street which passes through St Catherine's Wood. Double-yellow lines are present on the access and egress of Vauxhall Street and industrial firm Packaging Products.

2.3.10. There is also no formal cycling infrastructure or public transport facilities across the extent of Collyhurst Road examined in this baseline review.

Cheetham Hill Road (up to North Street)

2.3.11. Cheetham Hill Road is a dual lane carriageway that extends from Corporation Street in the south with an approximate width of 12m throughout the extent of the carriageway. This diverges into three lanes on both the northbound and southbound approach into the A6042. At its southern extent Cheetham Hill Road provides southbound movements to the A664 and Angel Street as part of the one-way circulatory system in place in the local vicinity, whilst northbound movements are provided from Manchester Ring Road and Corporation Street.

2.3.12. Wide footways with an approximate width of 3m are provided across both sides of the carriageway throughout the extent of Cheetham Hill Road. Between Corporation Street and the A6042 this is lined with a guardrail on both sides of the carriageway. A non-segregated cycle lane on the southbound approach to the A6042 junction runs for approximately 60m at 1.5m wide, in addition to Advance Stop Lines on all approaches. Formal pedestrian crossings are located across multiple junctions throughout Cheetham Hill Road including the A6042, Lord Street, Derby Street, Broughton

Street and North Street junctions. Single and double-yellow lines are used extensively across both sides of the carriageway, although significant levels of pavement parking can be seen given its wide footways. **Table** 2-3 identifies seven bus stops located across the extent of Cheetham Hill Road assessed in this baseline review.

Rochdale Road (between Angel Street / Addington Street junction and Whitley Road)

2.3.13. At its southern extent Rochdale Road is a dual carriageway with an approximate width of 12.4m that diverges into three southbound lanes with a central verge approximately 60m before the Rochdale Road / Angel Street / Addington Street junction. Between Gould Street and Bromley Street one lane in both the northbound and southbound directions are dedicated bus lanes. Between the Livesey Street and Osborne Street junctions in the northern extent of Rochdale Road, the carriageway is reduced to three lanes at an approximate width of 10.4m. This extends up to Whitley Road and consists of one northbound lane and two southbound lanes, one of which is a bus lane.

2.3.14. Footways of approximately 2.5m are provided on both sides of the carriageway throughout the extent of Rochdale Road, and formal pedestrian crossings located at Angel Street / Addington Street, Thompson Street, Ludgate Hill, Bromley Street and Livesey Street junctions.

2.3.15. Single-yellow and double-yellow lines are used throughout a significant extent of both sides of the carriageway, with double-yellow lines used at entrances and egresses to side roads. Advanced Stop Lines are also used on the approaches to Angel Street / Addington Road, Ludgate Hill and Bromley Street junctions. As identified in **Table 2-4** there are a total of nine bus stops across the extent of Rochdale Road examined in this baseline analysis.

Trinity Way (between A56 and Cheetham Hill Road)

2.3.16. Although outside of the formal study area of this TA, Trinity Way forms a key part of the local road network that will connect the Red Bank and Dantzic Street development to the wider Greater Manchester region by private vehicle.

2.3.17. Trinity Way is a dual carriageway with two lanes in both the eastbound and westbound direction and is approximately 17.5m wide throughout the length of the carriageway, including central reserves. Footways of approximately 2.3m are provided on both sides of the carriageway and signalised pedestrian crossings at the junctions with the A56, Dutton Street and to the east with the junction of Cheetham Hill Road / Ring Road.

2.3.18. A central reserve is present throughout the extent of Trinity Way assessed in this report. Between Dutton Street and Cheetham Hill Road the central verge increases from an approximate width of 2m to a maximum of 4m between the two junctions, whilst between the A56 and approximately halfway to the Dutton Street junction the central reserve is approximately 2m in width and contains a pedestrian island. Both the westbound and eastbound carriageways contain double-yellow lines throughout the extent of the carriageway.

2.3.19. Cycling infrastructure consists of Advanced Stop Lines for cyclists at the junction with the A56, Dutton Street and Cheetham Hill Road.

A664 / Angel Street

2.3.20. The A664 and Angel Street form part of the one-way circular loop with Manchester City Centre's Ring Road. These provide connections to Dantzic Street from the Ring Road, and to Rochdale Road from Dantzic Street respectively.

2.3.21. The A664 is a one-way dual carriageway with an approximate width of 6.9m which diverges into three lanes approximately 70m before the junction of Dantzic Street and Angel Street. On the left side of the carriageway is a footway of approximately 2.8m in width which extends to become a grass verge on the corner of the road, with a signalised pedestrian crossing at the junction of Dantzic Street. Double-yellow lines are present across the extent of the left-hand side of the carriageway. The A664 also provides pedestrian access to Corporation Street and Crown Lane to the north.

2.3.22. Advanced stop lines can be seen at the junction of Dantzic Street whilst there is no public transport infrastructure across the extent of the carriageway.

2.3.23. Angel Street is a one-way dual carriageway width an approximate width of 8m that diverges into three lanes approximately 50m before the Rochdale Road junction. Footways of an approximate width of 2.7m are present on both sides of the carriageway, and formal pedestrian crossings located at the Naples Street / Angel Square junction and at Rochdale Road. An advisory cycle lane of approximately 1.5m is seen across the extent of the road. This is separated from the pavement by six on-street parking bays between Naples Street and Simpson Street, three of which are general on-street parking and three dedicated to electric vehicle charging.

2.3.24. The one-way nature of Angel Street provides turning movements into Simpson Street, while Angel Street can be accessed by left turn only from Dyche Street and Style Street. Both access and egress are provided on Angel Street for Angel Square. Naples Street has been stopped up and is a dedicated walking and cycling route that provides a direct link to a formal pedestrian crossing over Angel Street.

MINOR ROADS

Honey Street

2.3.25. Honey Street is a single carriageway from Red Bank and is approximately 6.2m in width. At its eastern end, Honey Street is a cul-de-sac providing vehicular access to a self-storage facility. Footways are present on both sides of the carriageway at an approximate width of 2.3m. No lighting is present throughout the entirety of the carriageway, in addition to no public transport or cycling infrastructure across the extent of the carriageway.

2.3.26. Honey Street does not provide connectivity to nearby roads and is predominantly used to access various low-level industrial units.

Roger Street

2.3.27. Roger Street is a single carriageway that connects Red Bank to Hargreaves Street at its western end and is approximately 6.9m in width. A footway of an approximate width of 2m is present on both sides of the carriageway. Street lighting is present on the eastbound carriageway. Both the entrance and exit into Roger Street at the Red Bank / Roger Street junction is marked with double-yellow lines, with single-yellow lines present along the eastbound carriageway only

2.3.28. Roger Street provides access to various side roads and facilities including the Brighton Street car park and Chase Street, Crabbe Street and Hargreaves Street which form a gyratory along the eastern section of the carriageway.

2.3.29. There is no public transport or cycling infrastructure across the entirety of Roger Street.

Lord Street (between Cheetham Hill Road and Red Bank)

2.3.30. Lord Street connects Red Bank to Cheetham Hill Road and is a single carriageway of approximately 7.5m in width. Footways of approximately 3m in width are present on both sides of the carriageway. Double-yellow lines are extensively used throughout the carriageway and are on both sides of the carriageway between the Cheetham Hill Road junction and Lord Street / Fernie Street junction, on the eastbound carriageway between Stocks Street and Stocks Street East and at the approach and exit on Lord Street at the junction with Red Bank.

2.3.31. Lord Street provides accessibility to multiple side roads including Stocks Street, Stocks Street East, Fernie Street and Hornbeam Way, all of which lead to various residential blocks in the local vicinity.

Dalton Street

2.3.32. Dalton Street is situated to the north of the development site and connects Red Bank to Rochdale Road and is a single carriageway of approximately 6.8m throughout the extent of the carriageway. Footways of approximately 2m in width are also provided throughout the entirety of the carriageway on both sides, with a large footway although no dedicated crossing facilities are provided for pedestrians. At its junction with Dantzic Street in the west, a stepped footway is provided on the north footway from Collyhurst Road. Its junction with Rochdale Road in the east is marked with double-yellow lines and is approximately 51m south of the northbound Osborne Street bus stop along Rochdale Road.

2.3.33. Connectivity is provided to small residential plots is provided through minor roads such as Davy Street, Sand Street and Hamerton Road. Dedicated cycling infrastructure is not present along Dalton Street.

Gould Street

2.3.34. Gould Street is a single carriageway that connects Dantzic Street and Rochdale Road with an approximate width of 5.6m and speed limit of 20 mph. Footways are present in either direction with an approximate width of 2.15m. This extends to 4.7m in the northbound direction between Old Mount Street and Simeon Street. Both the northbound and southbound lanes are single-yellow lined throughout the entirety of the carriageway and is also lit throughout.

2.3.35. Various side roads are also accessible from Gould Street by private vehicle or on foot including Durant Street, Simeon Street, Old Mount Street and Williamson Street. The access and egress of the Manchester City Centre CCP Car Park is also located along Gould Street.

2.3.36. There is no public transport or cycling infrastructure across the entirety of Gould Street.

2.4 SUSTAINABLE TRANSPORT NETWORK

INTRODUCTION

2.4.1. Central and Local Government objectives (set out under **Policy Review**) aim to ensure that new developments are designed to support sustainable development, where the need to travel is minimised and the use of alternative modes of travel to the private car can be maximised.

2.4.2. Section 9 of the NPPF emphasises Government planning policies to ensure that sustainable transport choices are available for future development. Similarly, regional policies such as the Greater Manchester Transport Plan 2040 and local policies such as the Manchester Northern Gateway SRF

also share a common vision to sustainably develop Manchester City Centre and promote the increased use of sustainable modes of travel such as walking, cycling and public transport.

2.4.3. The following section outlines the accessibility of the site via sustainable modes. It also sets out how accessible the site is on foot and by bicycle in relation to local facilities and amenities.

WALKING AND CYCLING PROVISION

Walking

2.4.4. Walking has traditionally been recognised as a significant mode of travel when accessing local services and has the greatest potential to substitute for short car-borne trips (i.e., those which involve journeys of less than 2km). In addition, walking can easily be integrated within all forms of transport for journeys further afield, as part of a multi-modal journey.

2.4.5. The Chartered Institution of Highways and Transportation published 'Guidelines for Providing for Journeys on Foot', which sets out suggested maximum walking distances to/from new developments for commuting and other journeys – See Table 2-1.

2.4.6. The current site accessibility for existing local amenities and their respective distances have been captured in Table 2-2. Distances have been identified from both the centre of the application 4 and application 5 areas.

Table 2-1 – Suggested Acceptable Walking Distance – CIHT 'Guidelines for Journeys on Foot'

	Trip Purpose	
	Commuting/School Sight-seeing (m)	Elsewhere (m)
Desirable	500	400
Acceptable	1,000	800
Preferred Maximum	2,000	1,200

Table 2-2 – Existing Local Amenities within 1,200 metres of the site

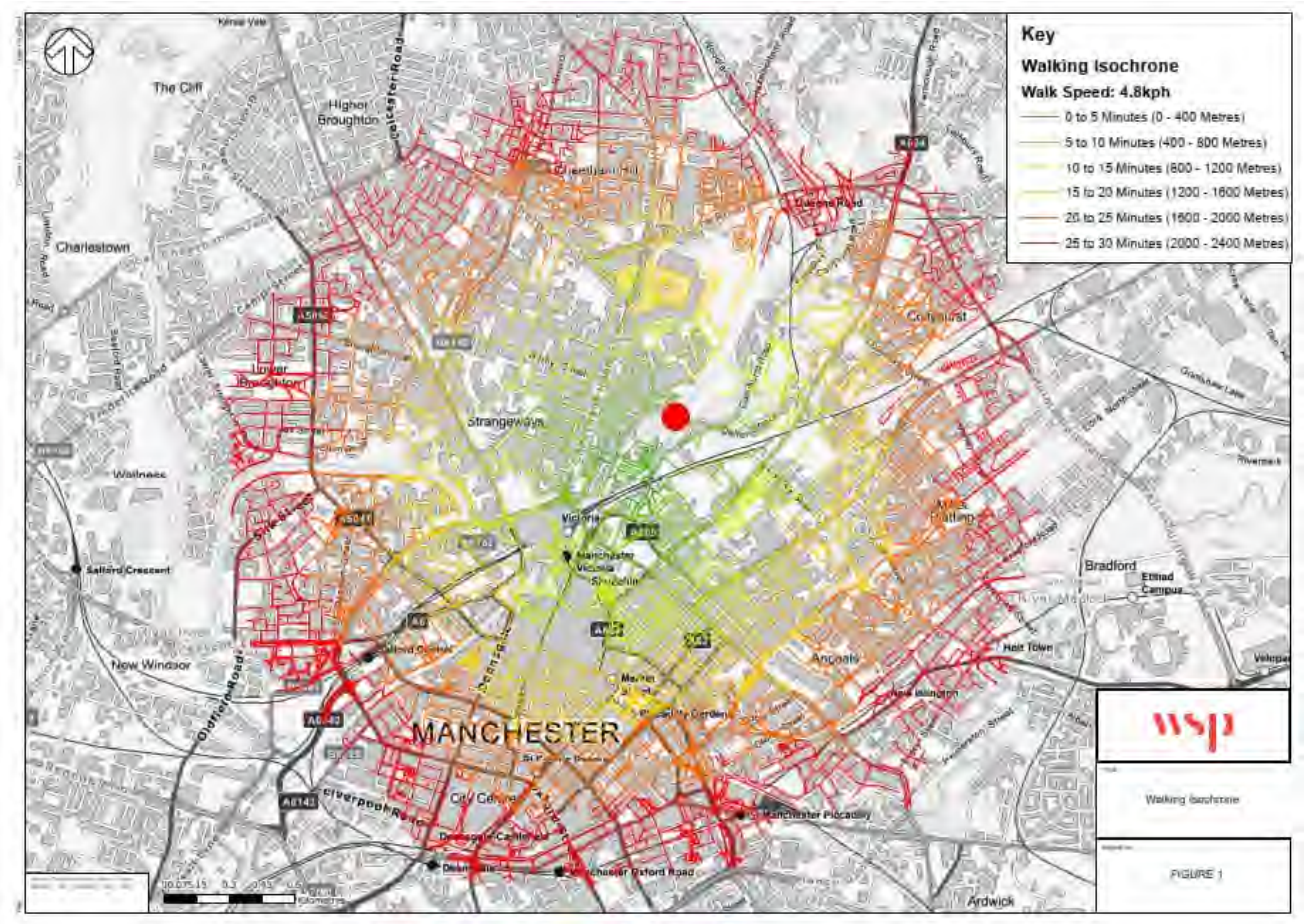
Criteria	Local Amenity	Distance from site (m)	
		From centre of Application 4	From centre of Application 5
Public Transport	Gould Street Bus Stop	500	380
	St Chad's Church Bus Stop	380	540
	Manchester Victoria (Train and Tram)	700	750
	Shudehill Bus Station	810	790
	Shudehill Interchange (Tram)	860	850

	Exchange Square (Tram) Market Street (Tram)	1100 1200	1070 1170
Religious Institutions	St Chad's Church LoveWorld Central Church Central Gurdwara Manchester St Patrick's Church The Muslim Youth Foundation Manchester Buddhist Centre Manchester Cathedral	350 300 310 600 990 1050 1160	520 470 480 430 930 950 1110
Leisure, Arts and Culture	Runaway Brewery Base Bar The Marble Arch Inn Manchester Arena Manchester Football Museum Printworks Manchester Jewish Museum	310 500 500 770 870 940 420	350 560 400 840 920 960 580
Education	King of Kings School Abbott Community Primary School St Patrick's R.C. Primary School Cheetham's School of Music Eden Boy's Leadership Academy Eden Girl's Leadership Academy	340 550 677 900 550 740	340 380 500 940 610 790
Retail and Groceries	Co-op Food M&S Simply Food Manchester Fort Shopping Park MA Quality Foods Manchester Arndale	590 500 650 1000 1060	540 630 740 870 1110
Health Facilities	Cheetham Hill Medical Centre (Rochdale Road) Cheetham Hill Medical Centre (Cheetham Hill Road) Whitley Road Medical Centre ML Doctors Ltd Health Assured	580 890 820 610 310	470 1040 720 640 470

2.4.7. **Figure 2.3** demonstrates walking accessibility from the centre of the Application 4 area to the nearest available existing footpath / road. The centre of the Application 4 area has been used, as at

this scale there is minimal difference in walking distances between the Application 4 and Application 5 areas. Walking accessibility is based on 400 metres (five minute) intervals.

Figure 2-3 - Walking Isochrones



2.4.8. **Figure 2.3** identifies the walking connectivity using appropriate isochrones. The extent of these isochrones show that the site is well connected to local bus stops, train stations, tram stops and cycleways which indicates that the site is conducive for the potential of longer, multi-modal trips by sustainable modes of transport.

2.4.9. Key sustainable transport facilities within a short distance to the site, which have the potential to facilitate multimodal trips, include:

- Victoria Rail and Metrolink Station;
- Exchange Square, Shudehill and Market Street Tram stops;
- Shudehill Bus Station and;
- Bus connections to the wider Greater Manchester region from Rochdale Road and Cheetham Hill Road.

2.4.10. Sustainable transport facilities within Manchester City Centre within a 15 to 30-minute walk include:

- Rail stations including Deansgate, Manchester Oxford Road, Salford Crescent and Manchester Piccadilly;
- Tram stops including Deansgate-Castlefield, Exchange Square, Manchester Picadilly, New Islington, Holt Town, Queens Road and Monsall.

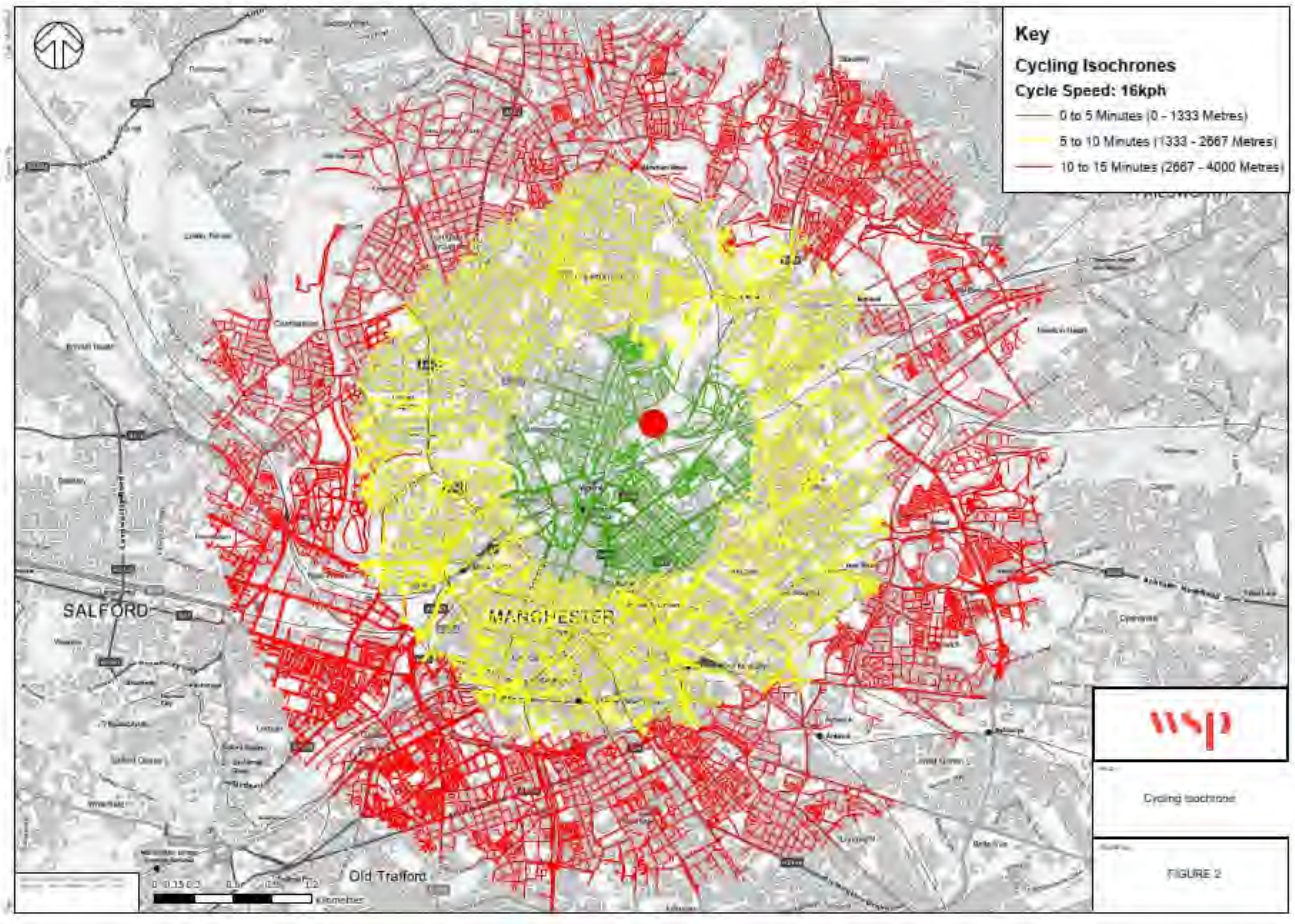
2.4.11. The various public transport facilities within the local vicinity of the site provide regular services to local, regional and national destinations and have been examined under the **Public transport** section of this document. It is also clear that a strong opportunity exists to make walking a part of longer multi-modal journeys providing visitors, residents, and employees access across Red Bank and Manchester City Centre.

Cycling

2.4.12. Cycling is also a sustainable and healthy mode of transport that can replace short to medium journeys or form part of a longer multi-modal journey, whilst helping to reduce local emissions and obesity (amongst other wider health benefits).

2.4.13. Figure 2- demonstrates cycling accessibility from the centre of the Application 4 area to the nearest available footpath / road based on a maximum cycling distance of 4 km in five-minute intervals.

Figure 2-4 - Cycling Isochrones



2.4.14.

2.4.15. Figure 2-4 indicates that all of Manchester City Centre is within a short cycle ride of the proposed development and the 4km isochrone, which is equivalent to a 15-minute journey, reaches areas including Trafford, Hulme, Salford and Monsall.

2.4.16. It is therefore evident that the site is highly accessible in terms of cycling with a wide range of locations, facilities and services within a 15-minute cycle ride of the proposed development.

Local Cycling Facilities

2.4.17. As part of a programme of works to improve cycling access to the Greater Manchester region, the Bee Network of cycling and walking routes is planned, with 1,800 miles of routes and upgrades in the region. These will give priority to cyclists and pedestrians along primary routes (Busy Beeways), as well as a series of quiet ways through the local suburban areas. Additionally, 2,400 crossings will be upgraded to provide better connectivity across major streets to reduce severance. The routes to be upgraded surrounding the site are shown below.

2.4.18. The provision and quality of local cycling infrastructure in the local vicinity of the site will help determine the extent to which trips will be made by active modes of travel rather than private vehicle to and from the site. **Figure** 2- identifies the local cycling infrastructure in the vicinity of the site.

Figure 2-5 - Local Cycling Facilities



2.4.19. Key cycling infrastructure includes:

- Dantzic Street / Collyhurst Road a designated route of TfGM's cycle network;
- Confirmed Bee Network Infrastructure (as of 2021) across Lord Street, Roger Street and Gould Street; and
- Existing Beeways implemented in 2019 across Cheetham Hill Road and the section of Red Bank below the junction of Red Bank, Lord Street and Roger Street.

2.4.20. It is evident that the local cycling infrastructure in the vicinity of the site will encourage trips to be made by sustainable modes of transport and subsequent multi modal trips to and from the site. The propensity to travel by sustainable modes of transport will increase in the short to medium term due to the installation of new Bee Network infrastructure across Greater Manchester.

2.5 PUBLIC TRANSPORT

BUS

2.5.1. To demonstrate the site's accessibility by public transport, an audit has been undertaken of the existing bus services and facilities in the local area. Given the city centre location, buses provide a convenient form of travel to and from the site.

2.5.2. **Table** 2-3 identifies the bus stops in the vicinity of the site located along Cheetham Hill Road.

Table 2-3 – Cheetham Hill Road Bus Stops

Bus Stop	Direction	Distance from Site (Mins)	
		From centre of Application 4 Area	From centre of Application 5 Area
Park Place	Northbound / Southbound	9	13
St Chad's Church	Northbound / Southbound	7	12
Derby Street	Northbound Only	7	15
Elizabeth Street	Northbound / Southbound	9	17

2.5.3. **Table 2-4** identifies the bus stops in the vicinity of the site located along Rochdale Road.

Table 2-4 – Rochdale Road Bus Stops

Bus Stop	Direction	Distance from Site (Mins)	
		From centre of Application 4 Area	From centre of Application 5 Area
Rochdale Road / Angel Street	Northbound / /Southbound	15	12
Gould Street	Northbound Only	12	9
Moorhead Street	Southbound	13	10
Peary Street / Livesey Street	Northbound / /Southbound	11	8
Osborne Street	Northbound / /Southbound	15	10
Whitley Road	Southbound Only	16	10

2.5.4. **Table 2-5** summarises the existing bus services and their frequencies that are accessible from the existing stops in the vicinity of the site across Cheetham Hill Road and Rochdale Road.

Table 2-5 – Local Bus Services

No.	Operator	Route	Frequency (Mon – Fri)	Frequency (Saturday)	Frequency (Sunday)
Cheetham Hill Road					
41	Go North West	Sale - Middleton	1 per hour	1 per hour	1 per hour
		Middleton - Sale	1 per hour	1 per hour	1 per hour
135	Go North West	Manchester - Bury	6 per hour	6 per hour	6 per hour
		Bury - Manchester	6 per hour	6 per hour	6 per hour
Rochdale Road					
17/17a	Go North West	Manchester – Rochdale	6 per hour	4 per hour	4 per hour
		Rochdale - Manchester	6 per hour	4 per hour	4 per hour
18	Go North West	Manchester – Middleton	6 per hour	5 per hour	4 per hour
		Middleton - Manchester	6 per hour	5 per hour	4 per hour
56/156	Stagecoach	Manchester – North Manchester General Hospital – Higher Blackley Circular	2 per hour	2 per hour	1 per hour
81	First Manchester	Manchester – Oldham	2 per hour	1 per hour	1 per hour
		Oldham - Manchester	2 per hour	1 per hour	1 per hour
112/113	Stagecoach	Manchester – Middleton	4 per hour	3 per hour	2 per hour
		Middleton - Manchester	4 per hour	3 per hour	2 per hour
117	Stagecoach	Manchester – Middleton	2 per hour	2 per hour	1 per hour
		Middleton - Manchester	2 per hour	2 per hour	1 per hour

118/119	Stagecoach	Manchester – North Manchester General Hospital	4 per hour	4 per hour	2 per hour
		Manchester – North Manchester General Hospital	4 per hour	4 per hour	2 per hour
163	Diamond	Manchester – Bury	5 per hour	5 per hour	4 per hour
		Bury - Manchester	5 per hour	5 per hour	4 per hour

2.5.5. A total of 14 bus routes run nearby the site with most services reaching frequencies of at least four per hour during weekdays and Saturdays. Key bus routes with high frequencies provide connections from Manchester City Centre to Middleton (41, 18, 112, 113, 117), and Bury (135, 163). These services provide the site with an alternative to private car journeys from a range of local destinations.

2.5.6. Additional services also connect the site to Oldham (81) and South Manchester (41). These services are still likely to provide a good alternative to private car journeys given the various local centres that these services pass through such as Moston and Withington respectively.

TRAM SERVICES

2.5.7. The Red Bank and Dantzic Street site is in close proximity to Manchester Victoria Tram Stop, which is approximately 12 minutes on foot from the centre of the development. Frequent services are available at this stop and are identified in **Table 2-6** below.

2.5.8. The Greater Manchester tram network provides frequent services across multiple lines providing services across Manchester City Centre, towards Bury, Altrincham, Rochdale, Oldham, south Manchester and Manchester Airport. Tram services from Victoria can also be used to connect to additional tram lines at stops within Manchester City Centre towards Ashton-Under-Lyne, Media City, Eccles and the Trafford Centre.

Table 2-6 – Manchester Victoria Tram Services

Line	Route	Frequency	First / Last Weekday Service
Green	Altrincham – Bury	5/hr (Mon-Sun)	05:59/23:47
Green	Bury – Altrincham	5/hr (Mon-Sun)	05:48/23:12
Yellow	Manchester Piccadilly - Bury	5/hr (Mon-Sun)	05:58/23:24
Yellow	Bury – Manchester Piccadilly	5/hr (Mon-Sun)	05:48/23:24
Pink	East Didsbury – Rochdale Town Centre	5/hr (Mon-Sun)	05:50/23:14
Pink	Rochdale Town Centre – East Didsbury	5/hr (Mon-Sun)	05:55/22:43
Blue	Manchester Airport – Manchester Victoria	5/hr (Mon-Sun)	05:50/ 23:14

Blue	Manchester Victoria – Manchester Airport	5/hr (Mon-Sun)	05:32/23:10
Brown	East Didsbury – Shaw and Crompton	5/hr (Mon-Sun)	05:50/ 23:14
Brown	Shaw and Crompton – East Didsbury	5/hr (Mon-Sun)	05:59 / 22:59

RAIL

2.5.9. In addition to Manchester Victoria Tram strop, Manchester Victoria train station is also within a 12-minute journey on foot from both the application 4 and application 5 areas. This is also accessible by bicycle and bus. **Table 2-7** identifies the key local, regional and national destinations that can be accessed by train from Victoria. All frequencies have been gathered from weekday timetables as of March 2023.

Table 2-7 – Rail Destinations

Destination	Frequency	Provider
Local Routes		
Rochdale	5 per hour	Northern
Wigan Wallgate	3 per hour	Northern
Stalybridge	2 per hour	Transpennine Express / Northern
Salford Crescent	5 per hour	Northern
Regional Routes		
Liverpool Lime Street	2 per hour	Transpennine Express
Leeds	4 per hour	Transpennine Express / Northern
Blackburn	3 per hour	Northern
Clitheroe	1 per hour	Northern
Southport	1 per hour	Northern
Chester	1 per hour	Northern
Kirkby (Merseyside)	3 per hour	Northern
National Routes		
York	2 per hour	Transpennine Express
Newcastle	1 per hour	Transpennine Express

2.5.10. Manchester Victoria train station provides regular local services to destinations within Greater Manchester including Rochdale, Wigan and Salford, in addition to regular regional routes including Leeds and Blackburn. National connectivity is also provided to York and Newcastle

2.5.11. It is evident that the site is accessible to various destinations by rail with frequent services to destinations within Greater Manchester and the wider northwest region.

2.6 ROAD SAFETY

2.6.1. An analysis of Personal Injury Accident (PIA) data has been carried out on the local highway network surrounding the site to establish any patterns in location or causation factors which may be exacerbated as a result of the proposed development.

2.6.2. PIA data for the latest five-year period available has been obtained from Transport for Greater Manchester, which includes data from 01/11/2017 to 31/10/2022 (with 2022 data noted as provisional).

2.6.3. The following locations have been analysed under the PIA study area:

Junctions:

- Red Bank / Roger Street / Lord Street;
- Red Bank / Honey Street;
- Cheetham Hill Road / Lord Street; and
- Angel Street / Dantzic Street.

Links

- Red Bank; and
- Dantzic Street

RED BANK / ROGER STREET / LORD STREET JUNCTION

2.6.4. The PIA data showed that there were no collisions in the five-year period at the Red Bank / Roger Street / Lord Street junction.

RED BANK / HONEY STREET JUNCTION

2.6.5. The PIA data showed that there were no collisions in the five-year period at the Red Bank / Honey Street Junction.

CHEETHAM HILL ROAD / LORD STREET

2.6.6. The PIA identified two collisions at the Cheetham Hill / Lord Street junction:

- A slight collision that occurred in 2019 and involved two vehicles with two casualties reported; and
- A slight collision that occurred in 2021 and involved two vehicles, one of which was a cyclist, and two casualties reported.

DANTZIC STREET / ANGEL STREET

2.6.7. The PIA data showed that there was one serious collision in 2020 over the course of the five-year study period. This involved three vehicles and three casualties.

2.6.8. Across the five-year period a total of three collisions were recorded at the assessed junctions. A summary of these is shown in Table 2-8.

Table 2-8 – Five-Year PIA Collision Data: Junction Summary

Junction	Total	Slight	Serious	Fatal	Inv. Ped	Inv. Cyc
Red Bank / Roger Street / Lord Street Junction	-	-	-	-	-	-
Red Bank / Honey Street Junction	-	-	-	-	-	-
Cheetham Hill Road / Lord Street	2	2	-	-	-	1
Dantzic Street / Angel Street	1	-	1	-	-	-
Total	3	2	1	0	-	1

2.6.9. Although any collisions are regrettable, it is clear that the low number of collisions across junctions in the study area, relative to the traffic levels, and the lack of significant patterns in location or causation factors mean that no off-site mitigation is required with respect to road safety.

RED BANK – LINK ANALYSIS

2.6.10. The PIA data along the extent of Red Bank over the five-year study period is shown in Table 2-9.

Table 2-9 – Red Bank Link – PIA Data Summary

	2017	2018	2019	2020	2021	Total
Slight	-	1	1	-	1	3
Serious	-	-	-	-	-	-
Fatal	-	-	1	-	-	1
Total	-	1	2	-	1	4

2.6.11. A total of four collisions were identified along Red Bank over the five-year study period, with 75% of accidents classified as slight and one fatal collision. The year with the most collisions is 2019 which accounted for 50% of collisions, while 50% of collisions included cyclists which both classified as slight. 75% of collisions occurred at junctions, with one fatal and slight collision occurring at the Red Bank / Scotland junction and one slight collision occurring at the Red Bank / Derby Street junction respectively.

DANTZIC STREET – LINK ANALYSIS

2.6.12. The PIA data across Dantzic Street over the five-year study period is shown in Table 2-10.

Table 2-10 – Dantzic Street Link - PIA Data Summary

	2017	2018	2019	2020	2021	Total
Slight	-	1	2	-	-	3

Serious	-	-	-	-	-	-
Fatal	-	-	-	-	-	-
Total	-	1	2	-	-	3

2.6.13. A total of three collisions were identified across Dantzic Street over the five-year study period, with all three collisions classed as slight. Two thirds of the collisions occurred in 2019, with one occurring in 2018. All three collisions occurred at various junctions across Dantzic Street, with one occurring at the junction of Corporation Street, Gould Street and Dalton Street respectively. None of the collisions on Dantzic Street involved cyclists or pedestrians.

2.6.14. A copy of the five-year PIA accident period, including data for 2022, is included in **Appendix C** and identifies that one slight collision occurred at the Dantzic Street / Gould Street Junction in 2022. This has not been included in the PIA analysis as this is subject to change given its provisional status.

2.6.15. Across the five-year period a total of seven collisions were recorded at Red Bank and Dantzic Street. Although any collisions are regrettable, it is clear that the low number of collisions across Red Bank and Dantzic Street across the five-year study period and the lack of significant patterns in location or causation factors that no off-site mitigation is required with respect to road safety.

2.6.16. It is evident that across the extent of the PIA study area there are no significant patterns of locations of collisions and has a very low accident rate with only 10 collisions over five years, an average of 2 per year. It is therefore unlikely that the proposed development will exacerbate collision rates and that no off-site mitigation is required with respect to road safety across the proposed development.

3 PROPOSED DEVELOPMENT

3.1 INTRODUCTION

3.1.1. The TA assesses the transport implications of the outline application (also referred to as "Application 4") and the detailed application for plots NT02-04 (also referred to as "Application 5"). It also assesses the combined impacts of both applications.

3.2 OUTLINE APPLICATION (APPLICATION 4)

3.2.1. The Application 4 boundary is shown on the site edge red location plan at **Appendix A**, and comprises 10.9 hectares. Planning approval is sought for the suite of parameter plans within **Appendix D**, upon which the assessment within this TA is based.

3.2.2. The Application 4 area is proposed to comprise of up to 3,250 residential units, up to 6,300 sqm GIA of a mix of complementary non-residential uses (Class E, F and Sui Generis), up to 3,250 sqm GIA of clubhouse residential amenity buildings, up to 3,250 sqm GIA of Health Centre use and up to 2,750 sqm GIA of primary school use. The masterplan is of a scale to encourage internal trips, through a mix of complementary uses to the main residential uses.

3.2.3. The description of the Application 4 proposals from the planning application is as follows:

'Part full planning application proposing the demolition of existing buildings and structures and part outline planning application (with all matters reserved) for the erection of a phased residential led mixed use development across severable plots comprising residential (Use Classes C3 and C2); non-residential floorspace comprising commercial, business, service and community uses (Use Classes E, F and Sui Generis); residents amenity space including within clubhouse buildings; health centre (Use Class E); land for a primary school (Use Class F); the final surface finish of the highway and footpath consented under HIF permission ref: 133143/VO/2022; creation of new public realm and associated landscaping, car parking provision, cycle storage, and other associated works'.

3.2.4. Application 4 will comprise of:

- Up to 3,250 residential units (Class C3 and C2)
- Up to 6,300 sqm GIA of a mix of complementary non-residential uses (Class E, F and Sui Generis)
- Up to 3,250 sqm GIA of clubhouse residential amenity buildings
- Up to 3,250 sqm GIA of Health Centre use
- Up to 2,750 sqm GIA of primary school use

3.2.5. The Non-Residential Use Schedule included in **Appendix D** outlines the potential range of land uses that could be proposed on the site including retail, food and drink and local community uses. These uses are not defined at this stage, however it is anticipated that they would be complimentary to the proposed residential uses providing services and facilities for future residents of the development.

3.2.6. Plot RB05 is proposed as either a primary School or a residential development, providing some flexibility to the final build out. For the transport assessment, the land use with the highest trip generation (i.e. the primary school) has been assessed to provide a worst-case scenario assessment of potential impacts.

APPLICATION 4 PARKING PROVISION

3.2.7. The proposed quantum of car parking for which approval is sought as part of Application 4 is 12% and comprises:

- Up to 325 spaces for the residential development proposed by the outline application of which up to 21 spaces would be accessible which amounts to 6.5% of the total number of spaces for the residential development;
- Up to 25 spaces for the non-residential development proposed by the outline application including visitor and accessible spaces;
- Up to 52 car parking spaces to support the development proposed at Application 5. The intention is that the 52 car park spaces will be provided in a temporary location within the Application 4 area initially with a permanent solution provided in a centralised location as the residential led development proposed by Application 4 is brought forwards.

3.2.8. Of the 12% car parking proposed by Application 4, the provision of residents car parking (up to 325 spaces) amounts to 10%, in line with the principles set within the "Northern Gateway Initial Development Area Transport Strategy (March 2019)" which recommends a parking provision of no more than 10% for residential uses. The implications of this level of provision have been tested through the master planning process for the Red Bank neighbourhood which has informed the preparation of this full planning application.

3.2.9. Given the highly accessible location of the Application 4 Site, the proposed on-site facilities, and the existing and proposed active travel infrastructure, it is considered the level of residents car parking provision is suitable and appropriate. Residents car parking provision at this level, will encourage active travel and public transport to be the mode of choice for new residents. Furthermore, all of the resident's car parking spaces proposed in Application 4 will provide electric vehicle (EV) charging facilities (with 20% active and 80% passive infrastructure for future connection).

3.2.10. The provision of 325 spaces for the residential development reflects a parking provision at up to 10% across the application 4 area, in line with the principles set within the "Northern Gateway Initial Development Area Transport Strategy (March 2019)" which recommends a parking provision of no more than 10% for residential uses. The implications of this level of provision have been tested through the masterplanning process undertaken as part of the planning application. Given the highly accessible location of the application 4 area, the proposed on-site facilities, and the significant investment in active travel infrastructure, it is considered this level of parking provision is suitable and appropriate for the residential uses. Parking provision at this level, taken together with the factors mentioned above, will encourage active travel and public transport to be the mode of choice for new residents.

3.2.11. Full details of how the 325 spaces will be provided will emerge upon detailed design being submitted for each development plot within the application 4 area. As confirmed within the Design and Access Statement, the parking spaces will be provided through a combination of a centralised parking facility, on-plot parking on certain plots, and on-street parking.

3.2.12. Up to 25 spaces will be provided for the non-residential uses. The amount of parking allocated to each non-residential use will depend on the nature and floorspace of each use, and as such will be determined at the detailed design stage. The non-residential uses are intended to be complementary to the residential development, and primarily for the use of Redbank and Dantzic St

residents. Accordingly, they are not anticipated to attract significant car trips and the parking provision will be at a relatively low level accordingly.

3.2.13. Plot RB05b has the potential to be developed for either residential uses or a primary school. For the purposes of this TA, it has been assumed the school would be brought forward, as a 'worst-case' in movement terms. In the event the school plot is brought forward, discussions in relation to both drop-off and staff parking provision will be undertaken with the relevant authorities to determine the specific requirements. As with the other uses, it should be noted that the school is primarily to serve the Redbank and Dantzic Street residents and others in the local area, and as such we anticipate walking to be the main mode of transport for pupil trips. Likewise, it is anticipated a large number of staff trips could either be drawn from the local area (hence walk or cycle) or arrive by public transport using the various bus / rail / metro connections to the area. On this basis it is considered that parking provision for the school plot would be at a relatively low level.

3.2.14. Accessible parking for all uses (residential and non-residential) will be provided in line with the relevant local standards. These equate to a 6% provision for residential uses. Non-residential uses will be provided for at a ratio in line with the MCC policy requirement, once the exact land use and floor spaces proposed are known.

3.2.15. Electric vehicle parking will be provided at 20% initially, with passive provision for the remaining 80% of parking spaces to be enabled as and when demand from residents and visitors requires this.

3.2.16. The following level of cycle parking provision is proposed:

- 1 secure cycle space per residential property (up to 3,250 cycle spaces)
- Cycle parking for visitors and users of the non-residential uses, at a ratio in line with the MCC policy requirement, once the exact land use and floor spaces proposed are known.

APPLICATION 4 MOVEMENT STRATEGY

3.2.17. Multiple vehicle access points off the existing highway network are proposed. Parameter Plan P2 included in Appendix D shows the proposed access points, vehicle access routes, pedestrian and cycle access and routes and emergency access points.

3.2.18. The HIF Infrastructure Works (Planning Ref: 133143/VO/2022), approved in July 2022, include proposals for the construct a new road (Plateau Avenue) and priority junction from Red Bank, which will serve as an access point to several development plots. The new access road will be a cul-de-sac access and will form a priority controlled three-arm junction with Red Bank. This outline application will include the final surfacing and finish of the Plateau Avenue route.

3.2.19. The existing junction of Red Bank / Roger Street / Lord Street will also serve as an access point to parts of the Application 4 area. This existing junction is a four arm-priority controlled junction with Red Bank as the major arm, and Roger Street and Lord Street as the minor arms. Roger Street will lead to access points to the various development plots located within this section of the Application 4 Area.

3.3 DETAILED APPLICATION (APPLICATION 5)

3.3.1. The site layout within **Appendix D** sets out the proposed layout of the Detailed Area comprising NT02, NT03 and NT04.

3.3.2. The description of the planning application is as follows:

'Full planning application proposing the demolition of existing buildings and structures and erection of a phased residential led mixed use development comprising residential (use class C3 and C2), flexible non-residential floorspace comprising commercial, business, service and community uses (Use Classes E, F and Sui Generis); residential amenity space including within a clubhouse building, with associated car and cycle parking, hard and soft landscaping and improvement works to Dantzic Street'

3.3.3. The detailed application boundary is shown on the site edge red location plan at **Appendix A,** and comprises 2.7 hectares.

3.3.4. The detailed area will comprise of:

- 1,551 residential units
- 2,147 sqm GIA of a mix of complementary non-residential uses (Class E, F and Sui Generis)
- 2,145 sqm GIA of clubhouse residential amenity buildings

APPLICATION 5 AREA PARKING PROVISION

3.3.5. Application 5 proposes the following cycle and car parking provision:

- Cycle parking will be provided to encourage the use of active travel to and from, and within the Application 5 site. The level of provision proposed is 1 cycle space per residential property (1,551 cycle spaces).
- 10% car parking for residents of the development totalling 155 on site and off site car parking spaces comprising:
  - 7% car parking for residents of the development on site and within the podiums and on Dulwich Street totalling 104 car parking spaces. Of these 104 car parking spaces, 10 are accessible which equates to 6.5% of the overall car parking proposed by the proposed development (155 car parking spaces) and will be provided on site.
  - 3% car parking for residents of the development off site in a location within the Application 4 area to be identified totalling 52 car parking spaces. Initially, the off site car park will be temporary in a secure and well lit car park until the permanent solution is delivered as part of Application 4. It is proposed that the location, design and specification of the temporary off site car parking area will be secured by condition.
- 13 car parking spaces on site are proposed at Dulwich Street, Dantzic Street and Dalton Street (including 4 accessible spaces) for visitors to residents and users of the non-residential uses proposed by the development located in close proximity to main residential and non-residential entrances.

The locational breakdown of the parking is as follows:

<u>Residents:</u>

- Within building podiums:
  - 78 standard spaces
  - 5 accessible spaces
- Within Dulwich Street (private estate)

- 16 standard spaces
- 5 accessible spaces

- Off-site (within application 4 red line boundary)
  - 52 spaces

Visitors:

- Within Dulwich Street (private estate)
  - 2 accessible spaces
- Within Dantzic and Dalton Street (adopted highway)
  - 9 standard spaces
  - 2 accessible spaces

Residents parking

3.3.6. The provision of parking spaces for the detailed application (NT02-04) reflects a provision at a 10% ratio for residents, in line with the principles set within the "Northern Gateway Initial Development Area Transport Strategy (March 2019)" which recommends a parking provision of no more than 10% for residential uses. The implications of this level of provision have been tested through the masterplanning process undertaken as part of the planning application. Given the highly accessible location of the detailed planning application area, the proposed on-site facilities, and the existing and proposed active travel infrastructure, it is considered this level of parking provision is suitable and appropriate for the residential uses. Parking provision at this level, taken together with the factors mentioned above, will encourage active travel and public transport to be the mode of choice for new residents.

3.3.7. 1,551 dwellings are proposed within the detailed application, which equates to a requirement of 156 spaces for the use of residents only (excluding visitor spaces). This requirement will be met through a combination of on-site and off-site parking. A total of 104 spaces are proposed on-site. These are either within building podiums or within Dulwich Street, which is proposed to be a private street (not adopted). Within the 104 on-site residents parking spaces, 10 spaces will be residents accessible spaces provided on-site within the building podiums which equates to 6.5% of the total of 155 spaces.

3.3.8. The balance of the requirement (i.e. a further 52 spaces) will initially be provided off-site at a temporary parking location within the application 4 area. The exact location will be chosen based on proximity to the NT02-04 development and the ease and suitability of the walking route.

3.3.9. In the longer term, application 4 will bring forward a parking solution consisting of a combination of a centralised parking facility, on-plot parking on certain plots, and on-street parking which will accommodate the residual parking requirement for NT02-04 (52 spaces). At that time a permanent location for the NT02-04 off site parking (52 spaces) will be confirmed.

Visitor Parking

3.3.10. 9 standard and 4 accessible visitor parking spaces are provided in proximity to NT02-04. These are provided on Dulwich Street / Dantzic Street / Dalton Street, and include 4 accessible spaces. This is to serve both visitors to NT02-04 and also to serve the non-residential uses. In relation to the non-residential uses, these are intended to be complementary to the residential development, and primarily for the use of local residents. Accordingly, they are not anticipated to attract significant car trips.

3.3.11. Electric vehicle parking will be provided at 20% initially, with passive provision for the remaining 80% of parking spaces to be enabled as and when demand from residents and visitors requires this.

Cycle parking

3.3.12. The following level of cycle parking provision is proposed within the detailed area:

- 1,551 cycle spaces in total (316 cycle spaces in NT02, 579 cycle spaces in NT03, 656 cycle spaces in NT04).
- Additional cycle parking will be provided in the public realm to accommodate visitors to the non-residential uses, in line with the relevant MCC standards for the exact non-residential land uses and quantum proposed.

DETAILED AREA MOVEMENT

3.3.13. Vehicle access to the detailed development area will be via a one-way system off Dalton Street. Vehicles will be able to enter the site via a three-arm priority-controlled junction, with Dalton Street as the major arm and Dulwich Street as the minor arm.

3.3.14. Dulwich Street is proposed to be a one-way carriageway, which will provide access to the detailed development plots and proposed parking within this area. Dulwich Street will meet Dantzic Street at a proposed three-arm priority-controlled junction, with Dulwich Street as the minor arm.

3.3.15. Dulwich Street will be part of the privately owned and managed estate and will not form part of the adopted highway. Dantzic Street and Dalton Street will remain adopted as per the existing adopted highway extents.

4 POLICY REVIEW

4.1 INTRODUCTION

4.1.1. The following section of the report sets out the key national, regional and local transport polices that are relevant to the proposed development. Later sections of the report demonstrate how the proposals accord with these policies.

4.2 NATIONAL POLICY

National Planning Policy Framework (NPPF), July 2021

4.2.1. The latest version of the National Planning Policy Framework (NPPF) was published in July 2021. The Framework identifies that the purpose of the planning system is to contribute towards sustainable development. It maintains that plans and decisions should apply a presumption in favour of sustainable development.

4.2.2. Paragraph 110 of the NPPF states that "*In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:*

- (a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
- (b) safe and suitable access to the site can be achieved for all users;
- (c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code 46; and
- (d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

4.2.3. Paragraph 111 of the NPPF states that 'Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.'

4.2.4. Furthermore, paragraph 113 of the NPPF states:

4.2.5. 'All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.'

4.2.6. This TA addresses the above policy guidance by outlining opportunities for sustainable travel to and from the site and by detailing how sustainable and active travel options will be promoted through the Interim Travel Plan.

4.2.7. Chapter 3 outlines the site access proposals, which have been designed to provide safe and suitable access to all users.

4.2.8. Chapter 5 and 8 assesses the impact of the proposed development on the local highway network and concludes that the residual cumulative impacts of the development are not severe.

Planning Policy Guidance

4.2.9. The Government's Planning Practice Guidance (PPG) supplements the NPPF. The PPG clarifies the over-arching principles of Travel Plans, Transport Assessments and Transport Statements. The

guidance on Transport Assessments and Statements re-iterates the circumstances in which either document would usually be required and outlines the process for determining the scope of the assessment. The PPG has been considered in the production of the TA.

Local Transport Note 1/20 Cycle Infrastructure Design

4.2.10. This Local Transport Note (LTN) provides guidance and good practice for the design of cycle infrastructure and was published in support of the Cycling and Walking Investment Strategy.

4.2.11. This guidance should be applied to all changes associated with highway improvements, new highway construction and new or improved cycle facilities.

4.2.12. The guidance is comprised of five core design principles which represent the essential requirements to achieve more people travelling by foot or bicycle. These ensure that cycling and pedestrian infrastructure is:

- Coherent;
- Direct;
- Safe;
- Comfortable; and
- Attractive

4.2.13. The active travel infrastructure that will be implemented across Red Bank and Dantzic Street will need to adhere to this guidance to maximise the potential for people to travel by sustainable modes. This will support the aspiration for the area set out in the Manchester Northern Gateway SRF to establish a low-carbon neighbourhood that provides sustainable travel corridors to the city centre and within the development.

Manual for Streets & Manual for Streets 2

4.2.14. Manual for Streets (MfS) was jointly published in 2007 by the Department for Transport and Department for Communities and Local Government.

4.2.15. It provides guidance on the design of residential streets and its aims are:

- To help to build and strengthen the communities;
- That streets meet the needs of all users, by embodying the principles of inclusive design;
- That streets form part of a well-connected network;
- That streets are attractive and have their own distinctive identity;
- That streets are cost effective to construct and maintain; and
- That streets are safe.

4.2.16. MfS2 was published in 2010 by the Chartered Institution of Highways and Transportation. It does not supersede the guidance in MfS but explains how the principles can be applied on the wider highway network. Dale Street and the highway and public realm in the vicinity of the development will accord with the above principles wherever appropriate.

4.3 REGIONAL POLICY

TfGM Greater Manchester Transport Strategy 2040

4.3.1. TfGM's transport strategy up to 2040 sets out its vision to have "*world class connections that support long-term, sustainable economic growth and access to opportunity for all*".

4.3.2. The four key elements of TfGM's transport vision are:

- Supporting sustainable economic growth;
- Protecting the environment;
- Improving quality of life for all; and
- Developing an innovative city-region.

4.3.3. For the vision to become reality, the transport system must *"connect people to opportunities and information, entrepreneurs with ideas and capital, and employers with talent and skills"*. It also must help create better places: supporting new development and regeneration, reducing the dominance of cars and goods vehicles, and improving the environment.

4.3.4. The transport strategy sets out seven reinforcing principles to meet the needs of residents, businesses and visitors. These are: integrated; inclusive; healthy; environmentally responsible; reliable; safe and secure; and well maintained and resilient.

4.3.5. Integration is at heart of the 2040 transport strategy. Its ambition is for seamless movement between services and modes of transport on a single, high quality, easy-to-use network, maximising choice and supporting low-car lifestyles, made possible by integrated land use and transport planning.

4.3.6. The strategy also defines modal principles which set out aspirations for bus, rail, Metrolink, active travel and highways, set out in the graphic below:

City Centre Transport Strategy to 2040 (2021)

4.3.7. The City Centre Transport Strategy (CCTS) sets out its vision to "aim for 90% of all morning peak trips to the city centre to be made on foot, by cycle or using public transport before 2040, with walking to become the predominant mode of travel within the city centre.".

4.3.8. The strategy establishes seven ambitions which will help achieve the vision for the City Centre and include:

- To make walking the main way of getting around the city centre;
- To make the City Centre cleaner, greener and less congested;
- To encourage cycling for travel to destinations within the city centre;
- To ensure the city centre benefits from better public transport connections;
- To create smarter parking solutions which are integrated with other modes;
- To move and deliver goods more sustainably and efficiently into and within the city centre; and
- To embrace innovations where it benefits the city centre and its users.

4.3.9. For the vision to become reality, a series of committed development proposals have been highlighted which aim to support the delivery of the vision for the city centre for an integrated, healthy, inclusive and sustainable transport network with increased connectivity and capacity. These include the Albert Square redevelopment, City Centre Triangle and the Northern and Eastern Gateway Bee Network in Ancoats and New Islington, which will improve connectivity across neighbourhoods to the northeast of the City Centre, including Red Bank.

4.3.10. The strategy also states that achieving the vision will require an approach and direction that takes into account all modes of transport, including improving the walkability and attractiveness of the City Centre whilst improving the public transport links into and out of it. This also requires complimentary policies on parking that limit and restrict private vehicular movement into and within the City Centre.

Streets for All Strategy (part of the Greater Manchester Transport Strategy 2040)

4.3.11. The Streets for All Strategy sets out Greater Manchester's progressive approach to making our streets easier for all to get around by putting people first as to shape and manage the transport network within the City Centre and the wider Greater Manchester region.

4.3.12. The vision of the Streets for All is set out below:

> *"We will ensure that our streets are welcoming, green, and safe spaces for all people, enabling more travel by walking, cycling and using public transport while creating thriving places that support local communities and businesses."*

4.3.13. The vision will be achieved through three level of delivery, which have taken into consideration the different roles and characteristics of streets across Greater Manchester. These levels of delivery are:

- Spatial planning;
- Network planning; and
- Street design and management

4.3.14. These delivery methods will aim to ensure that motor traffic on city centre streets is reduced and successfully managed, that space is prioritised for walking in city centre streets and to enhance the role of streets as a place by improving local character and individuality.

TfGM Made to Move (December 2017)

4.3.15. The fundamental goal of the Made to Move strategy is to double then double again cycling in Greater Manchester and make walking the natural choice for as many short trips as possible. This can be achieved by putting people first and creating world class streets for walking, building a world class cycle network and creating world class streets for walking, building a world class cycle network and creating a culture of walking and cycling.

4.3.16. In order to realise the vision, it is essential to create a dedicated network for walking and cycling. This will include segregated cycling routes on main roads and through junctions, supported by traffic calming routes. It also means improving the public realm and wayfinding.

4.3.17. Cycling routes should be a mixture of wide segregated cycle lanes on main roads, local cycling routes through communities, and green routes through residential streets. New cycling routes must be delivered to meet to a standard that a competent twelve-year-old would choose to use.

4.3.18. Walking routes must link across difficult junctions and be well signposted with walking times not distance. Improving links to transport interchanges and improving public spaces, pavements, side road crossings, places to rest and high streets will enable more walking in the community.

4.3.19. In creating space for walking and cycling, there should be new, better and more innovative design, safer streets and junctions, and joined up public transport. There should also be viable alternatives to cars for the school run and walking and cycling to school must be made safer.

GM Interim Active Travel Design Guide (March 2021)

4.3.20. The GM Interim Active Travel Design Guide is a complimentary document to the Streets for All Strategy and GM's Walking and Cycling Investment Plan by provided a series of standards that must be followed for Bee Network schemes, and any other active travel schemes funded, or part funded, by GMCA.

4.3.21. The Design Guide is comprised of 18 key issues that are present in the design of spaces and facilities that encourage active travel. These include speed and volume of traffic, width of dedicated cycle facilities and enhancing the existing streetscape.

4.3.22. Solutions and practical advice are given to navigate each of the key design issues listed in the Design Guide, with much of the guidance provided originating from LTN 1/20 Cycle Infrastructure Design.

Greater Manchester's Walking and Cycling Investment Plan (January 2020)

4.3.23. Greater Manchester's Walking and Cycling Investment Plan (GMWCIP) is a framework to guide the investment, allocation and justification of resources into developing the Bee Network and improving active travel facilities across Greater Manchester.

4.3.24. The development process of the Bee Network will be implemented through the following:

- **A comprehensive plan:** this includes a clear vision for network planning and wayfinding, and ensuring that design standards and guidance are upheld in the development of the network.
- **Community engagement:** to ensure Bee Network schemes deliver for local movements with an appropriate level of community consultation for each scheme.
- **Delivery:** to ensure accurate scheme identification across Greater Manchester with an estimation of average costs of various active travel infrastructure improvements.
- **Economic case for investment:** an appraisal of the benefits that will be derived by investment in the Bee Network and active travel infrastructure. These include economic benefits, health benefits and environmental benefits.

4.4 LOCAL POLICY

Strategic Regeneration Framework: Manchester Northern Gateway (Feb 2019)

4.4.1. Manchester City Council in partnership with Far East Consortium developed a Strategic Regeneration Framework (SRF) for the Northern Gateway development area. The SRF sets out the long-term development vision of the area where Red Bank is an integral part.

4.4.2. The SRF states that:

> *"The regeneration of the Northern Gateway will provide significant residential led development that will positively contribute to Manchester's growth agenda and that of the wider city region."*

4.4.3. Core objectives presented to support the regeneration framework are listed as follows:

- Deliver unique and high quality residential led regeneration schemes
- Create a varied network of high quality green streets and open public spaces
- Create Manchester's unique city river park
- Build on the best of what's there
- Improve connectivity across the northern gateway and beyond

- Create new gateways to and from the city centre
- Deliver truly sustainable places
- Foster the emergence of local retail and service hubs

4.4.4. It is evident that the residential-led mixed-use development at Red Bank will adhere to the eight core objectives within the Northern Gateway SRF. The new neighbourhood will improve connectivity, creating new gateways and deliver new sustainable development.

Northern Gateway Initial Development Area Transport Strategy (March 2019)

4.4.5. The Northern Gateway Initial Development Area Transport Strategy was produced by Arup in support of the application for an allocation of the Housing Infrastructure Fund (HIF) for the Northern Gateway Initial Development Area in Manchester.

4.4.6. The Transport Strategy provides an overview of transport requirements and the impacts for the Northern Gateway Initial Development Area to support the HIF bid.

4.4.7. The approved appraisal methodology is summarised as follows:

- Calculated trip generation and mode share for new developments;
- Calculated the level of displaced parking and location of the displacement;
- Modelled the impacts of the development in local junction models;
- Quantified the impact in terms of dis-benefit which is imposed on the existing transport network users by the dependent homes within the Northern Gateway Initial Development Area;
- Examined the cost increases to those currently parking on site in terms of additional parking charges, journey times and distances; and
- Examined the benefits to active modes of travel as a result of the scheme.

4.4.8. The summary of the Transport Strategy states the following key points:

- A clear potential for a network of “Cycle Streets” to be implemented as part of the design proposals enabling walking and cycling throughout the Northern Gateway Initial Development Area;
- Potential within the Northern Gateway Initial Development Area for the diversion of bus routes from Rochdale Road to Dantzic Street and Collyhurst Road providing a sustainable public transport corridor link to and from the city centre in line with the Northern Gateway SRF ambitions;
- It is recommended that parking provision is low across the Northern Gateway Initial Development Area to minimise the impact of general traffic on the network and to create an attractive public realm whereby pedestrians and cyclists take priority over private vehicles; and
- Trips generated by the proposed development are forecast to have a negligible impact on the highway network.

4.4.9. It is evident that the proposals for Red Bank promote sustainable and active travel whereby pedestrians and cyclists are prioritised over vehicular movements.

MCC Core Strategy 2012-2027

4.4.10. The Core Strategy was adopted by MCC in 2012 and outlines the Council’s vision for Manchester in 2027 in addition to the planning policies which will be used to deliver that vision.

4.4.11. Policy T1 Sustainable Transport states to deliver a sustainable, high quality, integrated transport system to encourage modal shift away from car travel to public transport, cycling and walking, to

support the needs of residents and businesses and to prepare for carbon free modes of transport, the Council will support proposals that:

- Improve choice by developing alternatives to the car;
- Promote regeneration and economic vitality by relieving traffic congestion and improving access to jobs and services, particularly for those most in need and for those without a car;
- Improve access to transport services and facilities in order to enable disabled people and people with mobility impairments to participate fully in public life;
- Improve pedestrian routes and the pedestrian environment. Improve and develop further Manchester's cycle network (for example the Manchester Cycleway and the Trans Pennine Trail);
- Contribute to improvements to the extent and reliability of the public transport network through safe and attractive waiting and interchange facilities, better priority, improved services and information provision;
- Facilitate modes of transport that reduce carbon emissions e.g. by incorporating charging points for electric vehicles, subject to their appropriate design and location;
- Would reduce the negative impacts of road traffic, for example, congestion, air pollution and road accident casualties.

4.4.12. Policy T2 accessible areas of opportunity and need states that the Council will actively manage the pattern of development to ensure that new development:

- Is located to ensure good access to the City's main economic drivers, including the Regional Centre, the Oxford Road Universities and Hospitals and the Airport and to ensure good national and international connections;
- Is easily accessible by walking, cycling and public transport; connecting residents to jobs, centres, health, leisure, open space and educational opportunities; and
- Within the City Centre, provides a level of car parking which reflects the highly accessible nature of the location, as well as the realistic requirements of the users of the development.

MCC Design for Access 2 (December 2003)

4.4.13. Design for Access 2 is Manchester City Council's best practice guidance of inclusive design standards and was developed jointly by Manchester City Council and with members of the Access Review Forum.

4.4.14. It is intended that Design for Access 2 should be used for all buildings and projects on which Manchester City Council lead or are the client and for the maintenance and improvement of highways.

4.4.15. Given the sustainable nature of the development, the following diagrams will need to be consulted to ensure that design standards for accessibility are adhered to:

- Pedestrian crossings, dropped kerbs and tactile surfaces;
- Footways, pathways and access routes; and
- Street furniture (including layout and section)

MCC Manchester Residential Quality Guidance (March 2017)

4.4.16. This guidance has been prepared for Manchester City Council and aims to provide a clear direction on the requirements of delivering sustainable neighbourhoods of choice where people will want to live and raise the quality of life across Manchester.

4.4.17. The guidance also provides the baseline minimum requirements and mandatory standards that all new residential proposals will be required to satisfy or exceed in order to be considered sustainable development.

4.4.18. The report is separated into various sections which provide guidance, recommendations and standards that need to be taken into consideration when building residential developments and include:

- Ensuring new developments are futureproof in terms of resilience, adaptability and technology;
- Provide green and blue infrastructure; and
- To ensure new developments are built that provide a connected network and a good level of modal choice.

4.4.19. As part of the 'Make it Easy to Get Around' chapter, the guidance states that:

> *"Manchester's residential areas should be well connected, easily walkable and cycle friendly."*

4.4.20. The key requirements to achieve this whereby the Council will require Applicants to demonstrate how development proposals achieve the following:

- Facilitate and encourage walking and cycling;
- Create clear, safe and obvious connections to the public transport network;
- Define a clear street hierarchy; and
- Support opportunities to improve wayfinding and orientation.

4.5 SUMMARY

4.5.1. In summary, the proposed development is located in a sustainable and accessible location and accords with the principles of national, regional and local transport planning policy.

5 TRIP GENERATION AND DISTRIBUTION

5.1 INTRODUCTION

5.1.1. This Chapter outlies the multi-modal trip generation for both applications 4 and 5. The trip generation and distribution methodology and assumptions have been agreed with TfGM and MCC at scoping stage, with the WSP *'Trip Rate and Trip Generation Technical Note'* 31/08/2022 setting out the proposed methodology to be used within the Transport Assessment.

5.1.2. TfGM provided comments to the 31/08/2022 Tech Note, and these were addressed with a further technical note *'Trip Rate and Trip Generation Technical Note – Response to TfGM Comments'* 06/10/22 and further email correspondence attached in Appendix B confirms agreement on the approach used.

5.1.3. The below sections summarise the trip rates and trip generation, the trip distribution along with the baseline traffic surveys, committed development flows background traffic growth which has been used to calculate the traffic flows presented within the traffic flows diagrams and used within the junction capacity assessments.

5.2 TRIP RATES AND TRIP GENERATION

5.2.1. As outlined in Chapter 3, the proposals at Red Bank and Dantzic Street are for a residential-led development which will include the following land uses:

- Outline Area (Application 4): Up to 3,250 residential units, up to 6,300 sqm GIA of a mix of complementary non-residential uses, up to 3,250 sqm GIA of clubhouse residential amenity buildings, up to 3,250 sqm GIA of Health Centre use and up to 2,750 sqm GIA of primary school use
- Detailed Area (Application 5): 1,551 residential units, 2,147 sqm of a mix of complementary non-residential uses (Class E, F and Sui Generis), and 2,145 sqm GIA of clubhouse residential amenity buildings

5.2.2. The development proposals across both Application 4 and Application 5 are split into a number of development plots and is of a scale to encourage internal trips, facilitated through complementary uses to the main residential use, such as the primary school, clubhouse and local retail facilities.

5.2.3. For the trip generation calculations, it is assumed that the commercial units are ancillary use to the residential units and are provided to serve the future residents within the Application 4 and Application 5 areas. It is therefore not anticipated that these units would attract external vehicle trips.

5.2.4. The clubhouse, social infrastructure, health care and other non-residential uses within the Application 4 and Application 5 areas are also assumed to be complementary to the residential use, with future residents using these facilities provided on-site. It is therefore not anticipated that these land uses would attract external vehicle trips.

5.2.5. The primary school is provided to serve future residents of the site; however, it is acknowledged that a proportion of trips to the primary school will be associated with pupils and staff living external to the site. To provide a robust worst-case assessment of primary school trips, no reduction in primary school trips has been applied to the trip generation for this land use.

RESIDENTIAL TRIP GENERATION

5.2.6. The TRICS v7.9.2 database has been used to obtain representative trip rates for the proposed residential development. The following criteria were used to obtain multi-modal sites from TRICS:

- Residential: Flats Privately Owned
- Sites in Greater London an Ireland excluded
- Parking Provision of less than one space per dwelling
- Edge of Town Centre Locations (No Town Centre sites available within TRICS using above criteria

5.2.7. The full TRICS report is provided in Appendix E. Table 5-1 outlines the residential per person trip rates and trip generation for the Application 5, Application 4 and the combined (application 4 and 5) proposals.

Table 5-1 – Residential Per Person (All Modes) Trip Generation

	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Person Trip Rate (Per Dwelling)	0.105	0.398	0.503	0.383	0.254	0.637
Detailed Area (Application 5) (1,551 dwellings)	163	617	780	594	394	987
Outline Area (Application 4) (3,250 dwellings)	341	1,294	1,635	1,245	826	2,070
Combined Applications 4 and 5 (4,801 dwellings)	504	1,910	2,414	1,838	1,219	3,058

5.2.8. Applications 4 and 5 in combination are proposed to generate a total of 2,414 two-way person trips in the morning peak and 3,058 two-way person trips in the evening peak.

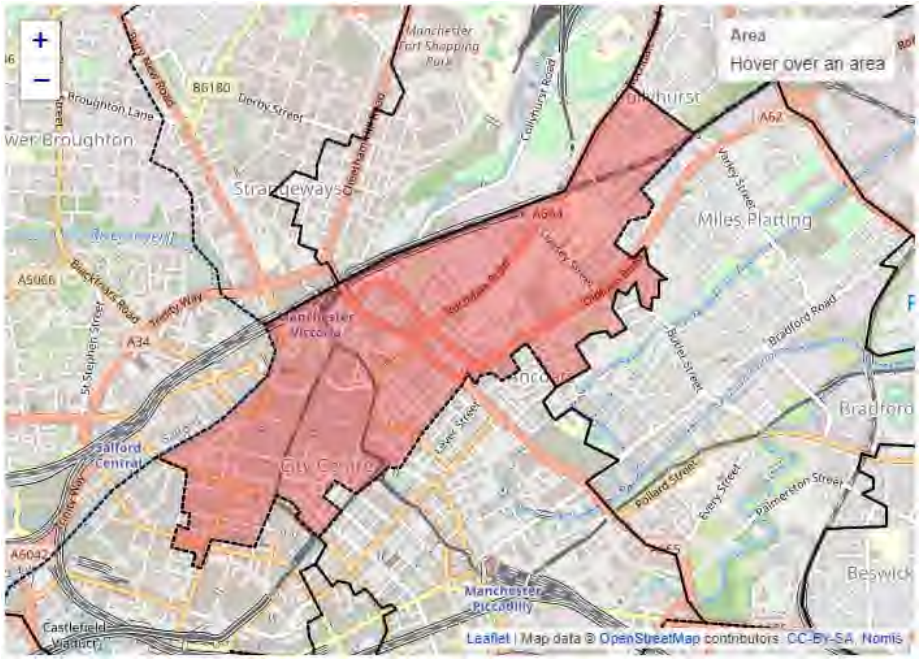
5.2.9. The proximity of the site to Manchester City Centre's variety of employment, leisure and retail uses, as well as public transport hubs such as Victoria and Shudehill will encourage non-car travel. This will be further encouraged through high-quality walking and cycling routes within the site, and through the Travel Plan which encourages and promotes non-car use for new residents as they occupy the development plots.

5.2.10. The existing mode share for journeys to work was obtained from the 2011 Census Data for the Manchester City Centre Middle Super Output Area (MSOA), Manchester 054, which is adjacent to the development site. It is considered this is a robust estimate, given that the 2011 data predates a number of public transport and active travel schemes such as the Bee Network infrastructure, which will have further increased non-car mode share during this time.

5.2.11. The Manchester 054 MSOA, as shown on Figure 5-1, has been used as a representative area which covers parts of Manchester City Centre including the area surrounding Manchester Victoria, as well

as parts of the Northern Quarter, Ancoats and NOMA which have similar residential developments to that proposed at Red Bank.

Figure 5-1 - Manchester 054 MSOA Location



5.2.12. The mode shares for different methods of travel are shown in Table 5-2.

Table 5-2 – Journey to Work – Mode Share

Mode of Travel	Mode Share	App 5 (Two-way person trips)		App 4 (Two-way person trips)		App 4 and 5 (Two-way person trips)	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Public Transport	27%	213	270	446	565	659	835
On foot	48%	371	470	778	985	1,148	1,454
Cycle	3%	22	28	47	59	69	88
Car Driver	19%	151	191	317	401	468	593
Car Passenger	2%	16	20	34	43	50	63
Other	1%	6	8	13	17	20	25

5.2.13. Journeys by foot account for almost half (48%) of all journeys and public transport accounts for just over a quarter (27%). The proportion of trips by car driver is 19% of all trips, while cycle (3%), car passenger (2%) or other (1%) account for the remining trips. When the total trip number are applied

to the application 4, application 5 and combined (app 4 and 5) residential proposals the two-way person trips in Table 5-2 are forecast.

5.2.14. The mode share for car drivers has been applied to the multi-model trip rates to obtain trip rates for the proposed residential units. Table 5-3 outlines the residential vehicle trip rates which have been applied to the proposed development.

Table 5-3 – Residential Vehicle Trip Rates

	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Trip Rate (Per Dwelling)	0.020	0.077	0.098	0.074	0.049	0.124

5.2.15. The proposed trip generation for the detailed (application 5) and outline(application 4) residential development are outlined in Table 5-4. These represent a worst-case scenario as the level of parking provision on-site will encourage further uptake of non-car modes.

Table 5-4 – Residential Vehicle Trip Generation

	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Detailed Area (app 5)	32	120	151	115	76	191
Outline Area (app 4)	66	251	317	241	160	401
Full Development (app 4 and 5)	98	370	468	357	236	593

5.2.16. Application 5 is forecast to generate a total of 151 two-way vehicle trips in the morning peak and up to 191 two-way vehicle trips in the evening peak.

5.2.17. Application 4 is forecast to generate a total of 317 two-way vehicle trips in the morning peak and up to 401 two-way vehicle trips in the evening peak.

5.2.18. In total, the full development is forecast to generate up to 468 two-way vehicle trips in the morning peak and 593 two-way vehicle trips in the evening peak.

PRIMARY SCHOOL TRIP GENERATION

5.2.19. A primary school with gross floor area of 2,750 sqm is proposed within Application 4.

5.2.20. The following TRICS criteria were used to filter representative sites:

- Education - Primary
- Edge of Town Centre and Suburban Locations (No Town Centre locations within database)
- Sites in Greater London an Ireland excluded

5.2.21. The full TRICS report is provided in Appendix E. Table 5-5 outlines the primary school vehicle trip rates.

Table 5-5 – Primary School Trip Rates and Trip Generation

	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Trip Rate (Per GFA/100)	4.566	1.604	6.170	0.132	0.415	0.547
Trip Generation	126	44	170	4	11	15

5.2.22. The proposed primary school proposed is forecast to generate up to 170 two-way vehicle trips in the morning peak hour and 15 two-way vehicle trips in the evening peak hour. Due to the lack of town centre sites within the TRICS database for this land use, the proposed trip generation is a robust worst-case scenario, which doesn't take into account the city centre location or the potential for internal trips to/from the school by future residents of the development.

5.2.23. The proposed Primary school is located on the swing plot, which could be built out as a primary school or as a residential building. The primary school trip rates are used to provide a robust assessment of potential future land use for this plot.

TOTAL VEHICLE TRIP GENERATION

5.2.24. The total vehicle trip generation forecast is summarised in Table 5-6.

Table 5-6 – Total Vehicle Trip Generation

	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Detailed Area (App 5)	32	120	151	115	76	191
Outline Area (App 4)	192	295	487	245	171	417
Full Development (App 4 and 5)	223	415	638	360	248	608

5.2.25. Application 5 is forecast to generate a total of 151 two-way vehicle trips in the morning peak and up to 191 two-way vehicle trips in the evening peak.

5.2.26. Application 4 is forecast to generate a total of 487 two-way vehicle trips in the morning peak and up to 417 two-way vehicle trips in the evening peak.

5.2.27. In total, the combined application 4 and 5 is forecast to generate up to 638 two-way vehicle trips in the morning peak and 608 two-way vehicle trips in the evening peak.

TRIP DISTRIBUTION

5.2.28. Census data (2011) has been used to obtain the likely distribution of vehicle trips to/from the site. Journey to Work data has been obtained using Manchester 054 Middle Super Output Area (MSOA) as a representative origin location.

5.2.29. The percentage distribution of trips to various local authority areas is outlined in Table 5-7. Full details of the census data are provided in Appendix F. Table 5-7 shows that 35% of trips are to locations within Manchester, 10% to Trafford and 10% to Salford, 5% to both Bury and Stockport, and 4% to Oldham, Tameside and Cheshire East.

Table 5-7 – Journey to Work Distribution

Local Authority Area	Percentage of trips to Local Authority Area
Manchester	35%
Trafford	10%
Salford	10%
Bury	5%
Stockport	5%
Oldham	4%
Tameside	4%
Cheshire East	4%
Warrington	3%
Bolton	2%
Rochdale	2%
Other Local Authorities (<2%)	15%
Total	**100%**

5.2.30. Using google maps routing, the proposed development trips have been assigned to various routes on the local highway network. Table 5-8 summarises the proportion of development trips assigned to each route. The trip assignment forecasts that 44% of development trips will route via A6042 Ring Road (West), 24% via Great Ancoats Street, 10% via Rochdale Rd / Oldham Rd, 10% via North St /Elizabeth Street, 9% via Bury New Road and 2% via North Street and Cheetham Hill Rd.

Table 5-8 – Assignment of development trips on local highway network

Route	Percentage of trips
North St and Elizabeth St (N)	10%
North St and Cheetham Hill Road (N)	2%
Bury New Road (N)	9%
A6042 Ring Road (W)	44%
Great Ancoats St (SE)	24%

Rochdale Road / Oldham Road (N)	10%
Total	**100%**

5.2.31. The trip generation outlined in Table 5-6 has been assigned to the local highway network based on the routeing summarised in Table 5-8. Traffic flow diagrams showing the forecast development traffic on the local highway network for the Application 5, Application 4 and the combined (App 4 and 5) proposals are provided in Appendix G.

5.3 BASELINE TRAFFIC SURVEYS

5.3.1. As part of the Northern Gateway Initial Development Area Transport Strategy produced by Arup in March 2019, surveys were conducted by Nationwide Data Collection on Tuesday 11th December 2018.

5.3.2. Manual Classified turning counts and queue surveys were collected between 0700-1000 and 1600-1900 at ten junctions. The following junctions were included in the surveys, and the raw traffic data is included in Appendix H:

- Red Bank / Honey Street
- Red Bank / Roger Street / Lord Street
- Cheetham Hill Road / Lord Street
- Cheetham Hill Road / Trinity Way
- Cheetham Hill Road / Angel St / Miller Street / Corporation Street
- Angel Street / Dantzic Street
- Rochdale Road / Swan Street
- Rochdale Road / Angel Street
- Gould Street / Rochdale Road
- Bromley Street / Rochdale Road / Livesey Street

5.3.3. The data has been converted to PCU and the local peak hours identified as 08:00-09:00 in the morning and 17:00-18:00 in evening. A traffic flow diagram of these peak hour survey flows is included in Appendix G.

5.4 COMMITTED DEVELOPMENTS

5.4.1. A review of committed developments in the local area has been undertaken and those developments forecast to result in an increase in vehicle trips on the local highway network have been included as part of the future year traffic assessments. Based on the trip generation and distribution included within the Transport Assessments/Transport Statements supporting the planning applications, the following committed developments have been included in the assessments:

- Meadowside (116366/FO/2017)
- New Victoria (111777/FO/2016/C1)
- Victoria Riverside (126944/FO/2020)

5.4.2. The forecast traffic flows for these developments are shown in traffic flow diagrams in Appendix G.

5.5 BACKGROUND TRAFFIC GROWTH

5.5.1. TEMPro has been applied to the 2018 baseline traffic data to account for background traffic growth on the highway network. The standard TEMPro growth rates have been adjusted to avoid double counting of committed development traffic flows. The number of proposed residential units associated with the committed and proposed development is larger than the overall household growth included in TEMPro growth assumptions and therefore background traffic growth associated with household growth has been removed from the growth rate calculation.

5.5.2. The adjusted TEMPro growth rates which have the alternative assumptions applied are presented in Table 5-9 and have been applied to the 2018 baseline traffic data to obtain future year baseline traffic data.

Table 5-9 – TEMPro growth rates

	AM Peak Period	PM Peak Period
2018-2029	1.121	1.114
2018-2032	1.152	1.143
2018-2034	1.174	1.164
2018-2037	1.204	1.191

5.5.3. The TEMPro growth rates suggest that background traffic will increase by approximately 20% by 2037. Given the policy context of promoting sustainable travel and the ambitions for sustainable growth within the GM 2040 Strategy, the assumption of 20% traffic growth is very much a worst-case scenario and the sustainability-driven behaviour changes should lead to a reduction in this proposed level of traffic growth.

5.5.4. Therefore, the traffic capacity assessments are based on worst-case future traffic assumption.

5.6 TRAFFIC FLOW DIAGRAMS

5.6.1. The resulting peak hour traffic flows for the local highway network are provided for the following scenarios in the traffic flow diagrams included in Appendix G of this TA:

- 2018 Survey Flows
- 2034 Do-Minimum
- 2037 Do-Minimum
- 2034 Do-Something – Detailed Area (App 5)
- 2037 Do-Something – Outline Area (App 4)
- 2037 Do-Something – Full Development (App 4 and 5)

5.6.2. These traffic flows are used to inform the traffic capacity assessments included in Chapter 8 of this TA.

6 ACTIVE TRAVEL AND SUSTAINABLE TRANSPORT STRATEGY

6.1 INTRODUCTION

6.1.1. As set out in Chapter 2 of this TA, the application 4 and 5 sites are well located to encourage active travel and public transport use, through the range of facilities within the local area and the range of off-site infrastructure for active travel and public transport which is already in place or committed through other improvement schemes.

6.1.2. To further capitalise on this and maximise the potential for non-car travel, a range of measures will be implemented to encourage active travel in particular by residents and visitors. These can be summarised as follows.

6.2 ON-SITE FACILITIES

6.2.1. In order to reduce the need for residents to travel off site, the application 4 and 5 proposals include for a range of complementary uses which will serve residents needs at a local level.

6.2.2. In relation to application 5 (NT02-04), the proposals include a range of complementary uses which may include retail, food and beverage, fitness, medical, creche, local community uses and similar. By incorporating these uses within the development proposals there will be a significant reduction in the need for residents to travel off-site for these reasons, with a consequent beneficial effect in terms of active travel use versus car use.

6.2.3. Likewise in application 4, the intention is to include a range of complementary uses similar to those listed above, in addition to the potential for an on-site primary school. In the same way, these uses, in particular a primary school, would result in a significant reduction in the need for residents to travel off-site for these reasons, with a consequent beneficial effect in terms of active travel use versus car use.

6.3 ON-SITE ACTIVE TRAVEL INFRASTRUCTURE

6.3.1. A key focus of the masterplanning principles for the Red Bank / New Town neighbourhood has been to encourage walking and cycling within the site and reduce the dominance of the car / motor vehicle on the residential streets within the site boundary. This is underpinned by the street and public realm design being to best practice standards including Manual for Streets / Manual for Streets 2, and Local Transport Note 1/20.

6.3.2. The design principles set out in the masterplan respect the principles and objectives of the Greater Manchester Transport Strategy 2040, and in particular the Streets for All design guidance. The masterplan is well aligned with the Streets for All vision to enable walking, cycling and public transport use, through placing walking and cycling at the heart of the movement strategy by reducing the dominance of vehicles on key routes including Dantzic Street and the Plateau Avenue.

6.3.3. As a general principle the key streets within the masterplan are designed in accordance with the “Active Neighbourhood Streets” principle in the Streets for All guidance. This guides the design towards a solution which prioritises people over vehicles, provides safe and comfortable spaces for play, socialising and relaxing, and incorporates green space. Design speeds will be 20mph or less and through traffic, particularly by large vehicles, will be discouraged. Sustainable Urban Drainage and EV charging points will be incorporated or supported.

6.3.4. Specific ways in which the on-site infrastructure is encouraging active travel include:

- All on-site street design being to a maximum 20mph design speed;
- Carriageway widths being minimised to 5.5m except where a larger width is needed specifically to facilitate delivery / refuse / emergency vehicles or buses;
- Kerb radii and junction geometry being kept as tight as practical to minimise the widths of pedestrian crossing points;
- Use of planting, street furniture and materials to soften the appearance of the streets and encourage active travel use and reinforce the streets as a place to use and dwell rather than a place to simply travel through;
- Footways above minimum width requirements set out in LTN1/20;
- Cycling accommodated within the street where possible, or with segregated facilities along key routes such as Dantzic Street.
- Segregated cycle facilities designed to LTN1/20 standards.

6.3.5. The proposals include new street infrastructure including Dulwich Street (within application 5) and Plateau Avenue (within application 4) which have been specifically designed in accordance with the above principles to encourage active travel as the mode of choice for residents and visitors.

6.3.6. In addition, an network of active travel routes allow circulation within the application 4 and application 5 areas, including the 'climate loop', which is an active travel routes circulating around the application 4 and 5 areas, providing linkage between development plots and also an attractive leisure route for walking / running and cycling.

6.4 IMPROVEMENTS TO DANTZIC STREET

6.4.1. A key element of the sustainable access strategy are improvements to Dantzic Street to encourage active travel and reduce car dominance. These would be of particular benefit to the plots within application 5 (NT02-04) but also to the application 4 and would also facilitate active travel to future SRF development within the wider Victoria North area.

6.4.2. Engagement has taken place with MCC highways department and Transport for Greater Manchester (TfGM) in relation to this area. Key to this has been the establishment of design principles which prioritise the use of active travel whilst allowing bus movement and car movement (for access rather than through traffic) and seeking to divert through car traffic onto more appropriate routes.

6.4.3. The proposals for Dantzic Street (see **Appendix D**) include:

- 6.2m wide carriageway,
- 20mph design speed, including traffic calming to encourage adherence to design speed.
- Visibility splays based on 20mph design speed.
- Active travel route (footway/cycleway) linking to the network of active travel routes within the site.
- Raised plateaus or changes of surface at defined crossing points, to improve pedestrian priority and reduce vehicle speeds.
- Limited parking spaces on-street, for servicing and disabled parking only.
- Areas of planting, SuDS and street furniture.

6.5 CYCLE PARKING AND EV PARKING

6.5.1. Cycle parking across both applications 4 and 5 will be provided at a standard of 1 space per dwelling for residents. These will follow best practice principles of being secure and sheltered whilst remaining convenient for every-day use, thus encouraging cycling as a travel mode of choice.

6.5.2. Visitor cycle parking and short stay cycle parking (for the non-residential uses) will be provided within the public realm areas.

6.5.3. Electric vehicle parking will be provided at 20% initially, with passive provision for the remaining 80% of parking spaces to be enabled as and when demand from residents and visitors requires this.

6.6 TRAVEL PLAN

6.6.1. This Transport Assessment is supported by a Framework Travel Plan which is included as a separate document within the applications.

6.6.2. The Framework Travel Plan is a site-specific strategy and action plan for managing multi-modal access and travel to the proposed development, which focuses on promoting travel by sustainable and active modes of transport. It's primary focus is changing and influencing the travel behaviours of residents to reduce the number and length of motorised journeys and increase travel by walking, cycling and public transport.

6.6.3. The Framework Travel Plan specifically covers the following

- Methods proposed to reduce the number of trips to and from the site by car;
- Timescales for surveying travel patterns following occupation of the site; and
- The measures that will be used to monitor the effectiveness of the Travel Plan in its objective to reduce the volume of private car trips to/from the site.

7 EMERGENCY VEHICLE, SERVICING AND REFUSE STRATEGY

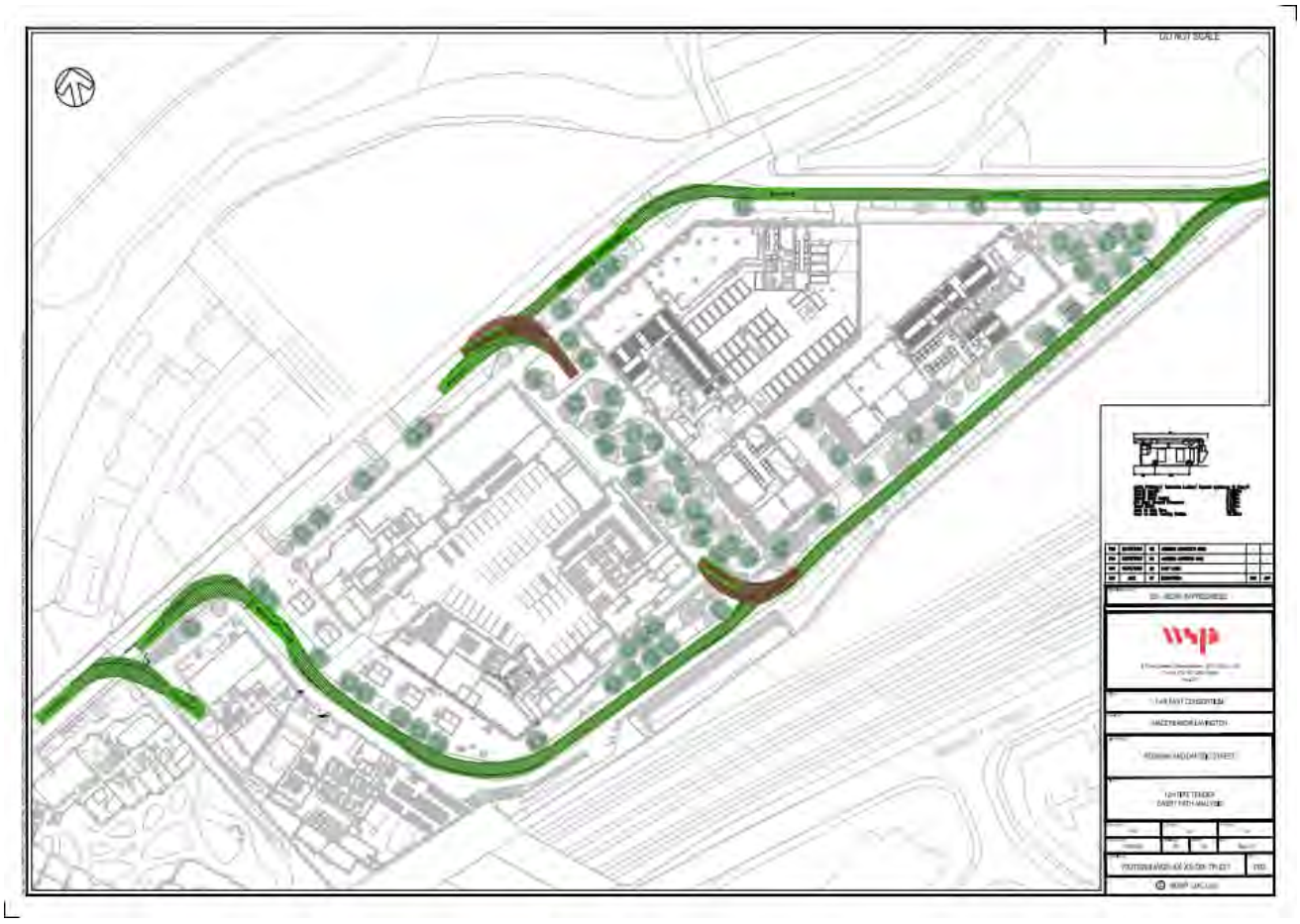
7.1 FIRE VEHICLE ACCESS

7.1.1. For the purposes of AutoTrack assessment a fire vehicle of 12m length has been used, to reflect the largest typical fire tender currently in use.

APPLICATION 5

7.1.2. For the application 5 proposals, a full AutoTrack assessment of fire tender access has been undertaken as shown on drawing 70079268-WSP-XX-XX-DR-TP-021, shown below as Figure 7.1 and included in Appendix I.

Figure 7.1 – AutoTrack of fire tender at NT02-04



7.1.3. The principle is that fire vehicles use Dantzic St / Dalton St / Dulwich St as necessary. Fire tenders will stop within the carriageway in an emergency situation, but we have also identified pull in locations where necessary to ensure that the required minimum distances for fire service access have been met.

APPLICATION 4

7.1.4. For the application 4 proposals the same exercise has been undertaken which has informed the development of the outline masterplan, the location of individual building plots, and the scale and nature of the streets and public realm elements.

7.2 SERVICING AND REFUSE

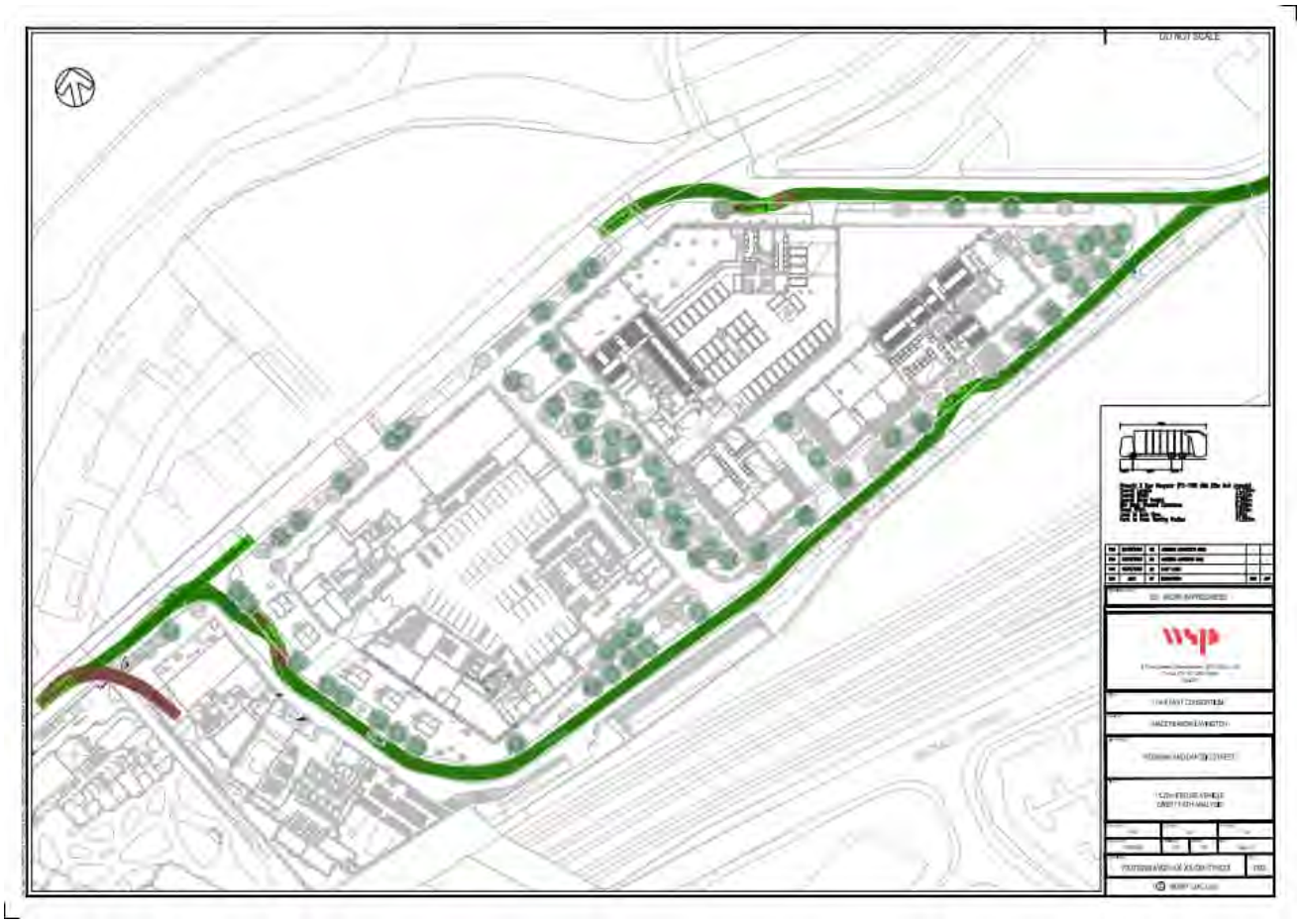
7.2.1. The overall servicing and refuse strategy is to take place on-street, through use of lay-bys situated within the public realm. These have been located proximate to each building to accord with relevant standards relating to walking distance to and from bin storage locations.

7.2.2. For the purposes of AutoTracking a rigid vehicle of 11.5m length has been used, to reflect the largest typical refuse vehicle currently in use or likely to be used in the future in Greater Manchester. This also encompasses the likely size of delivery vehicles given the nature of the land uses.

APPLICATION 5

7.2.3. For the application 5 proposals, a full AutoTrack assessment of delivery and refuse vehicle access has been undertaken as shown on drawing 70079268-WSP-XX-XX-DR-TP-023, shown below as Figure 7.2 and included in Appendix I.

Figure 7.2 – AutoTrack of delivery vehicles at NT02-04



7.2.4. The principle is that delivery vehicles use Dantzic St / Dalton St / Dulwich St as necessary, with pull in locations identified on the drawing to allow deliveries or refuse collection to take place without overly delaying through traffic using these routes.

APPLICATION 4

7.2.5. For application 4 the same exercise has been undertaken which has informed the development of the outline masterplan, the location of individual building plots, and the scale and nature of the streets and public realm elements.

8 JUNCTION CAPACITY ASSESEMENTS

8.1 SCOPE OF ASSESSMENT

8.1.1. The impact of the proposed development traffic on the local highway network has been assessed at the below junctions, as agreed via email with TfGM (15/11/2022) and MCC (09/11/2022).

- Red Bank / Roger Street / Lord Street
- Red Bank / Honey Street
- Cheetham Hill Road / Lord Street
- Angel Street / Dantzic Street

8.1.2. As requested by TfGM, traffic signal logs were requested from TfGM UTC for the signalised junctions and have been used within the modelling to ensure that the frequency of the demand dependent stages have been modelled realistically.

8.1.3. The junction models used have been provided by Arup and are those used in the Northern Gateway Initial Development Area Transport Strategy (NGIDA TS). The NGIDA TS outlines the model validation that has been undertaken, with each mode been calibrated and validated using queue length data derived from surveys undertaken along the turning counts.

8.1.4. A new proposed site access point off Red Bank to plots within the application 4 area was approved in July 2022 as part of the HIF Infrastructure Works application (Planning Ref: 133143/VO/2022).

8.1.5. Junction modelling, including sensitivity testing, of this proposed junction was undertaken as part of the HIF Infrastructure Works (Planning Ref: 133143/VO/2022) Transport Statement. The results suggested that the proposed junction could accommodate up to 355 outbound trips and 455 inbound trips in the AM and PM peak hours respectively. The proposed maximum trip generation from this development plots in this area is 337 two-way trips in the AM peak and 225 two-way trips in the PM peak. Therefore, the proposed junction layout will be able to accommodate the forecast worst-case traffic flows, therefore junction modelling of this access has not been undertaken as part of the below assessments.

8.2 SCENARIOS

8.2.1. The following scenarios have been used within the junction capacity assessments:

- 2018 Base
- 2034 and 2037 Do-Minimum (without proposed development)
- 2034 Do-Something (with proposed development – App 5 (Detailed) Only)
- 2037 Do-Something (with proposed development – App 4 (Outline) Only)
- 2037 Do-Something (with proposed development – App 4 (Outline) and App 5 (Detailed))

8.2.2. The assessments have been carried out for the weekday AM and PM peak hour. The full output reports from the junction capacity assessments are provided in Appendix J.

8.3 RESULTS

8.3.1. Priority controlled junctions have been modelled using Junctions 10 software, the industry standard for undertaking capacity assessments of priority-controlled junctions. The queue levels at each approach are presented in PCUs (Passenger Car Units). This is a term to standardize all vehicles. A

single car equates to 1PCU, whereas an HGV equates to 2+ PCUs depending on its size and number of axles.

8.3.2. Signalised junctions have been assessed using LinSig software, the industry standard for undertaking capacity assessments of signalised junctions.

8.3.3. For signal-controlled junctions, operational performance is reported in terms of Degree of Saturation (DoS). A DoS result of below 90% typically demonstrates that a junction arm or turning movement is operating 'within capacity'. A result between 90-100% DoS is considered to indicate a junction is close to capacity. A Practical Reserve Capacity (PRC) is also presented for the junction, a positive PRC value generally indicates that no junction arms have a DoS of greater than 90%. The queue results provide represent the Mean Maximum Queue (MMQ).

RED BANK / HONEY STREET

8.3.4. The junction of Red Bank and Honey Street has been modelled using Junctions 10 software. This is a three-arm priority-controlled junction with Honey Street as the minor arm. Table 8-1 includes the results of the 2018 Base scenario assessments for the AM and PM peak period.

Table 8-1 –Red Bank / Honey Street: 2018 Base

Arm/Movement	AM Peak (0800 - 0900)			PM Peak (1700 - 1800)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2018 Base						
Honey Street	0	0.0	0.00	0	8.53	0.04
Red Bank (South)	0	6.44	0.01	0	5.05	0.01

8.3.5. The 2018 base scenario junction results show that Red Bank / Honey Street is operating well within capacity with no queueing and minimal delay in the AM and PM peak hours.

8.3.6. The 2034 Do-Minimum and Do-Something (App 5 Only) results are reported in Table 8-2.

Table 8-2 – Red Bank / Honey Street: 2034 Do-Minimum and Do-Something (App 5 only)

Arm/Movement	AM Peak (0800 - 0900)			PM Peak (1700 - 1800)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2034 Do-Minimum						
Honey Street	0	0.0	0.0	0	9.01	0.05
Red Bank (South)	0	6.42	0.01	0	4.91	0.01

2034 Do-Something (App 5 Only)						
Honey Street	0	0.0	0.0	0	9.13	0.05
Red Bank (South)	0	6.26	0.01	0	4.88	0.01

8.3.7. The 2034 scenario results show that the junction continues to operate well within capacity with no queueing and minimal delay in both the AM and PM peak hours.

8.3.8. The 2037 Do-Minimum and Do-Something (App 4 Only and App 4 plus App 5) results are reported in Table 8-3.

Table 8-3 – Red Bank / Honey Street: 2037 Do-Minimum and Do-Something

Arm/Movement	AM Peak (0800 - 0900)			PM Peak (1700 - 1800)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2037 Do-Minimum						
Honey Street	0	0.0	0.0	0	9.09	0.06
Red Bank (South)	0	6.43	0.01	0	4.90	0.01
2037 Do-Something (App 4 Only)						
Honey Street	0	0.0	0.0	0	9.26	0.06
Red Bank (South)	0	6.24	0.01	0	4.86	0.01
2037 Do-Something (App 4 plus App 5)						
Honey Street	0	0.0	0.0	0	9.34	0.06
Red Bank (South)	0	6.08	0.01	0	4.83	0.01

8.3.9. The 2037 Do Minimum and Do-Something scenarios show that the junction continues to operate well within capacity with no queueing and minimal delay in both peak periods.

8.3.10. Overall, the results from the junction modelling assessments suggest that the impact of the development traffic on the operation of the junction of Red Bank / Honey Street is minimal.

RED BANK / ROGER STREET / LORD STREET

8.3.11. The junction of Red Bank and Honey Street has been modelled using Junctions 10 software. This is a four-arm priority-controlled junction with Red Bank as the major arm and Roger Street and Lord

Street as the minor arms. Roger Street provides an access point for plots within part of the Application 4 Area.

8.3.12. Table 8-4 provides the results from the 2018 base scenario.

Table 8-4 – Red Bank / Roger Street / Lord Street: 2018 Base

Arm/Movement	AM Peak (0800 - 0900)			PM Peak (1700 - 1800)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2018 Base						
Roger Street	0	8.76	0.02	0	10.16	0.30
Red Bank (North)	0	4.33	0.03	0	4.97	0.02
Lord Street	0	11.58	0.34	2	21.09	0.62
Red Bank (South)	0	5.47	0.16	0	4.54	0.01

8.3.13. The 2018 baseline results suggests that the junction is operating well within capacity with minimal queueing and delay in both peak periods. A maximum RFC of 0.62 is reported in the PM Peak hour on Lord Street and a queue of two PCUs.

8.3.14. The 2034 Do-Minimum and Do-Something (App 5 Only) results are reported in Table 8-5.

Table 8-5 – Red Bank / Roger Street / Lord Street: 2034 Do-Minimum and Do-Something (App 5 Only)

Arm/Movement	AM Peak (0800 - 0900)			PM Peak (1700 - 1800)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2034 Do-Minimum						
Roger Street	0	9.69	0.03	0	11.69	0.36
Red Bank (North)	0	4.19	0.04	0	4.89	0.02
Lord Street	0	14.11	0.43	3	36.61	0.77
Red Bank (South)	0	5.51	0.21	0	4.37	0.02
2034 Do-Something (App 5 only)						

Roger Street	0	9.95	0.03	0	11.85	0.37
Red Bank (North)	0	4.22	0.04	0	4.91	0.02
Lord Street	0	14.70	0.44	3	39.46	0.79
Red Bank (South)	0	5.26	0.23	0	4.26	0.02

8.3.15. The junction capacity results suggest that the junction of Red Bank / Roger St / Lord St continues to operate well within capacity with minimal queueing and delay in 2034 scenarios. The addition of the proposed App 5 traffic has minimal impact on the overall performance of this junction in the AM and PM peak hours.

8.3.16. The 2037 Do-Minimum and Do-Something scenario results are reported in Table 8-6.

Table 8-6 – Red Bank / Roger Street / Lord Street: 2037 Do-Minimum and Do-Something

Arm/Movement	AM Peak (0800 - 0900)			PM Peak (1700 - 1800)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2037 Do-Minimum						
Roger Street	0	9.84	0.03	0	11.99	0.38
Red Bank (North)	0	4.16	0.04	0	4.87	0.02
Lord Street	0	14.67	0.44	4	40.86	0.80
Red Bank (South)	0	5.55	0.22	0	4.35	0.02
2037 Do-Something (App 4 Only)						
Roger Street	0	15.03	0.31	1	19.30	0.56
Red Bank (North)	1	5.19	0.33	0	5.16	0.14
Lord Street	2	27.37	0.68	31	248.09	1.12
Red Bank (South)	1	5.85	0.29	0	4.52	0.12
2037 Do-Something (App 4 plus App 5)						
Roger Street	0	15.57	0.31	1	19.86	0.57

Red Bank (North)	1	5.33	0.34	0	5.18	0.15
Lord Street	2	29.80	0.70	35	275.69	1.14
Red Bank (South)	1	5.65	0.31	0	4.41	0.12

8.3.17. In the AM peak, the junction operates within capacity in the Do-Minimum and Do-Something scenarios, with an increase in RFC from 0.44 in the Do-Minimum to 0.70 in the Do-Something on Lord Street, and an increase in queueing from zero to two PCUs.

8.3.18. In the PM peak, the addition of the development traffic results in an increase in queueing on Lord Street and an RFC of 1.14 in the App 4 plus App 5 scenario, and queueing increases from 4 PCUs on Lord Street in 2037 Do-Minimum to 25 PCUs in the 2037 Do-Something App 4 plus App 5 scenario.

8.3.19. As a result of the above junction capacity results, mitigation has been proposed at this junction for the App 4 scenario. The mitigation includes the widening of the carriageway on Lord Street approaching the junction to provide a two-lane approach with each lane 3m wide. The proposed mitigation is shown on Drawing 70079268-WSP-XX-XX-DR-TP-022 in Appendix K.

8.3.20. The results of the mitigation testing are provided in Table 8-7 for the Do-Something scenarios.

Table 8-7 - Red Bank / Roger Street / Lord Street Mitigation: Do-Something Scenarios

Arm/Movement	AM Peak (0800 - 0900)			PM Peak (1700 - 1800)		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2034 Do-Something (App 5 Only)						
Roger Street	0	9.95	0.03	1	11.85	0.37
Red Bank (North)	0	4.22	0.04	0	4.91	0.02
Lord Street (Ahead and LT)	0	9.66	0.08	0	9.56	0.04
Lord Street (Ahead and RT)	1	14.92	0.39	4	47.38	0.81
Red Bank (South)	1	5.26	0.23	0	4.26	0.02
2037 Do-Something (App 4 Only)						
Roger Street	0	15.02	0.31	1	18.96	0.56
Red Bank (North)	1	5.19	0.33	0	5.16	0.14

Lord Street (Ahead and LT)	0	11.40	0.28	1	15.19	0.33
Lord Street (Ahead and RT)	1	21.35	0.49	9	107.87	0.95
Red Bank (South)	1	5.85	0.29	0	4.52	0.12
2037 Do-Something (App 4 plus App 5 Only)						
Roger Street	1	15.56	0.31	1	19.47	0.57
Red Bank (North)	1	5.33	0.34	0	5.18	0.15
Lord Street (Ahead and LT)	0	11.84	0.29	0	15.55	0.34
Lord Street (Ahead and RT)	1	22.60	0.50	10	122.14	0.97
Red Bank (South)	1	5.65	0.31	0	4.41	0.12

8.3.21. The results show that with the proposed mitigation at this junction there is a reduction in forecast queueing and delay, especially in the PM peak. The suggested queueing on Lord Street in the 2037 app 4 plus app 5 scenario is 35 PCUs without mitigation, this is reduced to 10 PCUs with the proposed mitigation. With the mitigation included, the maximum RFC is 0.97, reported for the 2037 Do Something PM Peak scenario, with forecast traffic associated with both applications 4 and 5 included. Therefore, with the mitigation included the junction will operate within capacity.

8.3.22. The forecast traffic flows represent a worst-case scenario, and measures outlined within the Travel Plan will promote a shift away from private vehicle use, therefore the modelling results provided are represent a highly robust assessment of future junction performance.

CHEETHAM HILL ROAD / LORD STREET

8.3.23. The junction of Cheetham Hill Road / Lord Street has been modelled using LinSig software. This is a four-arm signal-controlled junction, with signalised pedestrian crossing on all four arms.

8.3.24. The 2018 base modelling results shown in Table 8-8 that the junction operates well in both the AM and PM peak, with a PRC of 55.1% in the AM peak and 50.2% in the PM peak. In the AM peak, a MMQ of 11 PCUs is reported on Cheetham Hill Road (North). In the PM peak a MMQ of 9 PCU is reported on Cheetham Hill Road (South).

Table 8-8 – Cheetham Hill Road / Lord Street: 2018 Base

Arm/Movement	AM Peak (0800 - 0900)		PM Peak (1700 - 1800)	
	Queue (PCU)	DoS (%)	Queue (PCU)	DoS (%)
2018 Base				

PRC / Cycle Time	*55.1% / 288 s*		*50.2% / 192 s*	
1/1 Cheetham Hill Road (North) – Left and Ahead	10	50.5	3	27.7
1/2 Cheetham Hill Road (North) – Ahead and Right	11	52.2	4	30.3
2/1 Lord Street (East)	7	57.6	4	58.5
3/1 Cheetham Hill Road (South) – Left and Ahead	7	39.8	9	59.9
3/2 Cheetham Hill Road (South) – Right and Ahead	7	58.0	8	56.2
4/1 Lord Street (West)	1	9.2	2	35.4

8.3.25. The 2034 Do-Minimum and Do-Something (app 5) results are reported in Table 8-9.

Table 8-9 – Cheetham Hill Road / Lord Street: 2034 Do-Minimum and Do-Something (App 5 only)

Arm/Movement	**AM Peak (0800 - 0900)**		**PM Peak (1700 - 1800)**	
	Queue (PCU)	**DoS (%)**	**Queue (PCU)**	**DoS (%)**
2034 Do-Minimum				
PRC / Cycle Time	*-38.4% / 288 s*		*27.1% / 192 s*	
1/1 Cheetham Hill Road (North) – Left and Ahead	11	47.9	4	32.6
1/2 Cheetham Hill Road (North) – Ahead and Right	12	49.5	5	35.2
2/1 Lord Street (East)	61	124.5	6	69.9
3/1 Cheetham Hill Road (South) – Left and Ahead	8	38.4	12	70.8
3/2 Cheetham Hill Road (South) – Right and Ahead	20	124.4	11	66.9
4/1 Lord Street (West)	2	20	3	42.1

2034 Do-Something (App 5 Only)				
PRC / Cycle Time	*-40.3% / 288 s*		*21.6% / 192 s*	
1/1 Cheetham Hill Road (North) – Left and Ahead	10	50.0	4	34.0
1/2 Cheetham Hill Road (North) – Ahead and Right	11	51.6	5	36.5
2/1 Lord Street (East)	65	124.4	6	73.0
3/1 Cheetham Hill Road (South) – Left and Ahead	7	40.1	13	74.0
3/2 Cheetham Hill Road (South) – Right and Ahead	20	126.2	11	69.9
4/1 Lord Street (West)	2	17.2	3	38.3

8.3.26. The results show that in the AM peak, the junction is forecast to operate over capacity in the 2034 Do-Minimum with a PRC -38.4% and queuing on Lord Street and Cheetham Hill Road south reporting the largest increases compared to the 2018 Base scenario. The junction is forecast to operate within capacity in the 2034 Do-Minimum scenario in the PM peak.

8.3.27. With the addition of the Application 5 development traffic the junction the AM peak continues to operate over capacity, however compared to the Do-Minimum the junction performance does not change significantly with overall PRC of -38.4% in the Do-Minimum and -40.3% in the Do-Something.

8.3.28. In the PM peak, the junction continues to operate within capacity with the addition of the Application 5 traffic with an overall PRC of 21.6%.

8.3.29. The 2037 Do-Minimum and Do-Something (Application 4, and application 4 plus application 5) results are reported in Table 8-10.

Table 8-10 – Cheetham Hill Road / Lord Street: 2037 Do-Minimum and Do-Something

Arm/Movement	AM Peak (0800 - 0900)		PM Peak (1700 - 1800)	
	Queue	DoS	Queue	DoS
2037 Do-Minimum				
PRC / Cycle Time	*-60.0% / 288 s*		*23.4% / 192 s*	

1/1 Cheetham Hill Road (North) – Left and Ahead	12	57.9	4	33.2
1/2 Cheetham Hill Road (North) – Ahead and Right	14	59.3	5	35.8
2/1 Lord Street (East)	12	79.8	6	71.5
3/1 Cheetham Hill Road (South) – Left and Ahead	9	46.3	13	72.9
3/2 Cheetham Hill Road (South) – Right and Ahead	27	144.0	11	68.8
4/1 Lord Street (West)	2	12.4	3	43.2
2037 Do-Something (App 4 Only)				
PRC / Cycle Time	*-178.5% / 288 s*		*-0.2% / 192 s*	
1/1 Cheetham Hill Road (North) – Left and Ahead	14	67.8	5	34.3
1/2 Cheetham Hill Road (North) – Ahead and Right	16	69.1	6	36.8
2/1 Lord Street (East)	15	85.1	10	88.7
3/1 Cheetham Hill Road (South) – Left and Ahead	10	54.0	24	90.1
3/2 Cheetham Hill Road (South) – Right and Ahead	84	250.7	15	85.3
4/1 Lord Street (West)	1	9.8	3	40.1
2037 Do-Something (App 4 plus App 5)				
PRC / Cycle Time	*-178.5% / 288 s*		*-3.4% / 192 s*	
1/1 Cheetham Hill Road (North) – Left and Ahead	16	72.9	5	35.5
1/2 Cheetham Hill Road (North) – Ahead and Right	18	74.3	6	37.7

2/1 Lord Street (East)	17	86.6	12	92.2
3/1 Cheetham Hill Road (South) – Left and Ahead	12	58.1	25	93.1
3/2 Cheetham Hill Road (South) – Right and Ahead	84	250.7	15	88.3
4/1 Lord Street (West)	1	8.9	3	37.5

8.3.30. The results in Table 8-9 show that in the AM peak, the junction is forecast to operate over capacity in the AM peak for the 2037 future year scenarios.

8.3.31. In the PM peak, the junction continues to operate within capacity in the 2037 Do-Minimum scenario. The addition of the development traffic results in the junction operating over capacity in the PM peak in the 2037 Do-Something scenarios with the application 4 development only and the application 4 and application 5 proposals.

8.3.32. As a result of the above junction capacity results, mitigation options at the junction have been considered, for the application 4 and application 4 plus 5 scenarios only.

8.3.33. The proposed mitigation is the introduction of an indicative right turn arrow for vehicles travelling from Cheetham Hill Road (south) onto Lord Street (east). This has been introduced into the LinSig modelling of the AM peak only, where the junction was forecast to be operating over capacity. The signal timings in the PM peak have been optimised.

8.3.34. The Do-Something scenarios have been assessed with the proposed mitigation in the AM peak. The modelled output results are provided in Table 8-11.

Table 8-11 – Cheetham Hill Road / Lord Street Mitigation: Do-Something scenarios

Arm/Movement	AM Peak (0800 - 0900)		PM Peak (1700 - 1800)	
	Queue	DoS	Queue	DoS
2034 Do-Something (App 5 Only)				
PRC / Cycle Time	*15.5% / 288 s*		*26.7% / 192 s*	
1/1 Cheetham Hill Road (North) – Left and Ahead	16	76.3%	5	31.8%
1/2 Cheetham Hill Road (North) – Ahead and Right	17	77.7%	6	33.8%
2/1 Lord Street (East)	11	77.9%	8	69.9%

3/1 Cheetham Hill Road (South) – Left and Ahead	9	49.0%	17	71.0%
3/2 Cheetham Hill Road (South) – Right and Ahead	2	42.7%	13	62.9%
4/1 Lord Street (West)	1	10.8%	4	36.6%
2037 Do-Something (App 4 Only)				
PRC / Cycle Time	4.2% / 288 s		3.5% / 192 s	
1/1 Cheetham Hill Road (North) – Left and Ahead	19	85.3%	5	32.1%
1/2 Cheetham Hill Road (North) – Ahead and Right	20	86.4%	6	34.0%
2/1 Lord Street (East)	16	86.0%	12	86.6%
3/1 Cheetham Hill Road (South) – Left and Ahead	10	53.6%	26	87.0%
3/2 Cheetham Hill Road (South) – Right and Ahead	5	76.3%	14	78.9%
4/1 Lord Street (West)	1	9.9%	4	39.2%
2037 Do-Something (App 4 plus App 5 Development)				
PRC / Cycle Time	-1.2 % / 288 s		3.5 % / 192 s	
1/1 Cheetham Hill Road (North) – Left and Ahead	20	90.2%	6	33.1%
1/2 Cheetham Hill Road (North) – Ahead and Right	22	91.1%	6	35.2%
2/1 Lord Street (East)	19	90.6%	13	88.4%
3/1 Cheetham Hill Road (South) – Left and Ahead	10	56.0%	29	89.9%
3/2 Cheetham Hill Road (South) – Right and Ahead	5	76.3%	15	82.3%

4/1 Lord Street (West)	1	9.3%	4	36.0%

8.3.35. The results show that with the proposed mitigation included in the modelling, the junction is forecast to operate better than the Do-Minimum scenarios in the AM peak, suggesting an overall improvement in the operation of this junction. There is a reduction in the forecast queues and delay, suggesting that the proposed mitigation would be beneficial to the operation of this local junction.

DANTZIC STREET / ANGEL STREET

8.3.36. The junction of Dantzic Street / Angel St has been modelled using LinSig software. This is a four-arm signal-controlled junction, with signalised pedestrian crossing on all arms apart from the northern arm. Angel St is one-way in west to east direction.

8.3.37. The results of the 2018 baseline modelling are presented in Table 8-12.

Table 8-12 – Dantzic Street / Angel St: 2018 Base

Arm/Movement	AM Peak (0800 - 0900)		PM Peak (1700 - 1800)	
	Queue	DoS	Queue	DoS
2018 Base				
PRC / Cycle Time	*53.1% / 192 s*		*54.1% / 192 s*	
1/1 Dantzic Street (North)	9	58.8	5	58.3
2/1 Dantzic Street (South)	0	5.0	1	15.9
3/1 Angel St – Ahead and Left	10	55.4	11	56.0
3/2 + 3/3 Angel St – Ahead and Right	11	58.7	14	58.4

8.3.38. The modelling results suggest that the junction of Dantzic Street / Angel St operates well within capacity in the 2018 base scenario with an overall PRC of 53.1% in the AM peak and 54.1% in the PM peak.

8.3.39. The results of the 2034 junction modelling are presented in Table 8-13 for the Do-Minimum and Do-Something (App 5 only) scenarios.

Table 8-13 – Dantzic Street / Angel St: 2034 Do-Minimum and Do-Something

Arm/Movement	AM Peak (0800 - 0900)		PM Peak (1700 - 1800)	
	Queue	DoS	Queue	DoS
2034 Do-Minimum				

PRC / Cycle Time	26.7% / 192 s		26.5% / 192 s	
1/1 Dantzic Street (North)	13	70.6	7	71.2
2/1 Dantzic Street (South)	0	7.6	1	23.3
3/1 Angel St – Ahead and Left	13	68.2	16	68.3
3/2 + 3/3 Angel St – Ahead and Right	15	71.0	20	70.8
2034 Do-Something (App 5 only)				
PRC / Cycle Time	21.3% / 192 s		19.3% / 192 s	
1/1 Dantzic Street (North)	13	74.2	8	75.4
2/1 Dantzic Street (South)	0	8.3	1	24.6
3/1 Angel St – Ahead and Left	13	70.6	18	72.8
3/2 + 3/3 Angel St – Ahead and Right	16	73.6	23	75.4

8.3.40. The modelling results suggest that the junction of Dantzic Street / Angel St operates well within capacity in the 2034 Do-Minimum scenario in both peak hours. The addition of the forecast development traffic associated with the application 5 development, has a relatively minor impact on the overall performance of the junction, with an increase in queuing on some of the arms of 1-3 PCUs.

8.3.41. The results of the 2037 junction modelling are presented in Table 8-14 for the Do-Minimum and Do-Something scenarios.

Table 8-14 – Dantzic Street / Angel St: 2037 Do-Minimum and Do-Something

Arm/Movement	AM Peak (0800 - 0900)		PM Peak (1700 - 1800)	
	Queue	DoS	Queue	DoS
2037 Do-Minimum				
PRC / Cycle Time	23.9% / 192 s		23.5% / 192 s	
1/1 Dantzic Street (North)	13	72.5	7	70.6

2/1 Dantzic Street (South)	0	8.0	1	23.4
3/1 Angel St – Ahead and Left	13	69.8	17	70.4
3/2 + 3/3 Angel St – Ahead and Right	16	72.7	21	72.9
2037 Do-Something (App 4 only)				
PRC / Cycle Time	*13.0% / 192 s*		*15.1% / 192 s*	
1/1 Dantzic Street (North)	17	79.0	9	77.6
2/1 Dantzic Street (South)	0	9.5	1	24.8
3/1 Angel St – Ahead and Left	15	77.6	20	75.8
3/2 + 3/3 Angel St – Ahead and Right	18	79.6	24	78.2
2037 Do-Something (App 4 plus App 5)				
PRC / Cycle Time	*9.4% / 192 s*		*8.6% / 192 s*	
1/1 Dantzic Street (North)	18	82.1	10	81.0
2/1 Dantzic Street (South)	0	10.6	1	26.5
3/1 Angel St – Ahead and Left	16	79.7	23	80.7
3/2 + 3/3 Angel St – Ahead and Right	19	82.3	28	82.9

8.3.42. The results of the junction modelling suggest that in the 2037 Do-Minimum and Do-Something scenarios the junction continues to operate within capacity. In the app 4 plus app 5 scenario, a PRC of 9.4% in the AM peak and 8.6% in the PM peak is suggested by the modelling results.

8.4 SUMMARY

8.4.1. The junction modelling has been undertaken for four junctions local to Red Bank and Dantzic Street.

Redbank / Honey Street

8.4.2. The results show that the Redbank / Honey Street junction is forecast to operate within capacity in the 2034 and 2037 future year assessments both without and with the proposed development traffic across all scenarios (application 4 only, application 5 only, and application 4 plus application 5).

Dantzic Street / Angel Street

8.4.3. The results show that the Dantzic Street / Angel St junction is forecast to operate within capacity in the 2034 and 2037 future year assessments both without and with the proposed development traffic across all scenarios (application 4 only, application 5 only, and application 4 plus application 5).

Redbank / Lord Street / Roger Street

8.4.4. The junction of Redbank / Lord Street / Roger Street is forecast to be over capacity in the PM peak in the 2037 Do-Something scenarios, in either the application 4 only or the combined application 4 and application 5 scenario. It is not over capacity in the application 5 only scenario.

8.4.5. Proposed mitigation at this junction has been assessed for the application 4 and application 4 plus 5 scenarios, and results confirm that widening of the Lord Street arm to two lanes on the approach to this junction will help mitigate the impact of the development traffic at this junction.

8.4.6. With the proposed mitigation included within the modelling, the results show that the junction will continue to operate within capacity for the application 4 only, application 5 only, and application 4 plus application 5 2034 and 2037 future year scenarios assessed.

8.4.7. It is therefore proposed to bring this mitigation measure forward as a mitigation measure for application 4 traffic impacts. It is not proposed to bring this mitigation measure forward if application 5 is approved in isolation.

Cheetham Hill Road / Lord Street

8.4.8. The junction of Cheetham Hill Road / Lord Street is forecast to be over capacity in the AM peak in both the Do-Minimum and Do-Something scenarios, in either the application 4 only or the combined application 4 and application 5 scenario.

8.4.9. The comparison between the 2034 Do-Minimum and Do-Something (Application 5) scenarios show that the impact of the proposed development is relatively minor. The 2037 scenarios also suggest that the junction would be over capacity in the AM peak.

8.4.10. Proposed mitigation at this junction has been assessed for the the application 4 and application 4 plus 5 scenarios. The results confirm that the inclusion of a right turn indicative arrow for vehicles turning right into Lord Street from Cheetham Hill Road will help mitigate the impact of the application 4 development traffic at this junction.

8.4.11. It is therefore proposed to bring this mitigation measure forward as a mitigation measure for application 4 traffic impacts. It is not proposed to bring this mitigation measure forward if application 5 is approved in isolation.

9 SUMMARY

9.1.1. WSP have been commissioned by Far East Consortium (FEC) to produce a Transport Assessment (TA) to support separate outline (application 4) and detailed (application 5) planning applications for proposed residential-led mixed-use development at Red Bank and Dantzic Street, Manchester.

9.1.2. The development site is located north of Manchester Victoria Station and sits between Red Bank and Dantzic Street and is within the wider Victoria North development area.

9.1.3. The proposed development comprises an area subject to detailed planning application (application 5), and a larger area which is subject to an outline planning application (application 4). This TA has assessed both the application 4 and application 5 areas separately, as well as an in-combination assessment.

9.1.4. The detailed area comprises of 1,551 residential units, 2,147 sqm GIA of complementary non-residential uses and 2,145 sqm GIA of clubhouse residential amenity building. The vehicle access to the detailed area is proposed to be via a new priority junction off Dalton Street, and the vehicle egress is proposed to be via a new priority junction onto Dantzic Street.

9.1.5. The outline area comprises up to 3,250 residential units with up to 6,300 sqm GIA of complementary non-residential uses, up to 3,250 sqm GIA of clubhouse residential amenity, up to 3,250 sqm GIA of Health Care use and up to 2,750 sqm of primary school.

9.1.6. The development proposals accord with the national, regional and local transport policy of promoting sustainable development and facilitating means of travel by sustainable modes. The accompanying Framework Travel Plan outlines measures to promote the use of sustainable travel modes to future users of the application sites.

9.1.7. The existing sustainable and active travel conditions surrounding the site and local area have been assessed and the site has been shown to be in a highly sustainable location with access to frequent bus, tram and train services as well as within suitable walking and cycling distance to a range of local facilities and services within Manchester City Centre and the wider area.

9.1.8. The proximity of the site to Manchester City Centre's variety of employment, leisure and retail uses, as well as public transport hubs such as Victoria and Shudehill will encourage non-car travel. This will be further encouraged through high-quality walking and cycling routes within the site, and through the Travel Plan which encourages and promotes non-car use for new residents as they occupy the development plots. The relatively low level of parking provision on-site will also encourage uptake of non-car modes of travel.

9.1.9. A trip generation exercise has been undertaken to forecast the worst-case vehicle trip generation from the site which has been used to inform the junction capacity assessments. The junction capacity assessments have been undertaken to assess the impact of the proposed development on the local highway network. The results show that Dantzic St / Angel St and Red Bank / Honey Street junctions are forecast to operate within capacity in both 2034 and 2037 future year scenarios.

9.1.10. The junction modelling of Cheetham Hill Road / Lord Street, and Red Bank / Lord Street / Roger Street suggest that the junctions will operate over capacity in some of the future year scenarios. Mitigation has been proposed at these junctions and assessed within the local junction models. The results from the modelling show that the proposed mitigation will help mitigate the impact of the

development traffic at this junction and improve the operation of these junctions in the future year scenarios.

9.1.11. Paragraph 111 of the NPPF states that ‘Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network be severe’.

9.1.12. As a result of the above assessment and conclusions, it has been demonstrated that the residual cumulative impacts of development are not severe and there are no overriding reasons to preclude MCC from recognising that the proposals are acceptable in transport terms.

Appendix A

RED LINE BOUNDARY

PUBLIC

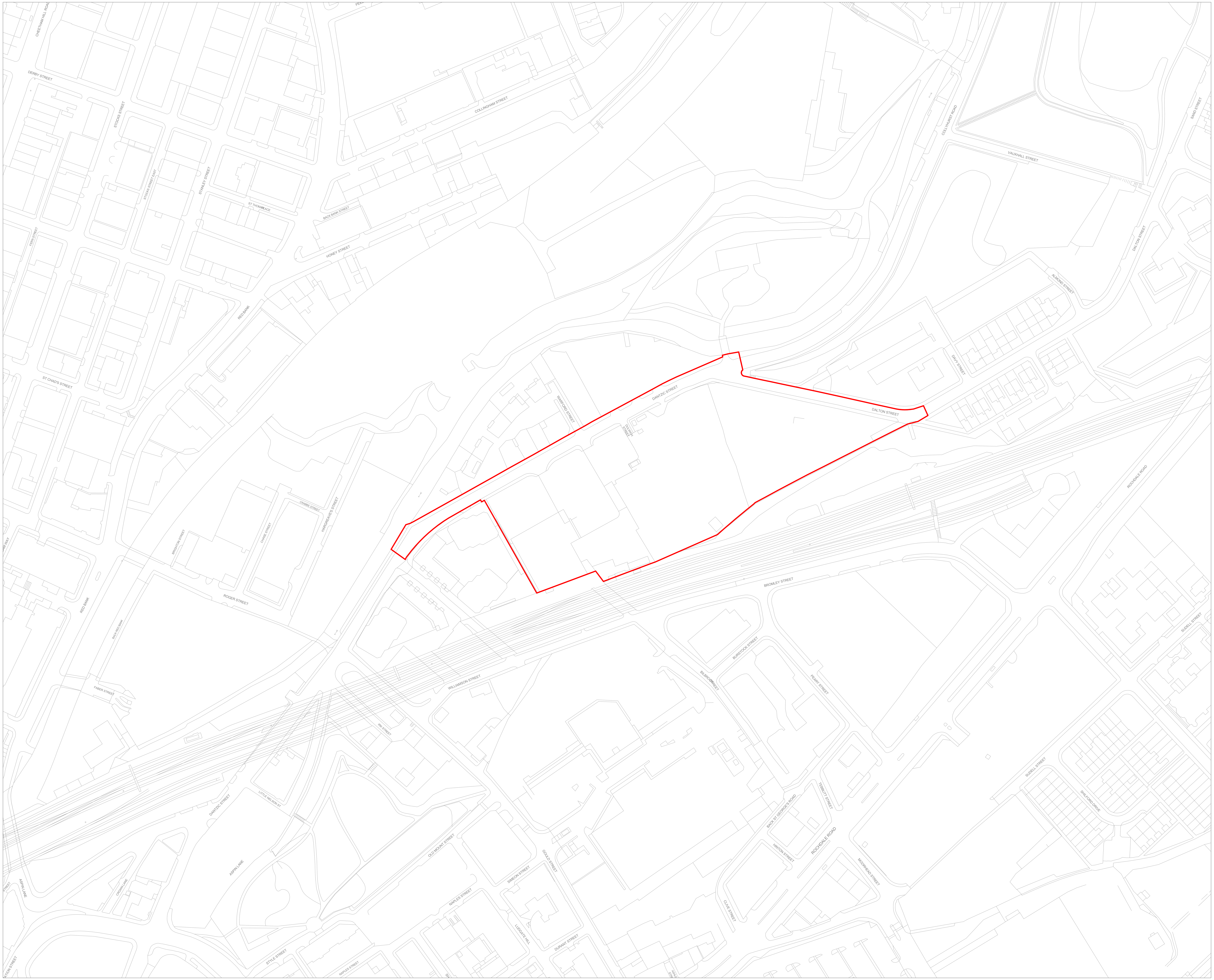
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0 25 75m

Legend

Application boundary



MACCREANOR LAVINGTON

Vijverhofstraat 47
3032 SB Rotterdam
The Netherlands
+31(0)10 443 90 60

Proj. No.	Project	Date
RDB	Red Bank Manchester	12/04/2023

Sheet Name	Client
Sitewide Existing Location Plan	FEC

CDE ID	Scale	Size	Rev.
RDB-MLA-00-XX-DR-AR-00010001	1:1250	A1	P0

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0 25 75m

Legend:

- Outline planning application boundary
- Consented improved green infrastructure works outside outline planning application boundary. Application number: 133143/VO/2022 AREA A
- Consented improved green infrastructure works outside outline planning application boundary. Application number: 133143/VO/2022 AREA B

Rev	Details	Drwn	Chkd	Date
P15.08	S0-Initial Status			13/04/2023
P15.07	S0-Initial Status			13/04/2023
P15.06	S0-Initial Status			12/04/2023
P15.05	S0-Initial Status			04/04/2023
P12.04	S0-Initial Status			30/11/2022
P12.03	S0-Initial Status			28/11/2022
P12.01	S4-Suitable for approval-S2.1			18/11/2022

MACCREANOR LAVINGTON
Vijverhofstraat 47
3032 SB Rotterdam
The Netherlands
+31(0)10 443 90 60

Proj. No. 524
Project Red Bank Manchester
Status S0-Initial Status
Sheet Name Existing Site Plan
Client FEC
CDE ID RDB-MLM-00-RF-DR-AR-111002
Scale 1:1250
Size A1
Rev. P15.08

Appendix B

TA SCOPING

PUBLIC

Introduction

WSP are appointed by Far East Consortium (FEC) to provide transport planning support to the masterplanning and planning application process for the Redbank and Dantzic Street development, part of the wider Northern Gateway masterplan area within central Manchester. FEC are bringing forward residential-led development in the area as part of a joint venture with Manchester City Council (MCC).

This note sets out the proposed scope of the Transport Assessment and Travel Plan which will be produced to support the planning applications for residential-led development within the Redbank and Dantzic Street area.

Background

The development proposals build upon the principles established within both the Strategic Regeneration Framework for the Norther Gateway area (Feb 2019) and more specifically upon the parameters within the Northern Gateway Initial Development Area Transport Strategy (Mar 2019). Reference to conformance with these documents is made within this scoping note.

Development in this area is supported and enabled by a package of infrastructure works funded by MCC's successful application to the Housing Infrastructure Fund. These works are currently being designed by a separate design team (led by Arup) on behalf of MCC as client. The design for these works has now reached RIBA Stage 3 and a planning application for the works has recently been submitted to MCC, ref 133143/VO/2022. These works are described as follows:

> *"Creation of development platforms, including remediation and earthworks, and change in site levels, to allow delivery of future residential-led development at the Red Bank Neighbourhood, together with the construction of a new road and priority junction from Red Bank, new drainage infrastructure, utility and services connections and diversions, preparatory tree and shrub clearance, and demolition of certain existing structures, along with the creation of new and improved green infrastructure and landscaping including the improvements of St Catherine's Wood to form part of a City River Park, and other associated works."*

WSP and the wider FEC design team have worked closely with the HIF design team to ensure consistency between the infrastructure works and the development masterplan, and this work will continue as the FEC planning application is developed.

The exact application procedure and timescales for the FEC planning application are still being agreed. However at present it is envisaged that an outline planning application for the entire Redbank and Dantzic Street site will be submitted in October 2022. A detailed planning application for three plots (NT02, 03 and 04) will then follow in December 2022. The site boundary and plot references can be seen in the 'Development Proposals' section of this note.

The site location and proposed red line boundary for the FEC outline planning application is shown in Figure 1 below, taken from Macreanor Lavington drawing RDB-MLM-00-XX-DR-AR-009002 which is appended to this note.

Figure 1 - Site Location Plan



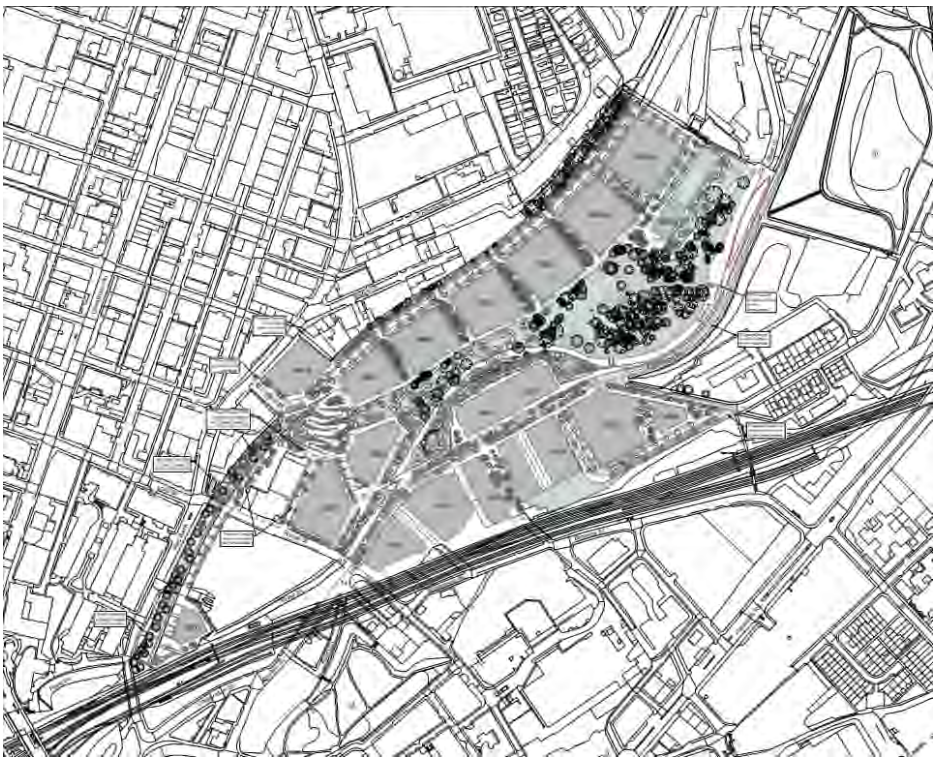
Development Proposals

The masterplan is split into a number of development plots as defined within the illustrative masterplan (Figure 2) and illustrative landscape masterplan (Figure 3) below. These are taken from Macreanor Lavington drawing RDB-SPG-XX-XX-PL-LA-1000 and Schulze + Grassov drawing RDB-SPG-XX-XX-PL-LA-1000 which are appended to this note.

Figure 2 – Illustrative Masterplan



Figure 3 – Illustrative Landscape Masterplan



The masterplan is of a scale to encourage internal trips, and this is facilitiated through complementary uses to the main residential uses, such as a primary school and local retail facilities. Where travel off-site occurs, the proximity of Manchester city centre, including the variety of leisure, retail and employment uses, plus public transport hubs such as Shudehill and Victoria, will encourage non-car travel wherever possible.

The masterplan has evolved to offer convenient and direct walking and cycling routes to and through the site, including the proposals to enhance Dantzic Street to offer a safer and more welcoming environment for active travel.

Vehicle access is taken from Redbank (via the new junction proposed as part of the HIF works), Roger Street, and Dantzic Street.

The overall quantum of development proposed equates to 4,387 homes, distributed as follows:

Plot	Homes (no.)	Other uses
NT02	575	1,089sqm car park, 367sqm commercial unit
NT03	293	448sqm car park, 438sqm commercial unit
NT04	589	774sqm car park, 1,132sqm commercial unit
RB01	239	679sqm commercial unit
RB02	176	-
RB03	189	-
RB04	203	-
RB05A	416	1,096sqm car park, 1,335sqm clubhouse

RB05B	-	1,824sqm social infrastructure
RB06	285	754sqm commercial unit, 1,824sqm clubhouse
RB07	318	1,590sqm car park, 1,204sqm commercial unit
RB10	481	257sqm commercial unit
RB12B	134	1,301sqm car park, 791sqm commercial unit
RB16	247	569sqm car park, 1,251sqm commercial unit, 580sqm social infrastructure
RB17	242	776sqm commercial unit

Car parking is to be provided at a level of circa 10% across the site, in accordance with the parameters set out in the previous SRF and Transport Strategy. Electric vehicle parking will be provided at 20% initially, with passive provision made for 100% provision in the future. Cycle parking will be provided at a 100% ratio. Disabled parking and loading bays will be provided in accordance with relevant local standards and likely demand.

Transport Assessment

The Transport Assessment will be a thorough document produced in line with guidance included in the Government's *'Transport evidence bases in plan making and decision taking'* comprising the following proposed chapters:

1. **Introduction:** Will set out the required background, scope and methodology information, as well as the document purpose.
2. **Existing Conditions:** This will include existing conditions for active travel, public transport, highway network and traffic congestion issues. It will include a road safety section, which will review local accident records within the local area over the previous five years and identification of any trends, with a description of how the development will mitigate against any road safety impacts.

   To establish the baseline traffic conditions, it is proposed to use the traffic surveys undertaken as part of the 2019 Transport Strategy produced by Arup on behalf of MCC. It is assumed relevant survey data can be made available to us. It is considered this remains relevant due to the data being only three years old, and the intervening period of Covid having potentially reduced traffic flows, therefore resulting in a worst-case robust assessment.
3. **Proposed Development:** A description of the development, including on site highway design and layout, access and car parking. This will include relevant design principles including how active travel will be prioritised and encouraged.
4. **Policy Review:** This section will consist of a review of all relevant policy and description of how the development complies with national, regional and local policies.
5. **Trip Generation and Distribution:** A multi-modal trip generation exercise will be undertaken, taking into account factors such as the nature of uses on the site (e.g. primary school which will eliminate some off-site trips), the proximity to Manchester city centre, and the limited level of on-site parking.
6. **Active Travel and Sustainable Transport Strategy:** This chapter will include a description and assessment of existing and proposed provision for pedestrians, cyclists and public transport. There will also be an

assessment of opportunities for travel to the site on foot, by cycle or public transport, and a description of how the development will enhance the provision for travel by these modes. We will produce annotated site context plans in recognition of the above.

7. **Emergency Vehicle, Servicing and Refuse Strategy:** This chapter will include the quantum and types of emergency, servicing and refuse vehicles likely to access the site and include swept path drawings showing how these vehicles will be able to access/egress the site

8. **Traffic Capacity Assessment:** It is noted that the Arup Transport Strategy tested the capacity impact of a total of 5,078 homes (5,557 total minus 479 for consented plot NT01), which is in excess of the 4,387 proposed within the FEC masterplan. The Arup Transport Strategy concluded following capacity modelling that:

   "Within both the AM and PM peak the trips generated by Northern Gateway Initial Development Area are not forecast to create additional capacity issues that are not currently observed within the base scenarios."

   Accordingly it is proposed to draw upon the findings of this Trnasport Strategy and that on that basis no additional traffic modelling or capacity assessment is required within this TA.

9. **Summary:** This final chapter will summarise the key points of the Transport Assessment.

Travel Plan

This would be a stand-alone document setting out measures to encourage sustainable (i.e. non-car) travel to the development by residents and visitors. It will form a framework of potential measures, covering both residential uses and the ancillary uses.

A Full Travel Plan would be produced at the time of occupation of each development plot, based upon the measures within this framework.

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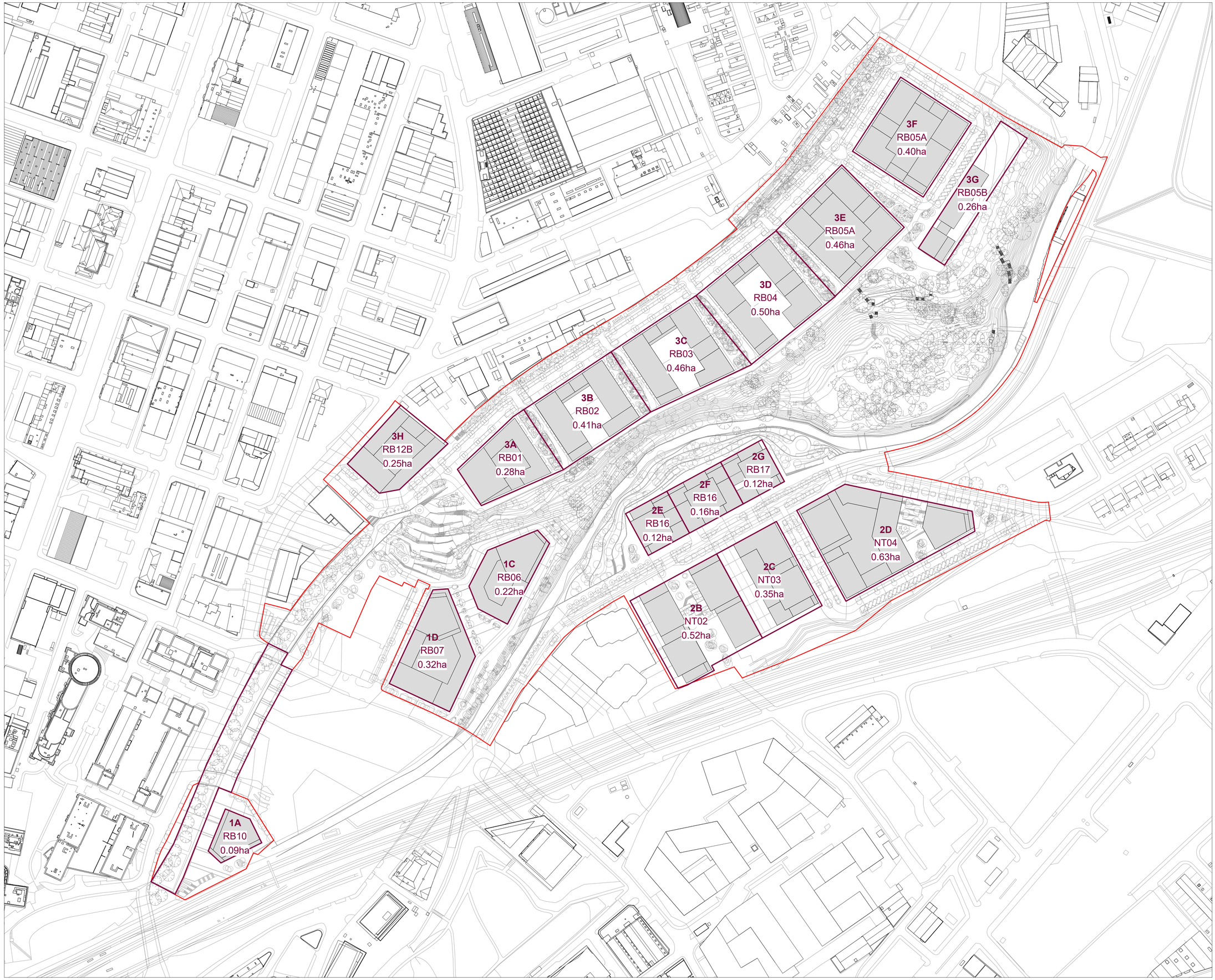
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0 25 75m

Rev	Details	Drwn	Chkd	Date
P07.01	S4-Suitable for approval-S2			28/01/2022

MACCREANOR LAVINGTON
Vijverhofstraat 47
3032 SB Rotterdam
The Netherlands
+31(0)10 443 90 60

Proj. No. 524
Project Red Bank Manchester
Status S4-Suitable for approval-S2
Sheet Name Existing Site Plan
FEC
CDE ID RDB-MLM-DR-AR-009002
Scale 1:1250
Size A1
Rev. P07.01



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Rev	Details	Drwn	Chkd	Date
P07.01	S4-Suitable for approval-S2			28/01/2022
P06.01	S3-Suitable for review and comment-S2 DF			10/12/2021
P05.11	S0-Initial Status			06/12/2021
P05.10	S0-Initial Status			26/11/2021
P05.07	S0-Initial Status			19/11/2021
P05.06	S0-Initial Status			15/11/2021

MACCREANOR LAVINGTON
Vijverhofstraat 47
3032 SB Rotterdam
The Netherlands
+31(0)10 443 90 60

Proj. No. 524
Project Red Bank Manchester
Status S4-Suitable for approval-S2
Sheet Name Illustrative Masterplan
FEC
CDE ID RDB-MLM-00-XX-DR-AR-019180
Scale 1:1250
Size A1
Rev. P07.01

Do not scale from this drawing. Verify all dimensions on site. Drawing should be read in conjunction with information from all other design consultants and contractors. All drawings in digital format are for reference only, paper copies are available on request.

Note:
Drawing based on partial GPR survey information received and design is subject to further coordination and design development.

Location Key:

1. Red Bank Square
2. Ridge View Promenade
3. Creamline Junction
4. Plateau Avenue
5. Plateau Green Fingers
6. Travis Island Bridge
7. Dantzic Street
8. Bromley St. link
9. Collyhurst Road
10. St. Catherine's Square
11. Biodiversity Corridors
12. St. Catherine's Wood (HIF proposal currently shown and subject to further development).
13. Union Waterfront
14. Union Square
15. Existing Bridges
16. Proposed Bridge
17. Lowry Steps
18. Lowry Wood
19. Peachstone Henge
20. Active Viaduct
21. Red Bank Viaduct
22. Back Red Bank
23. Brewery Square
24. Angel Meadow Park

Legend:

- Site Boundary
- +XX.XX Key Levels
- Existing Tree
- Proposed Tree
- Proposed Soft Landscape

0 25 50 75 N

Revision	Description	Date	Drawn by	Checked by

Project title: Red Bank, Manchester
Project No. 524
Scale & Format: 1:1000 / A0
Title: Illustrative Landscape Masterplan
Date: 2021.12.10
Phase: RIBA Stage 2
Drawn by: TA
Checked by: AN
Rev. -
Drawing No. RDB-SPG-XX-XX-PL-LA-1000

SCHULZE GRASSOV
Niels Ebbesens vej 11
1911 Frederiksberg C
Denmark

Trip Rate and Trip Generation Technical Note

DATE:	31 August 2022	**CONFIDENTIALITY:**	Public
SUBJECT:	Redbank and Dantzic Street Trip Rates and Trip Generation		
PROJECT:	70079268 – Redbank, Manchester	**AUTHOR:**	PN
CHECKED:	HB	**APPROVED:**	JO

INTRODUCTION

This Technical Note sets out the approach to trip rates and trip distribution for the proposed development within the Redbank and Dantzic Street area of Manchester. The TA Scoping Note issued by WSP (08/04/22) includes further detail on the development proposals and outlines the scope of the Transport Assessment which will be produced to support the development proposals. This technical note has been prepared following the request by TfGM at the scoping meeting held with Manchester City Council highways officers and TfGM on 21 July.

WSP have obtained trip rates for the proposed development taking into account the proposed parking provision, the site's city centre location and the overall sustainable nature of the proposed development. The distribution of development traffic has been forecast based on 2011 Journey to Work Census data. The development trips have been assigned to the local highway network and the proportional impact of the proposed development trips has been assessed at local junctions.

PROPOSED LAND USES

The proposals at Redbank and Dantzic Street are for a residential-led development which will include the following land uses (subject to change):

- Residential 4,387 units (apartments, mix of 1-bed, 2-bed and 3-bed)
- Primary School 1,824 sqm
- Commercial units 7,649 sqm (257 to 1251 sqm unit range)
- Clubhouse 1,335 sqm and 1,824 sqm
- Social Infrastructure 580 sqm 1,824 sqm

The Masterplan is split into a number of development plots and is of a scale to encourage internal trips, facilitated through complementary uses to the main residential use, such as the primary school and local retail facilities.

For the trip generation calculations, it is assumed that the commercial units are ancillary use to the residential units, with small commercial units associated with ten of the residential development plots. The proposed commercial units range from 257 sqm to 1,251 sqm in size and are therefore provided to serve the future residents within the Masterplan area. It is therefore not anticipated that these units would attract external vehicle trips.

The clubhouse and social infrastructure within the Masterplan area are also assumed to be complementary to the residential use, with future residents using these facilities provided on-site. It is therefore not anticipated that these land uses would attract external vehicle trips.

The primary school is provided to serve future residents of the site; however it is acknowledged that a proportion of trips to the primary school will be associated with pupils and staff living external to the site. To provide a robust worst-case assessment of primary school trips, no reduction in primary school trips has been applied to the trip generation for this land use.

Trip Rate and Trip Generation Technical Note

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RESIDENTIAL TRIP GENERATION

There are approximately 4,387 residential units included in the Redbank and Dantzic Street proposals. Subject to finalisation of the Masterplan, a maximum of 10% parking provision is proposed across the site. This would result in a maximum of 439 car parking spaces.

The TRICS database has been used to obtain representative trip rates for the proposed residential development. The following criteria were used to obtain multi-modal sites from TRICS:

- Residential: Flats Privately Owned
- Sites in Greater London an Ireland excluded
- Parking Provision of less than one space per dwelling
- Edge of Town Centre Locations (No Town Centre sites available within TRICS using above criteria)

The full TRICS report is provided in Appendix A. Table 1 outlines the residential per person trip generation.

Table 1: Residential Per Person (All Modes) Trip Generation

	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)		
	Arr.	**Dep.**	**Total**	**Arr.**	**Dep.**	**Total**
Person Trip Rate (Per Dwelling)	0.105	0.398	0.503	0.383	0.254	0.637
Trip Generation	461	1,746	2,207	1,680	1,114	2,795

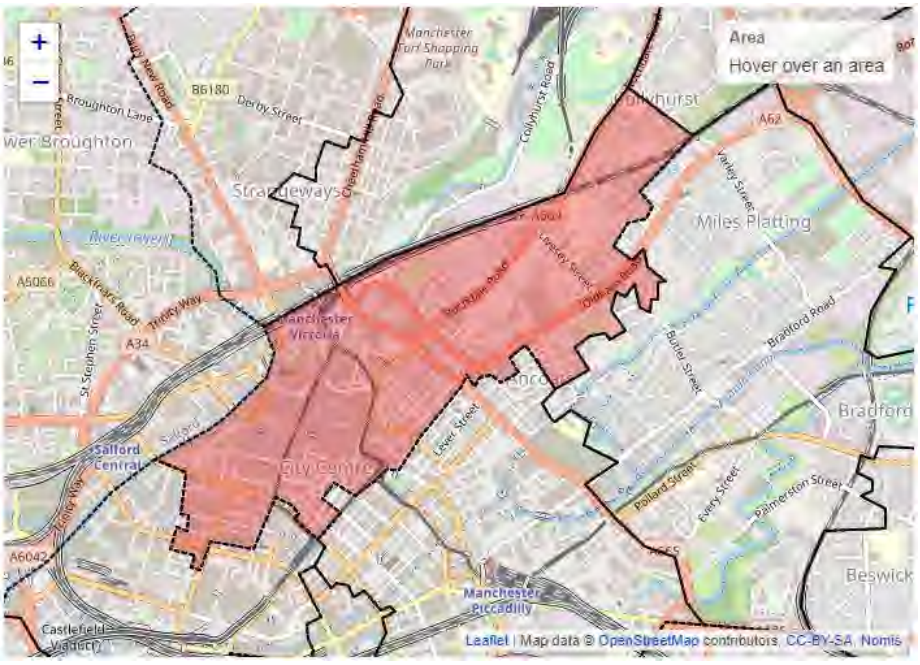
The 4,387 units are proposed to generate 2,207 person trips in the morning peak and 2,795 person trips in the evening peak. The proximity of the site to Manchester City Centre's variety of employment, leisure and retail uses, as well as public transport hubs such as Victoria and Shudehill will encourage non-car travel. This will be further encouraged through high-quality walking and cycling routes within the site, and through a Travel Plan which will encourage and promote non-car use for new residents as they occupy the development plots.

The existing mode share for journeys to work was obtained from the 2011 Census Data for the Manchester City Centre Middle Super Output Area (MSOA), Manchester 054, which is adjacent to the development site. It is considered this is a robust estimate, given that the 2011 data predates a number of public transport and active travel schemes such as the Bee Network infrastructure, which will have further increased non-car mode share during this time. The Manchester 054 MSOA, as shown on Figure 1, has been used as a representative area which covers parts of Manchester City Centre including the area surrounding Manchester Victoria, as well as parts of the Northern Quarter, Ancoats and NOMA which have similar residential developments to that proposed at Redbank.

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Figure 1: Manchester 054 MSOA Location



The mode shares for different methods of travel are shown in Table 2.

Table 2: Census Journey to Work Mode Share – Manchester 054

Mode of Travel	Mode Share
Public Transport	27%
On foot	48%
Cycle	3%
Car Driver	19%
Car Passenger	2%
Other	1%

Journeys by foot account for almost half (48%) of all journeys and public transport accounts for just over a quarter (27%). The proportion of trips by car driver is 19% of all trips, while cycle (3%), car passenger (2%) or other (1%) account for the remining trips.

The mode share for car drivers has been applied to the multi-model trip rates to obtain vehicle trip rates for the proposed residential units. Table 3 outlines the residential vehicle trip generation.

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Table 3: Residential Vehicle Trip Generation

	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)		
	Arr.	**Dep.**	**Total**	**Arr.**	**Dep.**	**Total**
Trip Rate (Per Dwelling)	0.020	0.077	0.098	0.074	0.049	0.124
Trip Generation	89	339	428	326	216	542

The residential dwellings proposed as part of the Redbank and Dantzic Street development are forecast to generate 428 two-way vehicle trips in the morning peak hour and 542 two-way vehicle trips in the evening peak hour.

This represents a worst-case scenario as the level of parking provision on-site will encourage further uptake of non-car modes.

PRIMARY SCHOOL TRIP GENERATION

A primary school with gross floor area of 1,824m^2 is proposed within the Masterplan area.

The following TRICS criteria were used to filter representative sites:

- Education – Primary
- Edge of Town Centre and Suburban Locations (No Town Centre locations within database)
- Sites in Greater London an Ireland excluded

The full TRICS report is provided in Appendix A. Table 4 outlines the primary school vehicle trip generation.

Table 4: Primary School Vehicle Trip Generation

	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)		
	Arr.	**Dep.**	**Total**	**Arr.**	**Dep.**	**Total**
Trip Rate (Per GFA/100)	4.566	1.604	6.170	0.132	0.415	0.547
Trip Generation	83	29	112	2	8	10

The primary school proposed as part of the development is forecast to generate 112 two-way vehicle trips in the morning peak hour and 10 two-way vehicle trips in the evening peak hour. Due to the lack of town centre sites within the TRICS database for this land use, the proposed trip generation is a robust worst-case scenario, which doesn't take into account the city centre location or the potential for internal trips to/from the school by future residents of the development.

Trip Rate and Trip Generation Technical Note

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TOTAL VEHICLE TRIP GENERATION

Table 5 summarises the total vehicle trip generation forecast for the development proposals. A total of 540 two-way vehicle trips are forecast in the morning peak hour and 552 two-way vehicles in the evening peak hour.

Table 5: Total Vehicle Trip Generation

	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)		
	Arr.	**Dep.**	**Total**	**Arr.**	**Dep.**	**Total**
Residential	89	339	428	326	216	542
Primary School	83	29	113	2	8	10
Total	**172**	**368**	**540**	**328**	**224**	**552**

VEHICLE TRIP DISTRIBUTION

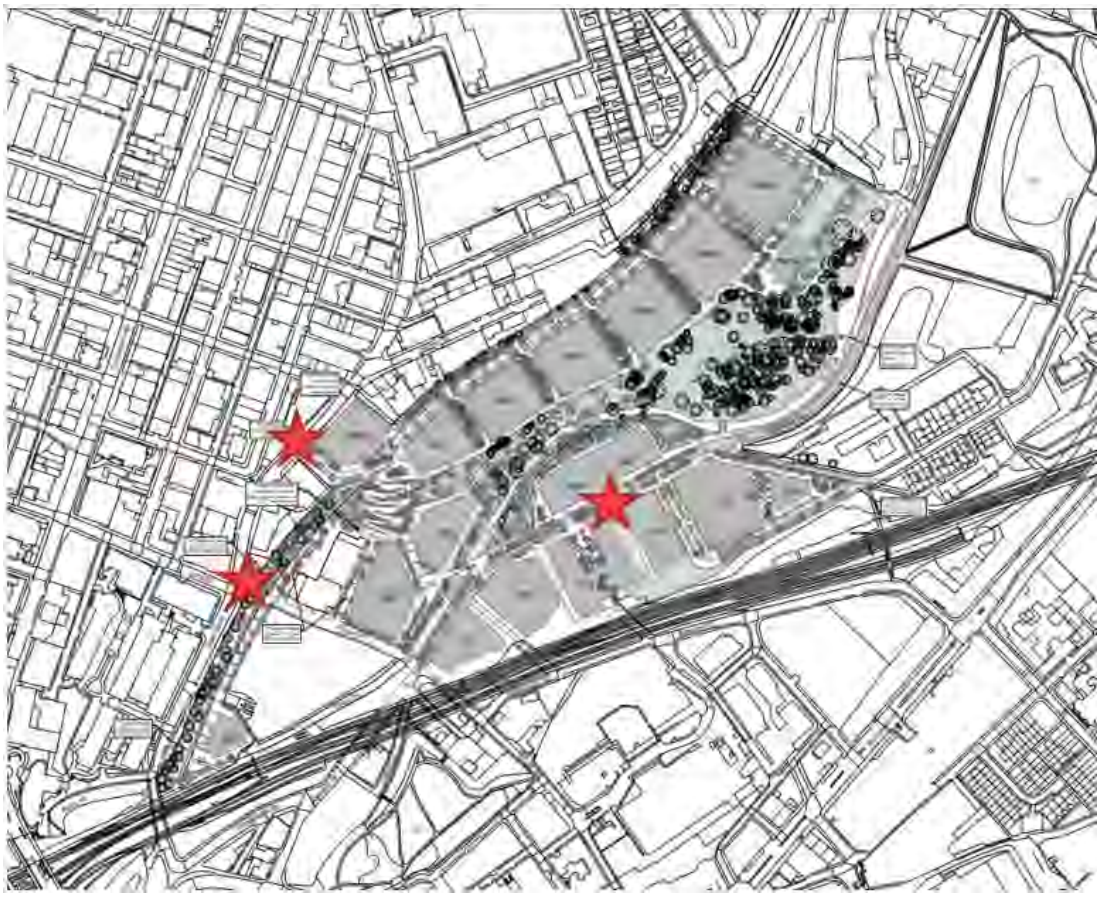
There are three vehicle access points proposed within the proposed development area; Dantzic Street, Plateau Avenue and Roger Street, as indicated on the illustrative masterplan provided in Figure 2. The illustrative masterplan is taken from Schulze + Grassov drawing RDB-SPG-XX-XX-PL-LA-1000 which is appended to the TA Scoping Note.

Each access point will be used to serve different residential plots. Table 6 summarises the vehicle access point for each residential plot.

Trip Rate and Trip Generation Technical Note

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Figure 2: Access points annotated on Illustrative Masterplan



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Table 6: Access point for residential plots

Residential Plot	Total number of residential dwellings	Access Point
NT02	575	Dantzic Street
NT03	293	Dantzic Street
NT04	589	Dantzic Street
RB01	239	Plateau Avenue
RB02	176	Plateau Avenue
RB03	189	Plateau Avenue
RB04	203	Plateau Avenue
RB05A	416	Plateau Avenue
RB06	285	Roger Street
RB07	318	Roger Street
RB10	481	Roger Street
RB12B	134	Plateau Avenue
RB16	247	Dantzic Street
RB17	242	Dantzic Street
Total	**4387**	

Table 7 summarises the percentage of residential trips using each of the access points.

Table 7: Percentage of trip distribution to access points

Access Point	Total number of residential dwellings	Percentage of trip distribution
Dantzic Street	1946	44%
Plateau Avenue	1357	31%
Roger Street	1084	25%
Total	**4387**	**100%**

All trips to and from the Primary School will use the Plateau Avenue access.

Trip Rate and Trip Generation Technical Note

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TRIP DISTRIBUTION

Census data (2011) has been used to obtain the likely distribution of vehicle trips to/from the site. Journey to Work data has been obtained using Manchester 054 Middle Super Output Area (MSOA) as a representative origin location.

Table 8 outlines the percentage distribution of trips to various local authority areas. Full details of the census data are provided in Appendix B. Table 8 shows that 35% of trips are to locations within Manchester, 10% to Trafford and 10% to Salford, 5% to both Bury and Stockport, and 4% to Oldham, Tameside and Cheshire East.

Table 8: Journey to Work Distribution

Local Authority Area	Percentage of trips to Local Authority Area
Manchester	35%
Trafford	10%
Salford	10%
Bury	5%
Stockport	5%
Oldham	4%
Tameside	4%
Cheshire East	4%
Warrington	3%
Bolton	2%
Rochdale	2%
Other Local Authorities (<2%)	15%
Total	**100%**

Using google maps routing, the development trips have been assigned to various routes on the local highway network. Table 9 summarises the proportion of development trips assigned to each route.

Trip Rate and Trip Generation Technical Note

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Table 9: Development Traffic Assignment

Route	Percentage of trips
North St and Elizabeth St (N)	10%
North St and Cheetham Hill Road (N)	2%
Bury New Road (N)	9%
A6042 Ring Road (W)	44%
Great Ancoats St (SE)	24%
Rochdale Road / Oldham Road (N)	10%
Total	**100%**

The trip generation outlined in Table 3 has been assigned to the local highway network based on the site access outlined in Table 6 and routeing summarised in Table 9. Traffic flow diagrams showing the forecast development traffic on the local highway network are provided in Appendix C.

SURVEYED TRAFFIC FLOWS

Arup instructed Nationwide Data Collection (NDC) to undertake manual classified counts to inform the Northern Gateway Initial Development Area Transport Strategy produced in March 2019. Surveys were conducted on Tuesday 11th December 2018. The survey hours were between 0700 to 1000 and 1600 to 1900 hours.

Table 10 lists the junctions which were included within the surveys. Traffic flow diagrams showing the peak hour traffic flows obtained from these surveys is provided in Appendix C.

Table 10: Junctions in the manual classified count survey

Junction ID	Junction Name
Site 1	Red Bank / Honey Street
Site 2	Cheetham Hill Road / Knowsley Street
Site 3	Red Bank / Roger Street / Lord Street
Site 4	Cheetham Hill Road / Lord Street
Site 5	Cheetham Hill Road / Trinity Way
Site 6	Cheetham Hill Road / Aspin Lane / Miller Street / Corporation Street

Trip Rate and Trip Generation Technical Note

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Site 7	Angel Street / Dantzic Street
Site 8	Rochdale Road / Swan Street
Site 9	Rochdale Road / Angel Street
Site 10	Gould Street / Rochdale Road
Site 11	Bromley Street / Rochdale Road / Livesey Street

DEVELOPMENT TRAFFIC PROPORTIONAL IMPACT

To assess the impact of the development traffic on the surveyed junctions, the proportional impact has been calculated comparing the total surveyed flows with the proposed development traffic. Table 11 shows the percentage impact of the development traffic flows during AM and PM peak.

Table 11: Proportional Impact Table

Junction	AM PEAK			PM PEAK		
	Survey Flows	Development Flows	% Impact	Survey Flows	Development Flows	% Impact
Redbank/Honey St	623	140	23%	571	89	16%
Cheetham Hill Rd/ Knowsley St	1,617	0	0%	1,868	0	0%
Redbank/Roger St/Lord St	1,086	344	32%	1,113	275	25%
Cheetham Hill Rd/Lord St	1,936	219	11%	2,185	178	8%
Cheetham Hill Rd/Trinity Way	3,523	240	7%	3,930	254	6%
Cheetham Hill Rd/Aspin Ln/Miller St/Corporation St	2,787	63	2%	3,469	157	5%
Angel St /Dantzic St	1,404	153	11%	1,647	211	13%
Rochdale Rd/Swan St	2,553	42	2%	2,556	80	3%
Rochdale Rd/Angel St	2,448	90	4%	2,616	55	2%
Gould St/Rochdale Rd	1,258	0	0%	1,366	0	0%
Bromley St/Rochdale Rd/Livesey S	1,715	0	0%	1,846	0	0%

Trip Rate and Trip Generation Technical Note

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Table 11 shows that the largest proportional impact is forecast at the junctions along Redbank. The total junction flows at Redbank / Honey St are forecast to increase 23% in the morning peak and 16% in the evening peak. The junction of Redbank / Roger St / Lord St is forecast to increase 32% in the morning peak and 25% in the evening peak. The junctions of Angel St / Dantzic St and Cheetham Hill Rd / Trinity Way are also forecast to have an increase in traffic flows of more than 10% as a result of the forecast development traffic.

Proposed Junction Modelling

Based on the above analysis, the following junctions will be assessed using local junction modelling software within the Transport Assessment:

- Redbank/Honey St
- Redbank/Roger St/Lord St
- Cheetham Hill Rd/Lord St
- Angel St /Dantzic St

Trip Rate and Trip Generation Technical Note – Response to TfGM Comments

DATE:	06 October 2022	**CONFIDENTIALITY:**	Public
SUBJECT:	Response to TfGM Comments		
PROJECT:	70079268 – Redbank, Manchester	**AUTHOR:**	PN
CHECKED:	HB	**APPROVED:**	JO

INTRODUCTION

WSP produced a Technical Note outlining the proposed approach to trip rates and trip generation for the proposed development within the Redbank and Dantzic Street area of Manchester. This note was issued to TfGM on 31st August 2022 and was prepared following the request by TfGM at the scoping meeting held with Manchester City Council highways officers and TfGM on 21st July 2022.

WSP received comments from TfGM via email sent to Andy Connell (MCC) on 13th September 2022. This note addresses the comments provided from TfGM Highways.

TfGM Comment 1: Residential trip rates are acceptable.

Noted, the residential trips rates presented in the Trip Rate Tech Note will be used as representative trip rates within the Transport Assessment.

TfGM Comment 2: The trip generation element for the education quantum of the development uses multi modal vehicle trips rather than people trips. This methodology should be revised and kept consistent with the trip generation exercise carried out for the residential element. People trip rates should be determined and then scaled by the relevant modal share. If there is no relevant modal share available we would suggest average trip rates are used for the school.

Using the TRICS multi-modal surveys as per the Trip Rate Tech Note, the resulting mode share of trips to/from primary school in the morning are as follows:

- Walk 48%
- Vehicle occupants 37% (Cars – 33%)
- Public Transport – 13%
- Cycle 2%

The DfT National Travel Survey dataset NTS0613 (Trips to and from School per child per year by main mode: England) provides mode share for children aged 5-10. However, this does not provide a split between vehicles and vehicle occupants. The 2021 data shows the following mode share for trips to / from primary school:

- Walk 51%
- Car/Van 45%
- Cycle 1%
- Bus 3%

The DfT dataset does not include details on the number of vehicle occupants, as provided by the TRICS database. Due to the nature of the land use multiple occupancy vehicle trips are likely to be higher than average due to car sharing between pupils. Similar mode shares for walking and cycling are obtained using

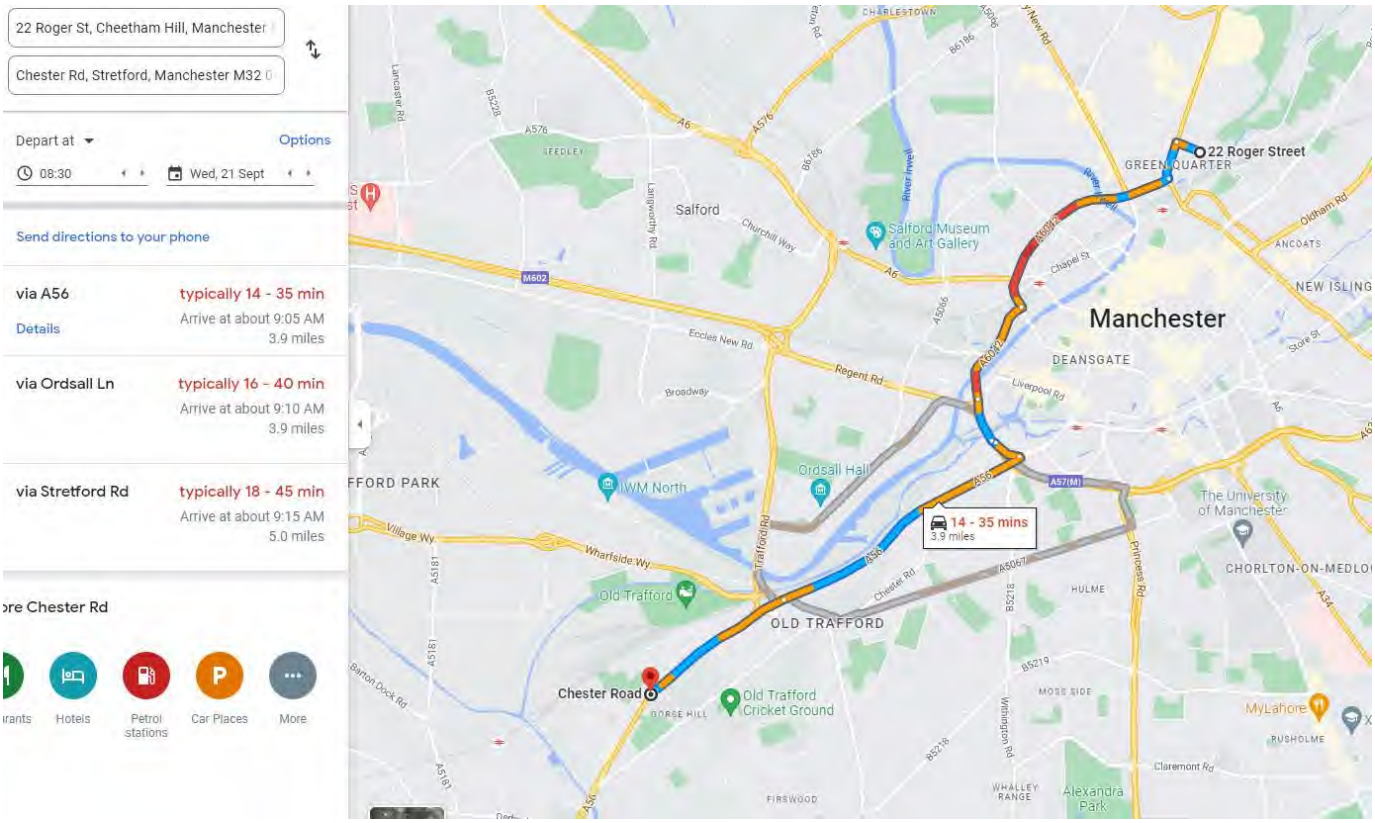
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the TRICS surveys and NTS dataset, suggesting that the multi-modal trip rates used are representative of a typical mode share for this journey type. Therefore, it is proposed that the average primary school trip rates as presented in the Trip Rate Tech Note are to be used.

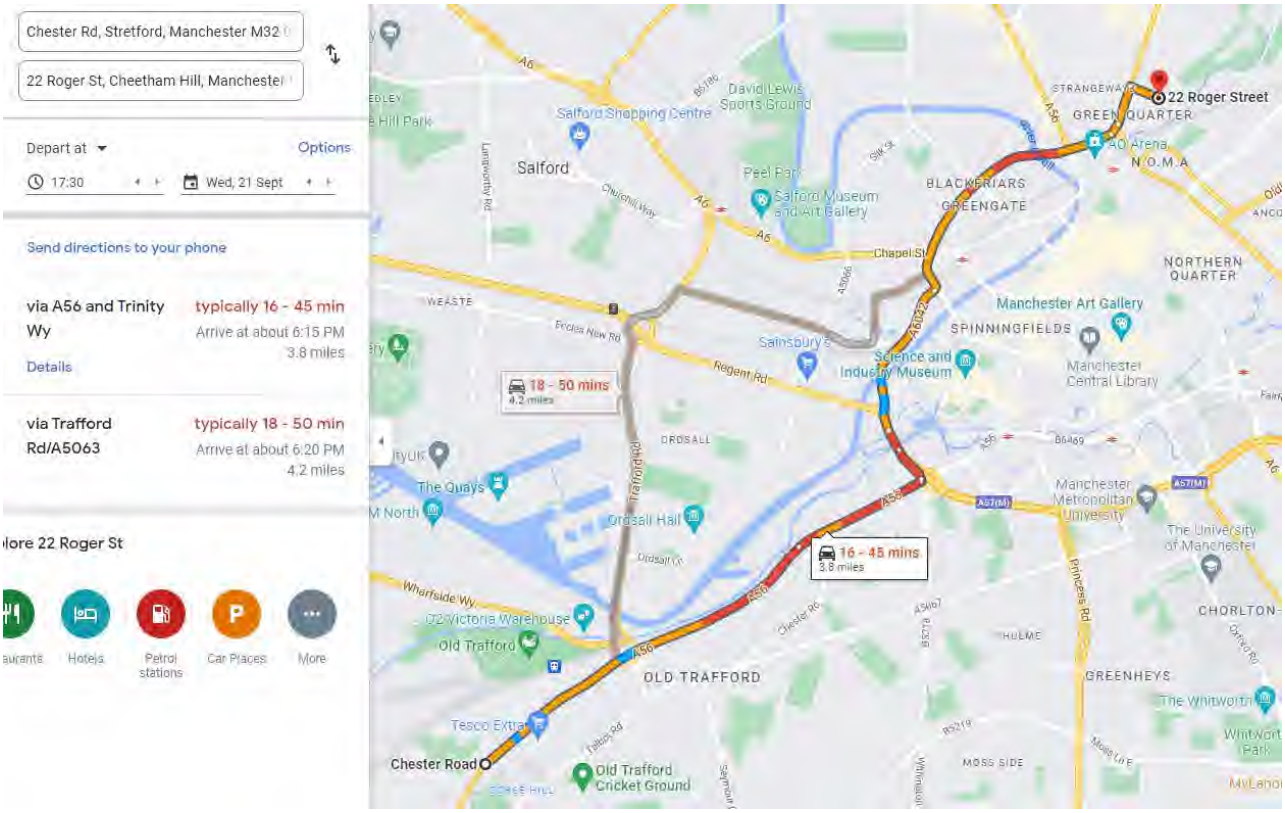
TfGM Comment 3: More information should be provided in relation to the trip distribution exercise. We would request that the google outputs for the quickest route between the development site and Trafford and Salford. This would enable TfGM to spot check the process and validate it.

Google routing was used to provide typical directions between the site and the various locations during typical peak hours. Below shows routes to Trafford and Salford during morning and evening peak times.



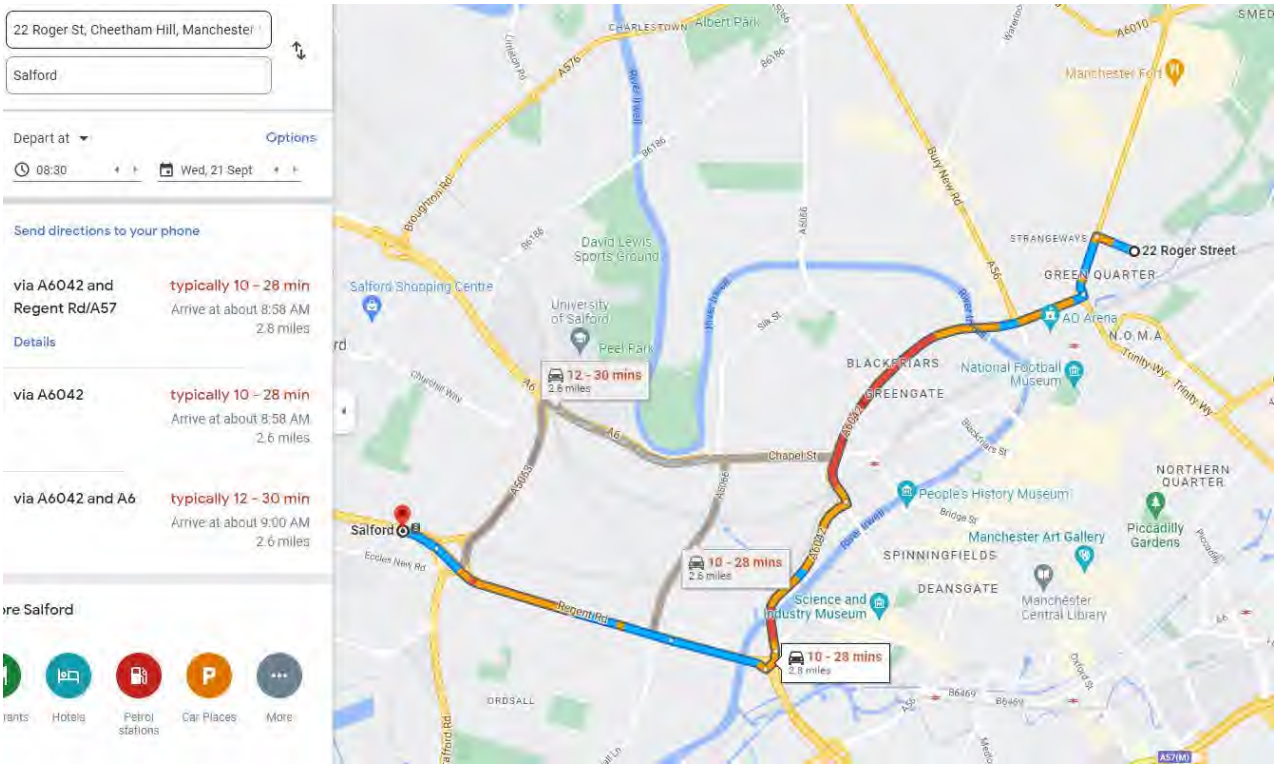
Trip Rate and Trip Generation Technical Note – Response to TfGM Comments

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SUBJECT:	Response to TfGM Comments		
PROJECT:	70079268 – Redbank, Manchester	**AUTHOR:**	PN
CHECKED:	HB	**APPROVED:**	JO



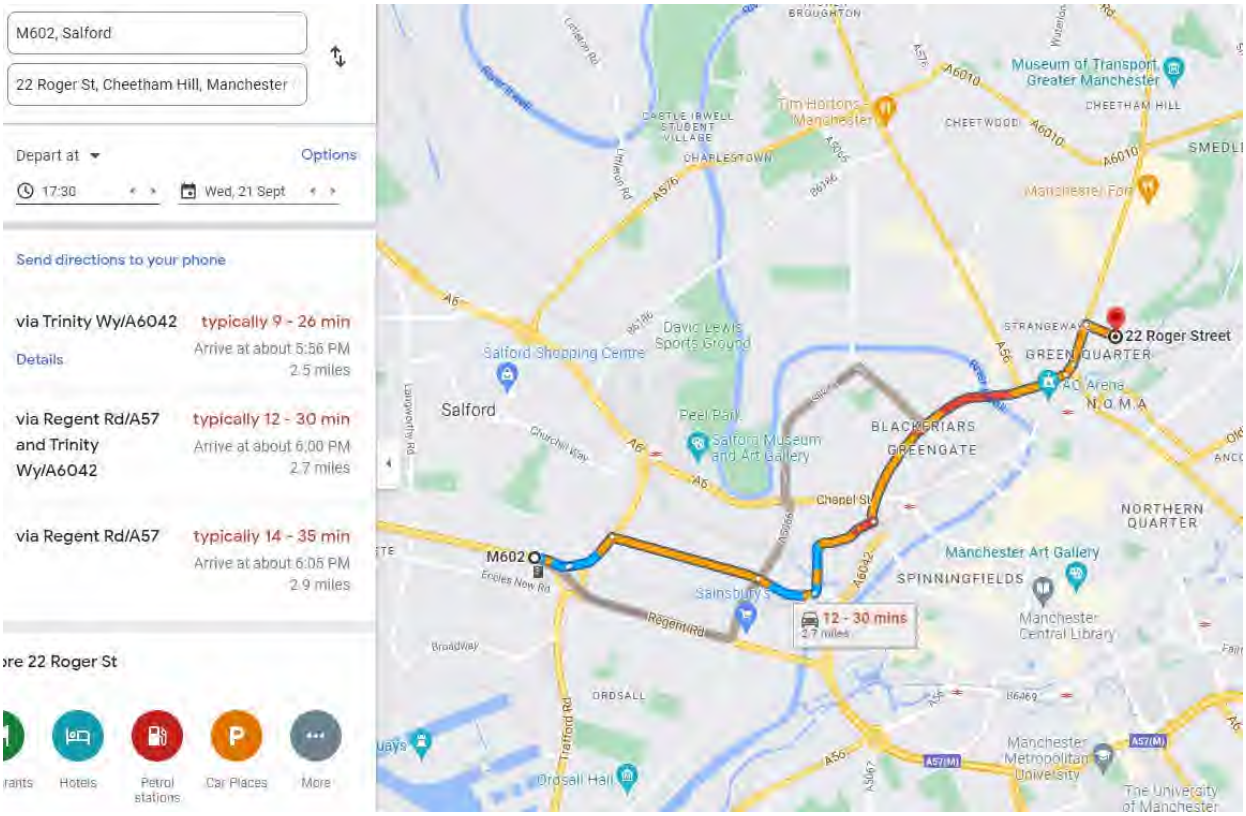
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TfGM Comment 4: In terms of junction assessments, the total development flow diagrams provided should extend to those junctions which experience an increase of more than 30 vehicles per hour. The diagrams provided so far would indicate that other junctions along the A6042 would experience an increase of over 30 vehicles per hour. Local junction modelling should be carried out to understand the impact of the scheme based on the 30 vph threshold generated by the development.

To assess the impact of the development traffic on the surveyed junctions, the proportional impact was calculated comparing the total surveyed flows with the proposed development traffic. This information was provided in the Trip Rates Tech Note.

As noted in the Trip Rate Tech Note the following junctions are forecast to increase by over 10% in the peak hours as a result of the addition of the development traffic and therefore are suggested to be assessed:

- Redbank/Honey St
- Redbank/Roger St/Lord St
- Cheetham Hill Rd/Lord St
- Angel St /Dantzic St

The proportional impact of development traffic on links at the furthest extent of the presented traffic flow diagram have also been calculated for the peak hours as summarised below:

Table 1: Proportional Impact Table – Road Links

Road Link	AM PEAK			PM PEAK		
	Survey Flows	Development Flows	% Impact	Survey Flows	Development Flows	% Impact
A6042 Trinity Way	2,680	236	9%	2,787	241	9%
Angel Street EB (one-way)	1,065	90	8%	1,441	55	4%
Swan Street WB (one-way)	1,385	42	3%	1,497	80	5%
Red Bank	610	100	16%	581	89	15%

Table 1 shows that the largest proportional impact is forecast along Red Bank. The total two-way flows on Red Bank, to the north of the proposed site access, are forecast to increase 16% in the morning peak and 15% in the evening peak. It is noted that the survey flows on Red Bank are relatively low with 610 PCUs in

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the morning peak and 581 PCUs in the evening peak, therefore the percentage impact of the development on this link is relatively higher than the busier roads within the City Centre.

Higher baseline flows were recorded on the A6042 Trinity Way, to the west of its junction with Cheetham Hill Road, with surveyed flows of 2,680 PCUs in the morning peak and 2,787 PCUs in the evening peak. The forecast increase in two-way traffic flows on A6042 Trinity Way, west of Cheetham Hill Road, is 9% in the morning peak and 9% in the evening peak.

To the eastern extent of the traffic study area, a forecast increase on Angel Street of 8% in the morning peak and 4% in the evening peak. On Swan Street, there is a forecast increase of 3% in the morning peak and 5% in the evening peak.

This forecast level of increase on Swan Street, Angel Street and Trinity Way is within typical day-to-day traffic variation.

TfGM Comment 5: TfGM would suggest that the count raw data be provided so that the peak hours are validated. It isn't clear from the info provided if the peak hours selected are those identified in TRICS or the counted flows.

WSP can provide the traffic count raw data which was collected by Nationwide Data Collection. The surveys were previously used by Arup to inform traffic capacity assessment in their Transport Strategy report for Red Bank Neighbourhood project.

The peak hours for the total forecast trip generation of the proposed development (residential and education) from the TRICS surveys are 0800-0900 in the morning and 1700-1800 evening peak. These peak hours are used in our Technical Note to assess the peak hours where the development will have the maximum impact on the local highway. The peak hours used also correspond with those assessed by Arup within their Transport Strategy report.

Barrett, Hannah

From: Outterside, James
Sent: 31 August 2022 14:40
To: Andy Connell; Richard Dolphin; Claire Smallman; Neil Bayliss-Rowe; riccardo.boncinelli@tfgm.com
Cc: Barrett, Hannah
Subject: RE: Redbank & Dantzic St - TA scoping
Attachments: Trip Rate Tech Note - Redbank and Dantzic St.pdf

Riccardo / all,

Further to our scoping meeting last month in relation to the Redbank and Dantzic St scheme, please find attached a short technical note covering the proposed trip generation and distribution, and suggested scope of traffic assessment arising from this. I would welcome any comments in due course.

Best regards,
Jim.

From: Outterside, James
Sent: 22 July 2022 12:00
To: Andy Connell <andy.connell@manchester.gov.uk>; Richard Dolphin <richard.dolphin@tfgm.com>; Claire Smallman <Claire.Smallman@tfgm.com>; Neil Bayliss-Rowe <neil.bayliss-rowe@manchester.gov.uk>; riccardo.boncinelli@tfgm.com
Subject: RE: Redbank & Dantzic St - TA scoping

Hi all,

Thanks for your time yesterday, it was a really useful session. I've noted down key comments / actions below just for the record.

1. JO gave general overview of WSP's scope, remit, extent of applications, application timescales. Outline app for entire masterplan anticipated Dec 2022, detailed app for NT02,03,04 plus Dantzic St in Mar 2023.
2. Discussion re the recent HIF infrastructure works approval which include the junction onto Redbank and the 'Plateau Avenue' street.
3. AC noted the following:
    a. He has recommended possible signal control at the HIF Redbank junction in the future, to create a site gateway and allow better ped and cycle crossing facilities.
    b. He has also recommended traffic calming on Redbank to support delivery of a 20mph zone, specifically between Knowsley St and Roger St. WSP expressed support for 20mph principles.
4. Noted that Dantzic St design discussions (e.g. carriageway width) are ongoing with TfGM. Key issue is the likelihood of buses using Dantzic St in the future, TfGM currently undertaking a study on this.
5. AC supportive of removal of on-street parking along Dantzic St.
6. Dantzic St would need to retain loading bays, disabled parking and car club bays. Disabled bays at a standard to accord with core strategy (this is a key issue for local ward members). Car club bays, JO to engage with Enterprise Car Club re quantum (Candice Turner).
7. Discussion re adoption of Plateau Ave. AC not supportive of on-street parking along Plateau Ave if it is to be adopted. Current working principle with HIF team is that this would remain private.
8. EV charging, to be provided at 20% minimum for apartments, 7KWh minimum. Passive provision for 100%.
9. Trip generation and distribution. **ACTION – JO** to submit information covering the following:
    a. Census data for trip distribution.
    b. TRICS for trip generation.
    c. Suggested extent of local junction modelling based on the above.
    d. Suggested traffic surveys.

e. Suggested modelling methodology / software packages.

Noted that we would wish to avoid new data collection and re-run of the area wide model.

10. Pedestrian linkages to city centre beneath railway viaducts on Redbank and Dantzic St. WSP to investigate potential to improve lighting and / or widen footways.
11. Road Safety Audit Stage 1 for Dantzic St elements would be useful. WSP to commission external independent auditor at appropriate time.
12. Refuse vehicle tracking, AC requested use of 11.2m length vehicle. WSP confirmed this has been used to date.
13. AC referred WSP to the GD04 document regarding refuse vehicle parameters, travel distances, walk distances.

Any further comments please let me know.

Thanks,
Jim.

-----Original Appointment-----
From: Outterside, James
Sent: 19 July 2022 09:06
To: Outterside, James; Andy Connell; Richard Dolphin; Claire Smallman; Neil Bayliss-Rowe; riccardo.boncinelli@tfgm.com
Subject: Redbank & Dantzic St - TA scoping
When: 21 July 2022 11:00-12:30 (UTC+00:00) Dublin, Edinburgh, Lisbon, London.
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Barrett, Hannah

From: Outterside, James
Sent: 06 October 2022 14:04
To: Barrett, Hannah
Subject: FW: KRN Ref. 22/417 - Redbank & Dantzic St

From: Andy Connell <andy.connell@manchester.gov.uk>
Sent: 15 September 2022 09:13
To: Outterside, James <James.Outterside@wsp.com>
Cc: Landuse <Landuse@tfgm.com>
Subject: Fw: KRN Ref. 22/417 - Redbank & Dantzic St

Hi James, I'm not sure whether you've already received these TfGM comments in relation to your trip rate note dated 31/8/22 so I thought I'd send them just in case.

Regards,

Andy Connell.

Traffic Engineer, Highways Service, Neighbourhoods Directorate

(Working Times Monday to Thursday 0700 - 1600)

CURRENTLY WORKING FROM HOME

Works mobile: 07949 611265

E-mail: andy.connell@manchester.gov.uk

Web: http://www.manchester.gov.uk

From: Landuse <Landuse@tfgm.com>
Sent: 13 September 2022 1:31 PM
To: Andy Connell <andy.connell@manchester.gov.uk>
Cc: Landuse <Landuse@tfgm.com>
Subject: KRN Ref. 22/417 - Redbank & Dantzic St

Hello Andy,

Please find copied below Highways comments on the recent technical note issued by the consultants for this development:

Residential trip rates are acceptable.

The trip generation element for the education quantum of the development uses multi modal vehicle trips rather than people trips. This methodology should be revised and kept consistent with the trip generation exercise carried out for the residential element. People trip rates should be determined and then scaled by the relevant modal share. If there is no relevant modal share available we would suggest average trip rates are used for the school.

More information should be provided in relation to the trip distribution exercise. We would request that the google outputs for the quickets route between the development site and Trafford and Salford. This would enable TfGM to spot check the process and validate it.

In terms of junction assessments, the total development flow diagrams provided should extend to those junctions which experience an increase of more than 30 vehicles per hour. The diagrams provided so far would indicate that other junctions along the A6042 would experience an increase of over 30 vehicles per hour. Local junction modelling should be carried out to understand the impact of the scheme based on the 30 vph threshold generated by the development.

TfGM would suggest that the count raw data be provided so that the peak hours are validated. It isn't clear from the info provided if the peak hours selected are those identified in TRICS or the counted flows.

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Barrett, Hannah

From: Claire Smallman <Claire.Smallman@tfgm.com>
Sent: 15 November 2022 18:22
To: Barrett, Hannah
Cc: Andrew Connell
Subject: RE: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Follow Up Flag: Follow up
Flag Status: Completed

Hi Hannah

Colleagues within UTC are happy with the conclusions relating to the junctions which should be modelled.

Please can you request the stage appearance logs from UTC to ensure that the frequency of the demand dependent stages are correctly modelled.

Just to highlight that the date on the document is still 31st August 2022 and doesn't acknowledge the subsequent discussions – just for any future submissions.

Kind regards

Claire Smallman
Infrastructure Development Officer
Transport for Greater Manchester

2 Piccadilly Place, Manchester M1 3BG
E-mail claire.smallman@tfgm.com
www.tfgm.com

TfGM supports working flexibly. If I contact you outside your usual working hours then please reply when it's convenient for you.

From: Barrett, Hannah <Hannah.Barrett@wsp.com>
Sent: 09 November 2022 13:20
To: Claire Smallman <Claire.Smallman@tfgm.com>
Subject: RE: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi Claire,

Thanks. As previously suggested we have asked Andy Connell at Manchester to comment on our proposals and as per the attached he suggest TfGM guidance on this is appropriate. Therefore please can you pass on the below information for further review and please can you confirm that TfGM are happy with our proposed scope and our justification for this.

Using percentage impact approach we have analysed the proportional impact of 11 nearby junctions. As per Table 11 of the Trip Rate Tech Note attached, we have identified the following junctions as suitable for junction capacity assessments:

- Redbank/Honey St
- Redbank/Roger St/Lord St

- Cheetham Hill Rd/Lord St
- Angel St/Dantzic St

These junctions have been suggested for assessment as the development traffic will result in an increase in traffic flows by 10% or over in the AM and/or PM peak hours. For the other junctions considered in Table 11, there is less than 10% increase in traffic flows resulting from the forecast development trips.

Please can you confirm that based on the above/attached, you consider the scope of assessment reasonable. We would appreciate confirmation of this at this stage to avoid potential changes in the required in scope later in the review process.

Many Thanks,
Hannah

Hannah Barrett
Senior Engineer (Development Planning)

WSP in the UK
8 First Street
Manchester
M15 4GU

T +44 (0)161 200 1704

From: Claire Smallman <Claire.Smallman@tfgm.com>
Sent: 03 November 2022 14:47
To: Barrett, Hannah <Hannah.Barrett@wsp.com>
Subject: RE: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi Hannah

I've just had a quick chat with Richard Dolphin and he's happy for you to look at the percentage increase at each junction and justify from that which junctions you are proposing to model.

Kind regards

Claire Smallman
Infrastructure Development Officer
Transport for Greater Manchester

2 Piccadilly Place, Manchester M1 3BG
E-mail claire.smallman@tfgm.com
www.tfgm.com

TfGM supports working flexibly. If I contact you outside your usual working hours then please reply when it's convenient for you.

From: Barrett, Hannah <Hannah.Barrett@wsp.com>
Sent: 03 November 2022 13:37
To: Claire Smallman <Claire.Smallman@tfgm.com>
Subject: RE: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi Claire,

Have you received any further feedback on our TA scoping from UTC colleagues yet?

Many Thanks,
Hannah

Hannah Barrett
Senior Engineer (Development Planning)

WSP in the UK
8 First Street
Manchester
M15 4GU

T +44 (0)161 200 1704

From: Claire Smallman <Claire.Smallman@tfgm.com>
Sent: 27 October 2022 16:03
To: Barrett, Hannah <Hannah.Barrett@wsp.com>
Subject: RE: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Thank you Hannah, that's much appreciated I'll pass on to UTC colleagues.

Kind regards

Claire Smallman
Infrastructure Development Officer
Transport for Greater Manchester

2 Piccadilly Place, Manchester M1 3BG
E-mail claire.smallman@tfgm.com
www.tfgm.com

TfGM supports working flexibly. If I contact you outside your usual working hours then please reply when it's convenient for you.

From: Barrett, Hannah <Hannah.Barrett@wsp.com>
Sent: 27 October 2022 16:01
To: Claire Smallman <Claire.Smallman@tfgm.com>
Subject: RE: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi Claire,

The junctions indicated on the plan as exceeding 30vph include the below:

- Cheetham Hill Road/ Elizabeth St/ North St
- Cheetham Hill Road/ Derby Street
- Cheetham Hill Road/ Lord Street
- Cheetham Hill Road/ Trinity Way

- Redbank/Roger St/Lord St
- Redbank/Derby St
- Rochdale Rd / Swan St / Shudehill / Trinity Way
- Corporation Street / Trinity Way
- Dantzic St / Angel St
- Angel St / Rochdale Rd
- Dantzic St / Corporation St
- Dantzic St / Dalton St / Collyhurst Rd
- Dalton St / Rochdale Rd / Osbourne St

Many Thanks,
Hannah

Hannah Barrett
Senior Engineer (Development Planning)

WSP in the UK
8 First Street
Manchester
M15 4GU

T +44 (0)161 200 1704

From: Claire Smallman <Claire.Smallman@tfgm.com>
Sent: 27 October 2022 15:23
To: Barrett, Hannah <Hannah.Barrett@wsp.com>
Subject: RE: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi Hannah

Thank you for the updated information. Colleagues within UTC have asked if you are able to provide the junctions in a list format as you did previously within the report?

Kind regards

Claire Smallman
Infrastructure Development Officer
Transport for Greater Manchester

2 Piccadilly Place, Manchester M1 3BG
E-mail claire.smallman@tfgm.com
www.tfgm.com

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From: Barrett, Hannah <Hannah.Barrett@wsp.com>
Sent: 26 October 2022 15:53
To: Claire Smallman <Claire.Smallman@tfgm.com>

Cc: Outterside, James <James.Outterside@wsp.com>
Subject: RE: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi Claire,

Thanks for your comments. We've undertaken an exercise which expands the traffic flow diagrams to include additional junctions and indicated the level of development traffic along key routes to/from the development. If you could please review the attached and provide any further comments, we'd be happy to discuss the approach further.

On the attached the annotations are as follows:

- Blue Stars indicate junctions where 30vph threshold is exceeded
- Red crosses indicate junctions where 30vph threshold is not is exceeded
- Green lines – links with less than 30vph of development traffic
- Orange lines – links with more than 30vph of development traffic on key routes to/from the wider area

Many Thanks,
Hannah

Hannah Barrett
Senior Engineer (Development Planning)

WSP in the UK
8 First Street
Manchester
M15 4GU

T +44 (0)161 200 1704

From: Claire Smallman <Claire.Smallman@tfgm.com>
Sent: 26 October 2022 14:37
To: Barrett, Hannah <Hannah.Barrett@wsp.com>
Subject: FW: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi Hannah

Further to the below, I've just had a quick chat with colleagues in UTC and they have requested that the assessment exercise already completed is repeated but using the 30 vph threshold instead. UTC will then review the list and confirm which junctions need to be modelled in liaison with the LHA, as it won't necessarily require that all those junctions above 30vph need modelling dependent on site specific circumstances.

Kind regards

Claire Smallman
Infrastructure Development Officer
Transport for Greater Manchester

2 Piccadilly Place, Manchester M1 3BG
E-mail claire.smallman@tfgm.com
www.tfgm.com

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From: Claire Smallman
Sent: 26 October 2022 13:25
To: Barrett, Hannah <Hannah.Barrett@wsp.com>
Subject: RE: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi Hannah

I've spoken with colleagues within HFAS and UTC and it is considered that as we are an advisory consultee, discussions surrounding the acceptable methodology, with reference to the 30vph threshold, ideally need to take place with the Statutory Authority. From TfGM's perspective, we've issued our comments which are consistent with the advice we provide across all of Greater Manchester and we would therefore refer you to the LHA to engage in further discussions.

Kind regards

Claire Smallman
Infrastructure Development Officer
Transport for Greater Manchester

2 Piccadilly Place, Manchester M1 3BG
E-mail claire.smallman@tfgm.com
www.tfgm.com

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From: Barrett, Hannah <Hannah.Barrett@wsp.com>
Sent: 21 October 2022 13:12
To: Claire Smallman <Claire.Smallman@tfgm.com>
Cc: Outterside, James <James.Outterside@wsp.com>; andy.connell@manchester.gov.uk; Riccardo Boncinelli <Riccardo.Boncinelli@tfgm.com>
Subject: FW: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi Claire,

Thanks for providing the below comments on the Redbank scoping note. We note your comments regarding the 30vph threshold and think it would be helpful to have a discussion in order to agree the scope of the assessment. Please can you let us know if you are available for a teams call to discuss this at any of the following times:

- Tuesday 25th Oct – between 12:00 and 17:00
- Wednesday 26th Oct– between 3:30 and 17:00
- Thursday 27th Oct –between 09:00 and 14:00

Many Thanks,
Hannah

Hannah Barrett

Senior Engineer (Development Planning)

WSP in the UK
8 First Street
Manchester
M15 4GU

T +44 (0)161 200 1704

From: Outterside, James <James.Outterside@wsp.com>
Sent: 20 October 2022 08:44
To: Barrett, Hannah <Hannah.Barrett@wsp.com>
Subject: FW: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

From: Andy Connell <andy.connell@manchester.gov.uk>
Sent: 20 October 2022 08:38
To: Outterside, James <James.Outterside@wsp.com>
Cc: Landuse <Landuse@tfgm.com>
Subject: Fw: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi James.

Please find attached further TfGM comments for your consideration.

Regards,

Andy Connell.

Traffic Engineer, Highways Service, Neighbourhoods Directorate

(Working Times Monday to Thursday 0700 - 1600)

CURRENTLY WORKING FROM HOME

Works mobile: 07949 611265

E-mail: andy.connell@manchester.gov.uk

Web: http://www.manchester.gov.uk

From: Claire Smallman <Claire.Smallman@tfgm.com>
Sent: 20 October 2022 8:20 AM
To: Andy Connell <andy.connell@manchester.gov.uk>
Subject: FW: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi Andy

Please see amended comments below.

Kind regards

Claire

From: Landuse
Sent: 19 October 2022 14:05
To: Andy Connell <andy.connell@manchester.gov.uk>
Subject: FW: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi Andy

Colleagues from within TfGM HFAS and UTC have provided comments on the latest set of documents as follows:

- The contents of the report are noted and the responses to TfGM comments 1, 2 and 3 are accepted.

- TfGM comment 4 – the threshold to be applied should be 30 vehicles per peak hour (due to development). The exercise should be repeated using the 30 vehicles p/h threshold as indicated previously rather than a percentage base assessment.

  It is noted that the consultants have produced link percentage changes, this does not provide details on the turning proportion changes at the junctions. It is unclear why link tables have been produced at this stage rather than using traffic flow figures from the development at each junction. The data produced would imply there are other junctions where the flows are higher than thirty vehicles per peak hour due to the development.

- The Technical Note states that*, "This forecast level of increase on Swan Street, Angel Street and Trinity Way is within typical day-to-day traffic variation,"* TfGM would highlight that there is no supporting evidence to validate this statement.

Kind regards

Claire Smallman
Infrastructure Development Officer
Transport for Greater Manchester

2 Piccadilly Place, Manchester M1 3BG
E-mail claire.smallman@tfgm.com
www.tfgm.com

TfGM supports working flexibly. If I contact you outside your usual working hours then please reply when it's convenient for you.

From: Barrett, Hannah <Hannah.Barrett@wsp.com>
Sent: 06 October 2022 16:37
To: Landuse <Landuse@tfgm.com>; andy.connell@manchester.gov.uk; Riccardo Boncinelli <Riccardo.Boncinelli@tfgm.com>; Richard Dolphin <Richard.Dolphin@tfgm.com>
Cc: Outterside, James <James.Outterside@wsp.com>
Subject: Redbank & Dantzic St - TA Scoping Response to TfGM Comments

Hi All,

Please see attached a brief note summarising our response to the comments raised by TfGM in relation to the WSP Trip Rate Tech Note for the proposed development at Redbank & Dantzic St.

As requested, the raw count data has also been provided (see attached).

Once this has been reviewed, it would be worth having a meeting to discuss any outstanding issues with a view to agreeing a methodology to be taken forward within our Transport Assessment. Please let me know when would be best to discuss and I can set up a meeting.

Many Thanks,
Hannah

Hannah Barrett
Senior Engineer (Development Planning)

WSP in the UK
8 First Street
Manchester
M15 4GU

T +44 (0)161 200 1704

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Appendix C

COLLISION DATA

PUBLIC

TRANSPORT FOR GREATER MANCHESTER



Traffic Accident Data for

WSP

Reported Road Injury Accidents in Specified Area of
Red Bank and Dantzic Street, Manchester.
01/11/2017 to 31/10/2022

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Severity Symbol Key
- Slight
- Serious
- Fatal

A2063849, 2019
A2045872, 2018
A1109540, 2021
A2039652, 2018
A1055268, 2019
A1029242, 2021
A2078463, 2020
A3054547, 2019
A2059649, 2019
A1185294, 2022

Brewery
CAMBERWELL STREET
STOCKS STREET
FERN STREET
STANLEY STREET
COLLINGHAM STREET
HONEY STREET
Track
Weir
River Irk
CHATLEY STREET
WHITFIELD STREET
ELSWORTH ST
ROBERT STREET
PIMBLETT STREET
PW
STOCKS STREET EAST
DANTZIC STREET
DALTON STREET
Subway
HARGREAVE'S STREET
CHASE ST
RED BANK
ROGER STREET
Car Park
Scotland Bridge
BROMLEY STREET
PARK PL
PARK STREET
FERNIE STREET
Millgate
BILBROOK ST
PEARY STREET
ROCHDALE ROAD
Car Park
SHAW ST
Victoria East Junction
NEW CENTURY PK
Viaduct
Weir
Sch
St Michael's Flags
Mast
BACK ST GEORGE'S RD
Car Park
FB
ASPIN LA
OLD MOUNT STREET
NAPLES STREET
LUDGATE HILL
GOULD STREET
SIMPSON STREET
SUDELL ST
A664
52m
Fire Service Training
Sta

Transport for Greater Manchester 2 Piccadilly Place, Manchester, M1 3BG	**Reported Injury Accidents in Specified Area of Red Bank and Dantzic Street, Manchester, 01/11/2017 to 31/10/2022**			
	Drawn By : liuj	Note: A road accident which occurs at or within 20m of a junction, is coded as a junction accident	Date : 21/03/2023	

TRANSPORT FOR GREATER MANCHESTER

Reported Road Injury Accidents in Specified Area of Red Bank and Dantzic Street, Manchester. 01/11/2017 to 31/10/2022

Injury Accidents	Nov – Dec 2017	2018	2019	2020	2021	Jan – Oct 2022	Total
Fatal	0	0	1	0	0	0	1
Serious	0	0	0	1	1	0	2
Slight	0	2	3	0	1	1	7
Total	0	2	4	1	2	1	10

Standard Totals Report : Reported Road Injury Accidents in Specified Area of Red Bank and Dantzic Street, Manchester, 01/11/2017 to 31/10/2022

Accidents

Fatal	1
Serious	2
Slight	7
Total Accidents	**10**

Casualties By Age and Sex

Severity	0 - 15	16 - 59	60 - 69	70 +	Total
Fatal					
Male	0	1	0	0	1
Total	**0**	**1**	**0**	**0**	**1**
Serious					
Male	0	2	0	0	2
Female	0	1	0	0	1
Total	**0**	**3**	**0**	**0**	**3**
Slight					
Male	0	9	0	0	9
Female	0	3	0	0	3
Total	**0**	**12**	**0**	**0**	**12**
Total Casualties	**0**	**16**	**0**	**0**	**16**

Casualties By Age and Class

Severity	0 - 15	16 - 59	60 - 69	70 +	Total
Fatal					
Driver or rider	0	1	0	0	1
Total	**0**	**1**	**0**	**0**	**1**
Serious					
Driver or rider	0	1	0	0	1
Veh or pillion pas	0	2	0	0	2
Total	**0**	**3**	**0**	**0**	**3**
Slight					
Driver or rider	0	9	0	0	9
Veh or pillion pas	0	3	0	0	3
Total	**0**	**12**	**0**	**0**	**12**
Total Casualties	**0**	**16**	**0**	**0**	**16**

Cyclist (Rider and Pillion) and Pedestrian Casualties By Age

Severity	0 - 15	16 - 59	60 - 69	70 +	Total
Slight	0	2	0	0	2
Total Casualties	**0**	**2**	**0**	**0**	**2**

Casualties Broken Down By Type

Car (Driver)	**0-15**	**16+**	**Total**
Fatal	0	1	1
Serious	0	1	1
Slight	0	4	4
Total	**0**	**6**	**6**
Car (Passenger)	**0-15**	**16+**	**Total**
Serious	0	1	1
Slight	0	2	2
Total	**0**	**3**	**3**
TWPV (Rider)	**0-15**	**16+**	**Total**
Slight	0	1	1
Total	**0**	**1**	**1**
Cyclist (Rider)	**0-15**	**16+**	**Total**
Slight	0	2	2
Total	**0**	**2**	**2**
Other (Driver)	**0-15**	**16+**	**Total**
Slight	0	2	2
Total	**0**	**2**	**2**
Other (Passenger)	**0-15**	**16+**	**Total**
Serious	0	1	1
Slight	0	1	1
Total	**0**	**2**	**2**
Total	**0**	**16**	**16**

Standard Report - Reported Road Injury Accidents in Specified Area of Red Bank and Dantzic Street, Manchester, 01/11/2017 to 31/10/2022

This printout has been generated from the Transport for Greater Manchester's database of road traffic accident records using the query system, GMAXI.

The road traffic accident database contains STATS19 data supplied by Greater Manchester Police and further validated by the Highways Forecasting and Analytical Services (HFAS) section of Transport for Greater Manchester. It is maintained by HFAS on behalf of the ten District Councils in Greater Manchester.

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Accident Reference Number: A2039652 **Day:** Friday **Date:** 19/01/2018 **Time:** 18:30

Place Reported: Else **District:** Manchester

Location: Red Bank at junction with Scotland Road

Description: V1 Trav E On Scotland Rd Turns Right Into Path Of V2 (Pedal Cycle) Trav N On Red Bank. V2 Rider Brakes, Skids & Fall Offs. No Impact.

Locational Details

Road:	U/U	Junction Details:	Tjun
OSGR:	384211 399228	Junction Control:	GW
Speed Limit:	30	Ped Crossing:	

Conditions

Road Surface:	Wet
Light Conditions:	Dark
Weather Conditions:	N/A

Accident Details

Severity:	Slight
No. of Vehicles:	2
No. of Casualties:	1

Contributory Factors

Factor	Conf	Ref
DCare	Poss	V1

Vehicle Details

Type	Move	From	To	Skid
Car	TurnR	W	S	
p/c	Ahead	S	N	Skid

Casualty Details

Type	Sex	Age	Sev	Pupil
1 Rid	M	31	Slight	

Accident Reference Number: A1055268 **Day:** Saturday **Date:** 06/04/2019 **Time:** 23:42

Place Reported: Scene **District:** Manchester

Location: Red bank 40 metres N Of Aspin Lane

Description: Both Vehs Trav S Red Bank, V1 Being Persued By V2 Loses Control Hits Railway Bridge, Causing Significant Damage To Fos Of V1. V1 Driver Trapped Within Veh

Locational Details

Road:	U	Junction Details:	
OSGR:	384217 399208	Junction Control:	n/a
Speed Limit:	30	Ped Crossing:	

Conditions

Road Surface:	Dry
Light Conditions:	Dark
Weather Conditions:	Fine

Accident Details

Severity:	Fatal
No. of Vehicles:	2
No. of Casualties:	2

Contributory Factors

Factor	Conf	Ref

Vehicle Details

Type	Move	From	To	Skid
Car	Ahead	N	S	
Car	Ahead	N	S	

Casualty Details

Type	Sex	Age	Sev	Pupil
1 Drv	M	19	Fatal	
2 Pas	M	17	Serious	

Accident Reference Number: A1029242 **Day:** Wednesday **Date:** 10/03/2021 **Time:** 14:00

Place Reported: Scene **District:** Manchester

Location: Corporation Street 75 metres SW Of Crown Lane

Description: V1 Trav S Redbank Towards Corporation St Through Left Hand Bend At Speed & Collides Head On With V2 Trav Sw Corporation St Reaching Right Hand Bend

Locational Details

Road:	U	Junction Details:			
OSGR:	384243 399146	Junction Control:	n/a		
Speed Limit:	30	Ped Crossing:			

Conditions

Road Surface:	Wet
Light Conditions:	Light
Weather Conditions:	Rain

Accident Details

Severity:	Serious
No. of Vehicles:	2
No. of Casualties:	2

Contributory Factors

Factor	Conf	Ref
DFast	Poss	V1
DLoss	Poss	V1

Vehicle Details

Type	Move	From	To	Skid
Car	Lbend	N	NE	
othr	Rbend	NE	N	

Casualty Details

	Type	Sex	Age	Sev	Pupil
1	Drv	M	27	Serious	Un
2	Drv	M	57	Slight	Un

Accident Reference Number: A1109540 **Day:** Thursday **Date:** 04/11/2021 **Time:** 18:00

Place Reported: Self **District:** Manchester

Location: Red Bank 70 metres N Of Roger Street

Description: V1 (Pedal Cycle) Trav S Red Bank. As V1 Passes V2 On The Left, V2 Trav S-bd Red Bank Performs A U Turn & Front Collides With N/s Of V1. V1 Fts

Locational Details

Road:	U	Junction Details:			
OSGR:	384307 399478	Junction Control:	n/a		
Speed Limit:	30	Ped Crossing:			

Conditions

Road Surface:	Dry
Light Conditions:	Dark
Weather Conditions:	Fine

Accident Details

Severity:	Slight
No. of Vehicles:	2
No. of Casualties:	1

Contributory Factors

Factor	Conf	Ref

Vehicle Details

Type	Move	From	To	Skid
p/c	Ahead	N	S	
Car	Uturn	N	N	

Casualty Details

	Type	Sex	Age	Sev	Pupil
1	Rid	M	51	Slight	Un

Accident Reference Number: A2078463 **Day:** Sunday **Date:** 13/12/2020 **Time:** 21:23

Place Reported: Scene **District:** Manchester

Location: Angel Street at junction with Dantzic Street

Description: V1 (LGV) Trav W Angel St Wrong Way On One Way St. Both V2 & V3 Trav Se Angel St Thru RHB. V2 Activates Emergency Equip. V1 Colls Head On With V2 & Then V3 (PCV)

Locational Details

Road:	A665/U	Junction Details:	Xrds		
OSGR:	384326 399119	Junction Control:	TS		
Speed Limit:	30	Ped Crossing:	TSX		

Conditions

Road Surface:	Wet
Light Conditions:	Dark
Weather Conditions:	Fine

Accident Details

Severity:	Serious
No. of Vehicles:	3
No. of Casualties:	3

Contributory Factors

Factor	Conf	Ref

Vehicle Details

Type	Move	From	To	Skid
LGV	Ahead	SE	W	
Car	Rbend	W	SE	
PCV	Rbend	W	SE	

Casualty Details

	Type	Sex	Age	Sev	Pupil
1	Drv	M	34	Slight	
2	Pas	F	24	Serious	
3	Pas	F	30	Slight	

Accident Reference Number: A3054547 **Day:** Friday **Date:** 01/03/2019 **Time:** 12:04

Place Reported: Scene **District:** Manchester

Location: Corporation Street at junction with Dantzic Street

Description: V1 Trav Ne Dantzic St Reaching Right Hand Bend & Collides With V2 (Taxi) Trav Ne Corporation Rd

Locational Details

Road:	U/U	Junction Details:	Tjun		
OSGR:	384354 399209	Junction Control:	GW		
Speed Limit:	30	Ped Crossing:	Ref		

Conditions

Road Surface:	Wet
Light Conditions:	Light
Weather Conditions:	Othr

Accident Details

Severity:	Slight
No. of Vehicles:	2
No. of Casualties:	2

Contributory Factors

Factor	Conf	Ref

Vehicle Details

Type	Move	From	To	Skid
Car	Rbend	SW	E	
Taxi	Ahead	SW	NE	Skid

Casualty Details

	Type	Sex	Age	Sev	Pupil
1	Drv	M	28	Slight	
2	Pas	F	40	Slight	

Accident Reference Number: A2063849 **Day:** Saturday **Date:** 26/10/2019 **Time:** 15:00
Place Reported: Else **District:** Manchester
Location: North Street (Red Bank) at junction with Collingham Street
Description: V2 Trav N Red Bank Slows To Turn Right Onto Collingham St, V1 Trav Sw Collingham St Emerges From Side Road Turns Right Onto North St & Colls With O/s Of V2. V1 Fts

Locational Details

Road:	U/U	Junction Details:	Xrds		
OSGR:	384445 399686	Junction Control:	GW		
Speed Limit:	30	Ped Crossing:			

Conditions

Road Surface:	Dry
Light Conditions:	Light
Weather Conditions:	Fine

Accident Details

Severity:	Slight
No. of Vehicles:	2
No. of Casualties:	1

Contributory Factors

Factor	Conf	Ref

Vehicle Details

Type	Move	From	To	Skid
Car	TurnR	NE	N	
Car	TurnR	S	NE	

Casualty Details

Type	Sex	Age	Sev	Pupil
1 Drv	M	29	Slight	

Accident Reference Number: A2059649 **Day:** Saturday **Date:** 27/07/2019 **Time:** 20:45
Place Reported: Else **District:** Manchester
Location: Gould Street 5 metres SE Of Dantzic Street
Description: Both Vehs Trav Nw Gould St Turns Left Onto Dantzic St, V1 Trav Behind V2 (Taxi), V1 Runs Into Rear Of V2. V1 Fts

Locational Details

Road:	U/U	Junction Details:	Tjun		
OSGR:	384466 399324	Junction Control:	GW		
Speed Limit:	30	Ped Crossing:			

Conditions

Road Surface:	Wet
Light Conditions:	Light
Weather Conditions:	Fine

Accident Details

Severity:	Slight
No. of Vehicles:	2
No. of Casualties:	1

Contributory Factors

Factor	Conf	Ref
DJudge	VLike	V1
DCare	Poss	V1

Vehicle Details

Type	Move	From	To	Skid
Car	TurnL	SE	SW	
Taxi	TurnL	SE	SW	

Casualty Details

Type	Sex	Age	Sev	Pupil
1 Drv	M	23	Slight	

Accident Reference Number: A1185294 **Day:** Saturday **Date:** 21/05/2022 **Time:** 21:20
Place Reported: Self **District:** Manchester
Location: Gould Street 10 metres SE Of Dantzic Street
Description: Both Vehs Trav Ne Dantzic St & Both Turn Right Onto Gould St, V1 Trav Behind & Front Collides With Rear Of V2. V1 Fts

Locational Details

Road:	U/U	Junction Details:	Tjun		
OSGR:	384470 399324	Junction Control:	GW		
Speed Limit:	20	Ped Crossing:			

Conditions

Road Surface:	Dry
Light Conditions:	Dark
Weather Conditions:	Fine

Accident Details

Severity:	Slight
No. of Vehicles:	2
No. of Casualties:	2

Contributory Factors

Factor	Conf	Ref

Vehicle Details

Type	Move	From	To	Skid
Car	TurnR	SW	SE	
Car	TurnR	SW	SE	

Casualty Details

Type	Sex	Age	Sev	Pupil
1 Drv	M	19	Slight	Un
2 Pas	M	20	Slight	Un

Accident Reference Number: A2045872 **Day:** Monday **Date:** 09/07/2018 **Time:** 07:30
Place Reported: Scene **District:** Manchester
Location: Collyhurst Road at junction with Dalton Street
Description: V1 Trav Ne Collyhurst Rd Turns Right Across Path V2 (Motorcycle) Trav Sw Collyhurst Rd.

Locational Details

Road:	C/C	Junction Details:	Tjun		
OSGR:	384746 399538	Junction Control:	GW		
Speed Limit:	30	Ped Crossing:			

Conditions

Road Surface:	Dry
Light Conditions:	Light
Weather Conditions:	Fine

Accident Details

Severity:	Slight
No. of Vehicles:	2
No. of Casualties:	1

Contributory Factors

Factor	Conf	Ref
DTurn	VLike	V1
DLearn	Poss	V1

Vehicle Details

Type	Move	From	To	Skid
Car	TurnR	SW	E	
m/cl	Ahead	NE	SW	

Casualty Details

Type	Sex	Age	Sev	Pupil
1 Rid	F	39	Slight	

Abbreviations used in GMAXI Reports for New Contributory Factors - 2005/06

WARNING: Please note that -
Codes 101 to 999 only relate to accidents from 1 April 2005. - New National Factors introduced by DfT
Codes 1001 to 1154 relate to accidents from 1 April 1999 to 31 March 2005 only. - Local Factors introduced
Accidents before 1 April 1999 do not have contributory factors attached.

Code	ContribFactor1Name	ContribFactor1Abb
0	None	
101	Poor or defective road surface	Surf
102	Deposit on road (eg oil, mud, chippings)	Dposit
103	Slippery road (due to weather)	Slip
104	Inadequate/masked signs or road markings	Mark
105	Defective traffic signals	DefATS
106	Traffic calming (eg speed cushions, road humps, chicanes)	TCalm
107	Temporary road layout (eg contraflow)	TmpRd
108	Road layout (eg bend, hill, narrow carriageway)	RdLay
109	Animal or object in carriageway	ObjInC
201	Tyres illegal, defective or under inflated	VTyres
202	Defective lights or indicators	VLight
203	Defective brakes	VBrake
204	Defective steering or suspension	VSteer
205	Defective or missing mirrors	VMirr
206	Overloaded or poorly loaded vehicle or trailer	VLoad
301	Disobeyed automatic traffic signal	DATS
302	Disobeyed Give Way or Stop sign or markings	DGWorS
303	Disobeyed double white line	DWhite
304	Disobeyed pedestrian crossing facility	DPedX
305	Illegal turn or direction of travel	DITurn
306	Exceeding speed limit	DSpeed
307	Travelling too fast for conditions	DFast
308	Following too close	DTgate
309	Vehicle travelling along pavement	DPave
310	Cyclist entering road from pavement	DCPave
401	Junction overshoot	DJnOvr
402	Junction restart	DJnRst
403	Poor turn or manoeuvre	DTurn
404	Failed to signal/misleading signal	DSign
405	Failed to look properly	DFLook
406	Failed to judge other person's path or speed	DJudge
407	Passing too close to cyclist, horse rider or pedestrian	DClose
408	Sudden braking	DBrake
409	Swerved	DSwerv
410	Loss of control	DLossC
501	Impaired by alcohol	DAlcoh
502	Impaired by drugs (illicit or medicinal)	DDrugs
503	Fatigue	DTired
504	Uncorrected, defective eyesight	DEye
505	Illness or disability, mental or physical	DIllns
506	Not displaying lights at night or in poor visibility	DNoLit
507	Cyclist wearing dark clothing at night	DCDark
508	Driver using mobile phone	DMobPh
509	Distraction in vehicle	DDisIn
510	Distraction outside vehicle	DDisOu
601	Aggressive driving	DAggre
602	Careless/reckless/in a hurry	DCare

603	Nervous/uncertain/panic	DPanic
604	Driving too slow or conditions or slow vehicle (eg tractor)	DSlow
605	Learner or inexperienced driver/rider	DLearn
606	Inexperience of driving on the left	DInDrL
607	Inexperience with type of vehicle	DInVeh
701	Stationary or parked vehicle(s)	DStat
702	Vegetation	DVeg
703	Road layout (eg bend, winding road, hill crest)	DRdLay
704	Buildings, road signs, street furniture	DBuild
705	Dazzling headlights	DHLigt
706	Dazzling sun	DSun
707	Rain, sleet, snow, or fog	DRain
708	Spray from other vehicles	DFog
709	Visor or windscreen dirty or scratched	DSpray
710	Vehicle blind spot	DWscrn
801	Crossed road masked by stationary or parked vehicle	PXMask
802	Failed to look properly	PFLook
803	Failed to judge vehicle's path or speed	PJudge
804	Wrong use of pedestrian crossing facility	PPedX
805	Dangerous action in carriageway (eg playing)	PDange
806	Impaired by alcohol	PAlcoh
807	Impaired by drugs (illicit or medicinal)	PDrugs
808	Careless/reckless/in a hurry	PCare
809	Pedestrian wearing dark clothing at night	PCloth
810	Disability or illness, mental or physical	PIllns
901	Stolen vehicle	StoVeh
902	Vehicle in course of crime	VCrime
903	Emergency vehicle on call	EmVeh
904	Vehicle door opened or closed negligently	VDoor
999	Other	Other
1001	Failed to stop (mandatory sign)	Fstop
1002	Failed to give way	Fgive
1003	Failed to avoid pedestrian (pedestrian not to blame)	FAPed
1004	Failed to avoid vehicle or object in carriageway	FAObj
1005	Failure to signal/misleading signal	Fsig
1006	Loss of control of vehicle	Loss
1007	Pedestrian entered carriageway without due care	Ped
1008	Passenger fell in or near PSV	Pfell
1009	Swerved to avoid object in carriageway	Swerv
1010	Sudden braking	Brake
1011	Poor turn/manoeuvre	Turn
1012	Poor overtaking	Over
1013	Drove wrong way (e.g. 1-way street)	1Way
1014	Opening door carelessly	Door
1015	Other	Other
1101	Impairment alcohol	Alcoh
1102	Impairment drugs	Drugs
1103	Impairment fatigue	Tired
1104	Impairment illness	Ill
1105	Distraction stress/emotional state of mind	Stress
1106	Distraction physical in/on vehicle	DPhIn
1107	Distraction physical outside vehicle	DPhOut
1108	Behaviour panic	Panic
1109	Behaviour careless/thoughtless/reckless	Care
1110	Behaviour nervous/uncertain	Nerve
1111	Behaviour in a hurry	Hurry

1112	Failure to judge other person's path or speed	Fjudg
1113	Disability	Disab
1114	Failed to look	F2look
1115	Looked but did not see	Nsee
1116	Inattention	Inatt
1117	Person hit wore dark or inconspicuous clothing	Cloth
1118	Other (Personal details)	Pother
1119	Crossed from behind parked vehicle etc	Cross
1120	Ignored lights at crossing	Xlight
1121	Excessive Speed	Speed
1122	Following too close	Tgate
1123	Inexperience of driving	InDri
1124	Inexperience of vehicle	InVeh
1125	Interaction or competition with other road users	Users
1126	Aggressive driving	Aggr
1127	Lack of judgement of own path	Judge
1128	Tyres wrong pressure	Press
1129	Tyres deflation before impact	Deflat
1130	Tyres worn/insufficient tread	Tread
1131	Defective lights or signals	Signal
1132	Defective brakes	Brakes
1133	Other (Vehicle defects)	Vother
1134	Site details poor road surface	Surf
1135	Site details poor/no street lighting	Lightg
1136	Site details inadequate signing	Sign
1137	Site details steep hill	Hill
1138	Site details narrow road	Narr
1139	Site details bend/winding road	Rbend
1140	Site details roadworks	Works
1141	Slippery road	Slip
1142	High winds	Winds
1143	Earlier accident	Earli
1144	Other (Local conditions)	Lother
1145	View windows obscured	Obs
1146	View glare from sun	Glare
1147	View glare from headlights	Head
1148	Surroundings bend/winding road	Bend
1149	Surroundings stationary parked vehicle	Stat
1150	Surroundings moving vehicle	Move
1151	Surroundings buildings, fences, vegetation etc	Fence
1152	Weather (e.g. mist or sleet)	Weath
1153	Failed to see pedestrian or vehicle in blindspot	Blind
1154	Animal out of control	Animal
9999	GMP Out of Range	OoR

Appendix D

PARAMETER PLANS AND USE SCHEDULE

PUBLIC



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Do not scale from this drawing. Verify all dimensions on site. Drawing should be read in conjunction with information from all other design consultants and contractors. All drawings in digital format are for reference only, paper copies are available on request.

0 10 30m

Legend

Application boundary

MACCREANOR LAVINGTON

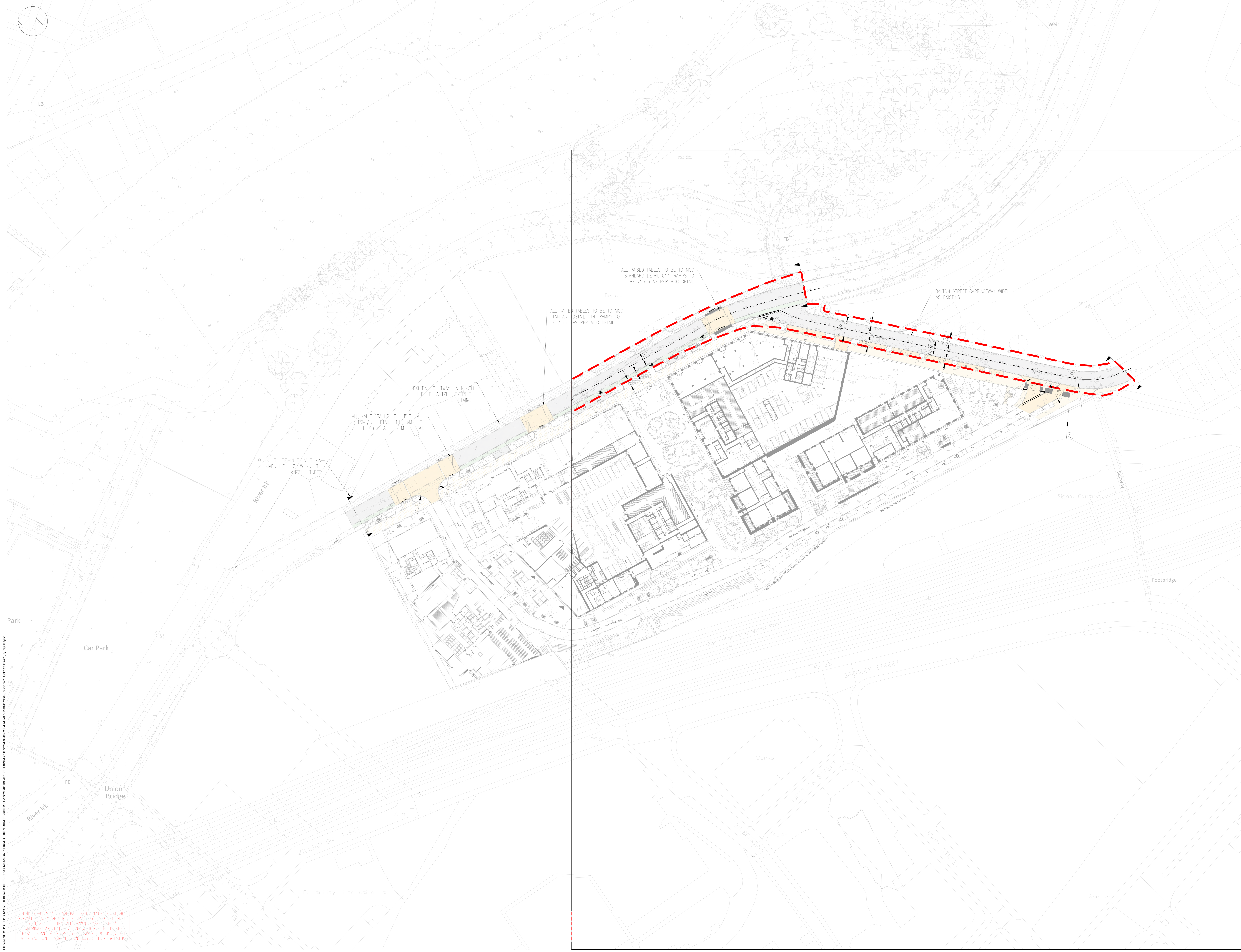
Vijverhofstraat 47
3032 SB Rotterdam
The Netherlands
+31(0)10 443 90 60

Proj. No.	Project	Date
RDB	Red Bank Manchester	31/03/2023

Sheet Name: Sitewide Proposed Site Plan

Client: FEC

CDE ID	Scale	Size	Rev.
RDB-MLA-00-XX-DR-AR-01110000	1:500	A1	P0



DO NOT SCALE

KEY:

REV	DATE	BY	DESCRIPTION	CHK	APP
P03	20/04/2023	SR	SITE LAYOUT AMENDED	RV	RV
P02	30/03/2023	UB	SITE LAYOUT AMENDED	RV	RV
P01	01/03/2023	TG	FIRST ISSUE	EF	EF

DRAWING STATUS: S3 - FOR REVIEW

8 First Street, Manchester, M15 4GU, UK
T+ 44 (0) 161 200 5000
wsp.com

CLIENT: FEC

ARCHITECT: MLM

PROJECT: RED BANK AND DANTZIC STREET

TITLE: DANTZIC STREET HIGHWAY IMPROVEMENTS GENERAL ARRANGEMENT

SCALE @ A0: 1:500	CHECKED: RV		APPROVED: RV
PROJECT No: 70079268	DESIGNED: UB	DRAWN: UB	DATE: April 23

DRAWING No: RDB-WSP-XX-XX-DR-TP-018 P02 — REV: P03

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Red Bank Detailed Planning Application

Non-Residential Uses Schedule

January 2023

Use	Use Class	Use Class Order Description
Retail (food and non food)	E(a)	Display or retail of goods, other than hot food
Eating and Drinking Establishments	E(b)	Sale of food and drink for consumption (mostly on premises
Financial Services	E(c)(i)	Financial Services
Professional Services	E(c)(ii)	Professional Services (other than health or medical services)
Other Commercial, business or service	E(c) (iii)	Other appropriate services in a commercial, business or service locality
Indoor sport, Recreation and Fitness	E(d)	Indoor sport, recreation, fitness (not involving motorized, vehicles or firearms or use as a swimming pool or skating rink
Medical / Health	E(e)	Provision of medical or health services (except the use of premises attached to the residence of the consultant or practitioner)
Creche, Day Nursery or Day Centre	E(f)	Creche, day nursery or day centre (not including a residential use)
Offices, Research and Development and Industrial Processes	E(g)	Uses which can be carried out in a residential area without detriment to its amenity
Learning and Non-Residential Institutions	F1	Uses including education (F1(a)), display of works of art (F1b)), museums (F1(c)), public libraries (F1(d)), public halls (F1(e)), public worship (F1(f))
Local Community	F2	Uses including shops (selling essential goods) where the premises do not exceed 280 sq m and there is no other such facility within 1000m (F2(a)), halls or meeting places for the principal use of the community (F2(b)).
Launderette	Sui Generis	
Public Houses, Wine Bars, Drinking Establishments	Sui Generis	
Drinking Establishments with Expanded Food Provision	Sui Generis	
Hot Food Takeaways	Sui Generis	

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0 25 75m

FOR APPROVAL

RB05A
RB05B
RB05C
RB04
RB03
RB02
RB01
RB12B
RB17
RB16
RB06
RB07
RB10

Legend:

- Development plots
- Potential route between plots
- Maximum extent of RB10 development plot above ground level. Development at grade may be appropriate subject to an additional Flood Risk Assessment as part of a Detailed Application.
- Development zone including public realm
- Public realm including rights of way, emergency access, car parking, sustainable urban drainage systems and infrastructure.
- Dantzic Street enhancements
- Neighbourhood road
- Consented improved green infrastructure works within outline planning application boundary. Application number: *133143/VO/2022*
- Key public open space
- Consented improved green infrastructure works outside outline planning application boundary. Application number: *133143/VO/2022*
- +- 00m Limit of development plot boundary deviation plus or minus by noted dimension in metres.
- - 00m Limit of development plot boundary deviation minus by noted dimension in metres.

  At the detailed planning application stage where permission is sought for a building line, the building line for each plot can deviate on all boundaries of each plot where stated as + or -.
- Outline planning application boundary
- S1 Existing sewer subject to diversion
- S2 Existing sewer subject to a no-build zone

DRAFT

Rev	Details			Drwn	Chkd	Date
P1				AE	JC	04/04/23

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3032 SB Rotterdam
The Netherlands
+31(0)10 443 90 60

Proj. No.	Project	Status
524	Red Bank, Manchester	FOR PLANNING
Sheet Name		**Client**
Parameter Plan P1 - Development Plots and Public Realm		FEC
CDE ID	**Scale**	**Size** **Rev.**
RDB-MLM-00-00-DR-AR-211417	1:1250	A1 P1

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0 25 75m

FOR APPROVAL

RB05A
RB05B
RB05C
RB04
RB03
RB02
RB01
RB12B
RB17
RB16
RB06
RB07
RB10

Legend:

- Development plots
- Emergency vehicle access route
- Primary vehicular servicing route
- Emergency egress route during flood event
- Bridge access from RB10 to emergency egress route during flood event
- Primarily vehicular access point from boundary
- Primarily pedestrian - cycle or emergency vehicle access point from boundary
- Pedestrain access point from boundary
- Pedestrian - cycle route proposed
- Indirect pedestrian - cycle route
- Outline planning application boundary

Notes:

- To be read in conjunction with drawing number RDB-MLM-00-00-DR-AR-211417, Parameter Plan P1 - Development Plots and Public Realm. All 'limits of deviation' and 'potential zones of deviation subject to Detailed Planning Application approval' shown within this drawing apply here.

Rev	Details	Drwn	Chkd	Date
P1		AE	JC	04/04/23

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Vijverhofstraat 47
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The Netherlands
+31(0)10 443 90 60

Proj. No.	Project	Status
524	Red Bank, Manchester	FOR PLANNING

Sheet Name	Client
Parameter Plan P2 - Movement	FEC

CDE ID	Scale	Size	Rev.
RDB-MLM-00-00-DR-AR-211418	1:1250		P1

DRAFT

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0 25 75m

FOR APPROVAL

RB05A
RB05B
RB05C
RB04
RB03
RB02
RB01
RB12B
RB17
RB16
RB06
RB07
RB10

Legend:

- Development plot use class C3 or C2
- Development plot either use class F1(a), C3 or C2
- Development plot use class C3 or C2 with non-residential uses up to second floor to include use classes E, F and SG
- Ground and first floor frontage (predominantly) use class C3 or C2
- Ground floor frontage either use class F1(a), C3 or C2
- Ground floor frontage either use class E, F1(a), SG or C2/C3 entrance/residential amenity
- Ground floor frontage either use class E, F, SG or C2/C3 entrance/residential amenity
- Ground floor frontage outdoor market (use classes E & SG) or C2/C3 entrance/residential amenity
- Outline plannning application boundary

Notes:

- To be read in conjunction with drawing number RDB-MLM-00-00-DR-AR-211417, Parameter Plan P1 - Development Plots and Public Realm. All 'limits of deviation' and 'potential zones of deviation subject to Detailed Planning Application approval' shown within this drawing apply here.
- SG = Sui Generis covering the following uses: Laundrette; Public Houses, Wine Bars, Drinking Establishments; Drinking Establishments with Expanded Food Provision; and Hot Food Takeaways.
- Plan to be read in conjunction with the approved Development Specification

Rev	Details	Drwn	Chkd	Date
P1		AE	JC	04/04/23

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The Netherlands
+31(0)10 443 90 60

Proj. No.	Project	Status
524	Red Bank Manchester	FOR PLANNING
Sheet Name		Client
Parameter Plan P3 - Use		FEC
CDE ID	Scale	Size	Rev.
RDB-MLM-00-ZZ-DR-AR-211419	1:1250		P1

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0 25 75m

FOR APPROVAL

RB05A +93m AOD

RB05B +73m AOD

RB05C +90m AOD

RB04 +93m AOD

RB03 +87m AOD

RB02 +90m AOD

RB01 +123m AOD

RB12B +94m AOD

RB17 +155m AOD

RB16 +98m AOD

RB06 +145m AOD

RB07 +124m AOD

RB10 +211m AOD

+64m AOD

+62m AOD

+59m AOD

6 m

12 m

Legend:

+xx.xm AOD	Maximum building height AOD
	Building height ranges as specified by the maximum buildng height AOD annotation:
	up to +64m AOD (up to 5-storeys)
	up to +62m AOD (up to 6-storeys)
	up to +59m AOD (up to 7-storeys)
	up to +73m AOD (up to 8-storeys)
	up to +90m AOD (up to 13-storeys)
	up to +94m AOD (up to 14-storeys)
	up to +98m AOD (up to 19-storeys)
	up to +123m AOD (up to 24-storeys)
	up to +124m AOD (up to 27-storeys)
	up to +145m AOD (up to 34-storeys)
	up to +155m AOD (up to 37-storeys)
	up to +211m AOD (up to 55-storeys)
	Outline planning application boundary

Notes:

- To be read in conjunction with drawing number RDB-MLM-00-00-DR-AR-211417, Parameter Plan P1 - Development Plots and Public Realm. All 'limits of deviation' and 'potential zones of deviation subject to Detailed Planning Application approval' shown within this drawing apply here.
- Lift over-runs and plant and equipment to be included within the maximum building heights.

DRAFT

Rev	Details	Drwn	Chkd	Date
P1		AE	JC	04/04/23

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3032 SB Rotterdam
The Netherlands
+31(0)10 443 90 60

Proj. No. 524	Project Red Bank Manchester	Status FOR PLANNING	
Sheet Name Parameter Plan P4 - Building Heights (max)		Client FEC	
CDE ID RDB-MLM-00-RF-DR-AR-211420		Scale 1:1250	Size	Rev. P1

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0 25 75m

FOR APPROVAL

RB05A +43.5m AOD
RB05B +43.5m AOD
RB05C +43.5m AOD
RB04 +43.5m AOD
RB03 +42.5m AOD
RB02 +41.0m AOD
RB01 +39.35m AOD
RB12B +39.5m AOD
RB10 +42.0m AOD
RB07 +31.2m AOD
RB06 +31.2m AOD
RB16 +31.4m AOD
RB17 +31.4m AOD

Legend:

+41.0m AOD — Proposed site ground level AOD ,limit of deviation is + / - 0.5m

+31.6m AOD — Minimum Finished Floor Level AOD excluding freeboard (the only uses below the design flood level may be car parking, cycle parking, refuse stores and a temporary outdoor market use)

Development plots

Outline planning application boundary

Notes:

- To be read in conjunction with drawing number RDB-MLM-00-00-DR-AR-211417, Parameter Plan P1 - Development Plots and Public Realm. All 'limits of deviation' and 'potential zones of deviation subject to Detailed Planning Application approval' shown within this drawing apply here.
- All vulnerable uses including commercial to be located above the design flood level.
- The only uses below the design flood level may be car parking, cycle parking, refuse stores and a temporary outdoor market use.
- Minimum FFLs being proposed for the outline application do not include an allowance for freeboard.
- Flood resistance / resilience measures to be provided to a minimum of 600mm above design flood levels.
- Where residential lobbies are indicated below the design flood level they are to be provided with alternative means of escape (above the flood level).

Rev	Details	Drwn	Chkd	Date
P1		AE	JC	04/04/23

DRAFT

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Vijverhofstraat 47
3032 SB Rotterdam
The Netherlands
+31(0)10 443 90 60

Proj. No.	Project	Status
524	Red Bank Manchester	FOR PLANNING
Sheet Name		Client
Parameter Plan P5 - Site Levels		FEC
CDE ID	Scale	Size	Rev.
RDB-MLM-00-00-DR-AR-211421	1:1250		P1

Red Bank Outline Planning Application

Non-Residential Uses Schedule

December 2022

Non-Residential Uses

Use	Use Class	Use Class Order Description
Retail (food and non food)	E(a)	Display or retail of goods, other than hot food
Eating and Drinking Establishments	E(b)	Sale of food and drink for consumption (mostly on premises
Financial Services	E(c)(i)	Financial Services
Professional Services	E(c)(ii)	Professional Services (other than health or medical services)
Other Commercial, business or service	E(c) (iii)	Other appropriate services in a commercial, business or service locality
Indoor sport, Recreation and Fitness	E(d)	Indoor sport, recreation, fitness (not involving motorized, vehicles or firearms or use as a swimming pool or skating rink
Medical / Health	E(e)	Provision of medical or health services (except the use of premises attached to the residence of the consultant or practitioner)
Creche, Day Nursery or Day Centre	E(f)	Creche, day nursery or day centre (not including a residential use)
Offices, Research and Development and Industrial Processes	E(g)	Uses which can be carried out in a residential area without detriment to its amenity
Learning and Non-Residential Institutions	F1	Uses including education (F1(a)), display of works of art (F1b)), museums (F1(c)), public libraries (F1(d)), public halls (F1(e)), public worship (F1(f))
Local Community	F2	Uses including shops (selling essential goods) where the premises do not exceed 280 sq m and there is no other such facility within 1000m (F2(a)), halls or meeting places for the principal use of the community (F2(b)).
Launderette	Sui Generis	
Public Houses, Wine Bars, Drinking Establishments	Sui Generis	
Drinking Establishments with Expanded Food Provision	Sui Generis	
Hot Food Takeaways	Sui Generis	

Health Centre Use

Use	Use Class	Use Class Order Description
Medical / Health	E(e)	Provision of medical or health services (except the use of premises attached to the residence of the consultant or practitioner)

Primary School Use

Use	Use Class	Use Class Order Description
Primary School	F1(a)	Provision of education

Appendix E

TRICS REPORTS

PUBLIC

Calculation Reference: AUDIT-100323-220825-0852

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	1 days
	HF	HERTFORDSHIRE	1 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
08	NORTH WEST		
	MS	MERSEYSIDE	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 24 to 91 (units:)
Range Selected by User: 6 to 184 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: Selected: 0.52 to 1.0 Actual: 0.52 to 4.38

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 15/10/21

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

Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	2 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	4

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

Selected Location Sub Categories:

Residential Zone	1
Built-Up Zone	3

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

Secondary Filtering selection:

Use Class:

C3	4 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

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

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

Population within 5 miles:

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

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	1 days

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

Travel Plan:

Yes	2 days
No	2 days

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

PTAL Rating:

No PTAL Present	4 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1	HC-03-C-01 CROSS STREET PORTSMOUTH	BLOCKS OF FLATS		HAMPSHIRE
	Edge of Town Centre Built-Up Zone			
	Total No of Dwellings:		90	
	Survey date: TUESDAY		*05/06/18*	*Survey Type: MANUAL*
2	HF-03-C-03 SHENLEY ROAD BOREHAMWOOD	BLOCK OF FLATS		HERTFORDSHIRE
	Edge of Town Centre Built-Up Zone			
	Total No of Dwellings:		91	
	Survey date: THURSDAY		*14/11/19*	*Survey Type: MANUAL*
3	MS-03-C-04 HOY DRIVE NEWTON-LE-WILLOWS EARLESTOWN	BLOCK OF FLATS		MERSEYSIDE
	Edge of Town Centre Residential Zone			
	Total No of Dwellings:		24	
	Survey date: MONDAY		*12/04/21*	*Survey Type: MANUAL*
4	NF-03-C-01 PAGE STAIR LANE KING'S LYNN	BLOCKS OF FLATS		NORFOLK
	Edge of Town Centre Built-Up Zone			
	Total No of Dwellings:		51	
	Survey date: THURSDAY		*11/12/14*	*Survey Type: MANUAL*

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 2.15

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.059	4	64	0.141	4	64	0.200
08:00 - 09:00	4	64	0.051	4	64	0.184	4	64	0.235
09:00 - 10:00	4	64	0.094	4	64	0.086	4	64	0.180
10:00 - 11:00	4	64	0.074	4	64	0.094	4	64	0.168
11:00 - 12:00	4	64	0.121	4	64	0.109	4	64	0.230
12:00 - 13:00	4	64	0.109	4	64	0.133	4	64	0.242
13:00 - 14:00	4	64	0.082	4	64	0.086	4	64	0.168
14:00 - 15:00	4	64	0.078	4	64	0.082	4	64	0.160
15:00 - 16:00	4	64	0.078	4	64	0.055	4	64	0.133
16:00 - 17:00	4	64	0.117	4	64	0.074	4	64	0.191
17:00 - 18:00	4	64	0.164	4	64	0.102	4	64	0.266
18:00 - 19:00	4	64	0.160	4	64	0.109	4	64	0.269
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.187			1.255			2.442

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

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

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Parameter summary

Trip rate parameter range selected:	24 - 91 (units:)
Survey date date range:	01/01/14 - 15/10/21
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.000	4	64	0.000	4	64	0.000
08:00 - 09:00	4	64	0.000	4	64	0.000	4	64	0.000
09:00 - 10:00	4	64	0.004	4	64	0.004	4	64	0.008
10:00 - 11:00	4	64	0.000	4	64	0.000	4	64	0.000
11:00 - 12:00	4	64	0.004	4	64	0.004	4	64	0.008
12:00 - 13:00	4	64	0.016	4	64	0.016	4	64	0.032
13:00 - 14:00	4	64	0.000	4	64	0.000	4	64	0.000
14:00 - 15:00	4	64	0.000	4	64	0.000	4	64	0.000
15:00 - 16:00	4	64	0.000	4	64	0.000	4	64	0.000
16:00 - 17:00	4	64	0.008	4	64	0.008	4	64	0.016
17:00 - 18:00	4	64	0.000	4	64	0.000	4	64	0.000
18:00 - 19:00	4	64	0.004	4	64	0.004	4	64	0.008
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.036			0.036			0.072

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.012	4	64	0.012	4	64	0.024
08:00 - 09:00	4	64	0.000	4	64	0.000	4	64	0.000
09:00 - 10:00	4	64	0.004	4	64	0.004	4	64	0.008
10:00 - 11:00	4	64	0.000	4	64	0.000	4	64	0.000
11:00 - 12:00	4	64	0.004	4	64	0.004	4	64	0.008
12:00 - 13:00	4	64	0.004	4	64	0.004	4	64	0.008
13:00 - 14:00	4	64	0.004	4	64	0.004	4	64	0.008
14:00 - 15:00	4	64	0.004	4	64	0.004	4	64	0.008
15:00 - 16:00	4	64	0.000	4	64	0.000	4	64	0.000
16:00 - 17:00	4	64	0.000	4	64	0.000	4	64	0.000
17:00 - 18:00	4	64	0.000	4	64	0.000	4	64	0.000
18:00 - 19:00	4	64	0.000	4	64	0.000	4	64	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.032			0.032			0.064

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.004	4	64	0.008	4	64	0.012
08:00 - 09:00	4	64	0.000	4	64	0.004	4	64	0.004
09:00 - 10:00	4	64	0.004	4	64	0.000	4	64	0.004
10:00 - 11:00	4	64	0.000	4	64	0.004	4	64	0.004
11:00 - 12:00	4	64	0.008	4	64	0.000	4	64	0.008
12:00 - 13:00	4	64	0.000	4	64	0.004	4	64	0.004
13:00 - 14:00	4	64	0.004	4	64	0.000	4	64	0.004
14:00 - 15:00	4	64	0.004	4	64	0.004	4	64	0.008
15:00 - 16:00	4	64	0.008	4	64	0.004	4	64	0.012
16:00 - 17:00	4	64	0.000	4	64	0.004	4	64	0.004
17:00 - 18:00	4	64	0.008	4	64	0.004	4	64	0.012
18:00 - 19:00	4	64	0.004	4	64	0.000	4	64	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.044			0.036			0.080

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.090	4	64	0.188	4	64	0.278
08:00 - 09:00	4	64	0.059	4	64	0.254	4	64	0.313
09:00 - 10:00	4	64	0.129	4	64	0.102	4	64	0.231
10:00 - 11:00	4	64	0.090	4	64	0.121	4	64	0.211
11:00 - 12:00	4	64	0.168	4	64	0.133	4	64	0.301
12:00 - 13:00	4	64	0.152	4	64	0.195	4	64	0.347
13:00 - 14:00	4	64	0.129	4	64	0.102	4	64	0.231
14:00 - 15:00	4	64	0.082	4	64	0.125	4	64	0.207
15:00 - 16:00	4	64	0.102	4	64	0.066	4	64	0.168
16:00 - 17:00	4	64	0.168	4	64	0.086	4	64	0.254
17:00 - 18:00	4	64	0.215	4	64	0.129	4	64	0.344
18:00 - 19:00	4	64	0.223	4	64	0.141	4	64	0.364
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.607			1.642			3.249

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.023	4	64	0.082	4	64	0.105
08:00 - 09:00	4	64	0.023	4	64	0.059	4	64	0.082
09:00 - 10:00	4	64	0.035	4	64	0.035	4	64	0.070
10:00 - 11:00	4	64	0.043	4	64	0.035	4	64	0.078
11:00 - 12:00	4	64	0.043	4	64	0.043	4	64	0.086
12:00 - 13:00	4	64	0.074	4	64	0.063	4	64	0.136
13:00 - 14:00	4	64	0.070	4	64	0.043	4	64	0.113
14:00 - 15:00	4	64	0.055	4	64	0.066	4	64	0.121
15:00 - 16:00	4	64	0.051	4	64	0.035	4	64	0.086
16:00 - 17:00	4	64	0.078	4	64	0.105	4	64	0.183
17:00 - 18:00	4	64	0.094	4	64	0.117	4	64	0.211
18:00 - 19:00	4	64	0.078	4	64	0.059	4	64	0.137
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.667			0.741			1.408

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.004	4	64	0.035	4	64	0.039
08:00 - 09:00	4	64	0.023	4	64	0.074	4	64	0.097
09:00 - 10:00	4	64	0.004	4	64	0.020	4	64	0.024
10:00 - 11:00	4	64	0.004	4	64	0.000	4	64	0.004
11:00 - 12:00	4	64	0.012	4	64	0.000	4	64	0.012
12:00 - 13:00	4	64	0.008	4	64	0.020	4	64	0.028
13:00 - 14:00	4	64	0.000	4	64	0.023	4	64	0.023
14:00 - 15:00	4	64	0.004	4	64	0.004	4	64	0.008
15:00 - 16:00	4	64	0.008	4	64	0.008	4	64	0.016
16:00 - 17:00	4	64	0.027	4	64	0.000	4	64	0.027
17:00 - 18:00	4	64	0.031	4	64	0.004	4	64	0.035
18:00 - 19:00	4	64	0.027	4	64	0.004	4	64	0.031
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.152			0.192			0.344

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL RAIL PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.000	4	64	0.035	4	64	0.035
08:00 - 09:00	4	64	0.000	4	64	0.008	4	64	0.008
09:00 - 10:00	4	64	0.000	4	64	0.008	4	64	0.008
10:00 - 11:00	4	64	0.008	4	64	0.004	4	64	0.012
11:00 - 12:00	4	64	0.008	4	64	0.004	4	64	0.012
12:00 - 13:00	4	64	0.000	4	64	0.004	4	64	0.004
13:00 - 14:00	4	64	0.000	4	64	0.000	4	64	0.000
14:00 - 15:00	4	64	0.004	4	64	0.000	4	64	0.004
15:00 - 16:00	4	64	0.008	4	64	0.000	4	64	0.008
16:00 - 17:00	4	64	0.016	4	64	0.000	4	64	0.016
17:00 - 18:00	4	64	0.035	4	64	0.000	4	64	0.035
18:00 - 19:00	4	64	0.012	4	64	0.008	4	64	0.020
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.091			0.071			0.162

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.004	4	64	0.070	4	64	0.074
08:00 - 09:00	4	64	0.023	4	64	0.082	4	64	0.105
09:00 - 10:00	4	64	0.004	4	64	0.027	4	64	0.031
10:00 - 11:00	4	64	0.008	4	64	0.004	4	64	0.012
11:00 - 12:00	4	64	0.012	4	64	0.004	4	64	0.016
12:00 - 13:00	4	64	0.008	4	64	0.023	4	64	0.031
13:00 - 14:00	4	64	0.004	4	64	0.023	4	64	0.027
14:00 - 15:00	4	64	0.004	4	64	0.004	4	64	0.008
15:00 - 16:00	4	64	0.020	4	64	0.008	4	64	0.028
16:00 - 17:00	4	64	0.043	4	64	0.000	4	64	0.043
17:00 - 18:00	4	64	0.066	4	64	0.004	4	64	0.070
18:00 - 19:00	4	64	0.047	4	64	0.012	4	64	0.059
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.243			0.261			0.504

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 2.15

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.121	4	64	0.348	4	64	0.469
08:00 - 09:00	4	64	0.105	4	64	0.398	4	64	0.503
09:00 - 10:00	4	64	0.172	4	64	0.164	4	64	0.336
10:00 - 11:00	4	64	0.141	4	64	0.164	4	64	0.305
11:00 - 12:00	4	64	0.230	4	64	0.180	4	64	0.410
12:00 - 13:00	4	64	0.234	4	64	0.285	4	64	0.519
13:00 - 14:00	4	64	0.207	4	64	0.168	4	64	0.375
14:00 - 15:00	4	64	0.145	4	64	0.199	4	64	0.344
15:00 - 16:00	4	64	0.180	4	64	0.113	4	64	0.293
16:00 - 17:00	4	64	0.289	4	64	0.195	4	64	0.484
17:00 - 18:00	4	64	0.383	4	64	0.254	4	64	0.637
18:00 - 19:00	4	64	0.352	4	64	0.211	4	64	0.563
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.559			2.679			5.238

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL CARS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.027	4	64	0.121	4	64	0.148
08:00 - 09:00	4	64	0.043	4	64	0.172	4	64	0.215
09:00 - 10:00	4	64	0.070	4	64	0.066	4	64	0.136
10:00 - 11:00	4	64	0.066	4	64	0.074	4	64	0.140
11:00 - 12:00	4	64	0.094	4	64	0.086	4	64	0.180
12:00 - 13:00	4	64	0.074	4	64	0.094	4	64	0.168
13:00 - 14:00	4	64	0.059	4	64	0.059	4	64	0.118
14:00 - 15:00	4	64	0.059	4	64	0.070	4	64	0.129
15:00 - 16:00	4	64	0.066	4	64	0.047	4	64	0.113
16:00 - 17:00	4	64	0.102	4	64	0.043	4	64	0.145
17:00 - 18:00	4	64	0.152	4	64	0.098	4	64	0.250
18:00 - 19:00	4	64	0.152	4	64	0.098	4	64	0.250
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.964			1.028			1.992

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL LGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.016	4	64	0.008	4	64	0.024
08:00 - 09:00	4	64	0.008	4	64	0.012	4	64	0.020
09:00 - 10:00	4	64	0.016	4	64	0.012	4	64	0.028
10:00 - 11:00	4	64	0.008	4	64	0.020	4	64	0.028
11:00 - 12:00	4	64	0.020	4	64	0.016	4	64	0.036
12:00 - 13:00	4	64	0.016	4	64	0.020	4	64	0.036
13:00 - 14:00	4	64	0.016	4	64	0.020	4	64	0.036
14:00 - 15:00	4	64	0.016	4	64	0.008	4	64	0.024
15:00 - 16:00	4	64	0.012	4	64	0.008	4	64	0.020
16:00 - 17:00	4	64	0.008	4	64	0.023	4	64	0.031
17:00 - 18:00	4	64	0.008	4	64	0.004	4	64	0.012
18:00 - 19:00	4	64	0.004	4	64	0.008	4	64	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.148			0.159			0.307

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL MOTOR CYCLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	64	0.004	4	64	0.000	4	64	0.004
08:00 - 09:00	4	64	0.000	4	64	0.000	4	64	0.000
09:00 - 10:00	4	64	0.000	4	64	0.000	4	64	0.000
10:00 - 11:00	4	64	0.000	4	64	0.000	4	64	0.000
11:00 - 12:00	4	64	0.000	4	64	0.000	4	64	0.000
12:00 - 13:00	4	64	0.000	4	64	0.000	4	64	0.000
13:00 - 14:00	4	64	0.004	4	64	0.004	4	64	0.008
14:00 - 15:00	4	64	0.000	4	64	0.000	4	64	0.000
15:00 - 16:00	4	64	0.000	4	64	0.000	4	64	0.000
16:00 - 17:00	4	64	0.000	4	64	0.000	4	64	0.000
17:00 - 18:00	4	64	0.004	4	64	0.000	4	64	0.004
18:00 - 19:00	4	64	0.000	4	64	0.000	4	64	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.012			0.004			0.016

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

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

Calculation Reference: AUDIT-100323-220802-0858

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION
Category : A - PRIMARY
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

03	SOUTH WEST		
	CW	CORNWALL	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
Actual Range: 1400 to 3900 (units: sqm)
Range Selected by User: 960 to 4520 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 03/04/19

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

Selected survey days:

Thursday	1 days
Friday	1 days

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

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

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

Selected Locations:

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

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

Selected Location Sub Categories:

Residential Zone	1
Built-Up Zone	1

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

Secondary Filtering selection:

Use Class:

F1(a)	2 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	1 days
20,001 to 25,000	1 days

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

Population within 5 miles:

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

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

Car ownership within 5 miles:

1.1 to 1.5	2 days

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

Travel Plan:

No	2 days

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

PTAL Rating:

No PTAL Present	2 days

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

LIST OF SITES relevant to selection parameters

1 CW-04-A-03 PRIMARY ACADEMY CORNWALL
TREVERBYN RISE
PENRYN

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 3900 sqm
Survey date: THURSDAY *28/03/19* *Survey Type: MANUAL*

2 NY-04-A-04 CATHOLIC PRIMARY SCHOOL NORTH YORKSHIRE
GARGRAVE ROAD
SKIPTON

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 1400 sqm
Survey date: FRIDAY *15/03/19* *Survey Type: MANUAL*

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

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 2.34

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	2650	0.830	2	2650	0.245	2	2650	1.075
08:00 - 09:00	2	2650	4.566	2	2650	1.604	2	2650	6.170
09:00 - 10:00	2	2650	0.415	2	2650	2.962	2	2650	3.377
10:00 - 11:00	2	2650	0.113	2	2650	0.208	2	2650	0.321
11:00 - 12:00	2	2650	0.264	2	2650	0.226	2	2650	0.490
12:00 - 13:00	2	2650	0.283	2	2650	0.283	2	2650	0.566
13:00 - 14:00	2	2650	0.189	2	2650	0.132	2	2650	0.321
14:00 - 15:00	2	2650	0.396	2	2650	0.358	2	2650	0.754
15:00 - 16:00	2	2650	3.321	2	2650	3.642	2	2650	6.963
16:00 - 17:00	2	2650	0.547	2	2650	0.717	2	2650	1.264
17:00 - 18:00	2	2650	0.132	2	2650	0.415	2	2650	0.547
18:00 - 19:00	2	2650	0.000	2	2650	0.151	2	2650	0.151
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			11.056			10.943			21.999

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

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

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Parameter summary

Trip rate parameter range selected:	1400 - 3900 (units: sqm)
Survey date date range:	01/01/14 - 03/04/19
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
MULTI-MODAL OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
08:00 - 09:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
09:00 - 10:00	2	2650	0.019	2	2650	0.019	2	2650	0.038
10:00 - 11:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
11:00 - 12:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
12:00 - 13:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
13:00 - 14:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
14:00 - 15:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
15:00 - 16:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
16:00 - 17:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
17:00 - 18:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
18:00 - 19:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.019			0.019			0.038

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

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

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
MULTI-MODAL CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
08:00 - 09:00	2	2650	0.340	2	2650	0.000	2	2650	0.340
09:00 - 10:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
10:00 - 11:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
11:00 - 12:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
12:00 - 13:00	2	2650	0.000	2	2650	0.057	2	2650	0.057
13:00 - 14:00	2	2650	0.057	2	2650	0.000	2	2650	0.057
14:00 - 15:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
15:00 - 16:00	2	2650	0.000	2	2650	0.302	2	2650	0.302
16:00 - 17:00	2	2650	0.000	2	2650	0.038	2	2650	0.038
17:00 - 18:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
18:00 - 19:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.397			0.397			0.794

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

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

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	2650	1.302	2	2650	0.245	2	2650	1.547
08:00 - 09:00	2	2650	6.358	2	2650	0.528	2	2650	6.886
09:00 - 10:00	2	2650	0.528	2	2650	0.509	2	2650	1.037
10:00 - 11:00	2	2650	0.113	2	2650	0.208	2	2650	0.321
11:00 - 12:00	2	2650	0.302	2	2650	0.226	2	2650	0.528
12:00 - 13:00	2	2650	0.283	2	2650	0.283	2	2650	0.566
13:00 - 14:00	2	2650	0.189	2	2650	0.132	2	2650	0.321
14:00 - 15:00	2	2650	0.491	2	2650	0.358	2	2650	0.849
15:00 - 16:00	2	2650	0.509	2	2650	5.189	2	2650	5.698
16:00 - 17:00	2	2650	0.566	2	2650	1.396	2	2650	1.962
17:00 - 18:00	2	2650	0.151	2	2650	0.811	2	2650	0.962
18:00 - 19:00	2	2650	0.000	2	2650	0.264	2	2650	0.264
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			10.792			10.149			20.941

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

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

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
MULTI-MODAL PEDESTRIANS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	2650	0.151	2	2650	0.038	2	2650	0.189
08:00 - 09:00	2	2650	7.434	2	2650	1.585	2	2650	9.019
09:00 - 10:00	2	2650	0.906	2	2650	0.792	2	2650	1.698
10:00 - 11:00	2	2650	0.566	2	2650	0.717	2	2650	1.283
11:00 - 12:00	2	2650	0.226	2	2650	0.245	2	2650	0.471
12:00 - 13:00	2	2650	0.604	2	2650	0.340	2	2650	0.944
13:00 - 14:00	2	2650	0.038	2	2650	0.151	2	2650	0.189
14:00 - 15:00	2	2650	0.887	2	2650	0.302	2	2650	1.189
15:00 - 16:00	2	2650	1.226	2	2650	7.396	2	2650	8.622
16:00 - 17:00	2	2650	0.094	2	2650	0.698	2	2650	0.792
17:00 - 18:00	2	2650	0.019	2	2650	0.226	2	2650	0.245
18:00 - 19:00	2	2650	0.000	2	2650	0.170	2	2650	0.170
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			12.151			12.660			24.811

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

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TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	2650	0.057	2	2650	0.000	2	2650	0.057
08:00 - 09:00	2	2650	1.717	2	2650	0.679	2	2650	2.396
09:00 - 10:00	2	2650	0.075	2	2650	0.038	2	2650	0.113
10:00 - 11:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
11:00 - 12:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
12:00 - 13:00	2	2650	0.019	2	2650	0.000	2	2650	0.019
13:00 - 14:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
14:00 - 15:00	2	2650	0.377	2	2650	0.000	2	2650	0.377
15:00 - 16:00	2	2650	0.208	2	2650	1.642	2	2650	1.850
16:00 - 17:00	2	2650	0.019	2	2650	0.094	2	2650	0.113
17:00 - 18:00	2	2650	0.000	2	2650	0.019	2	2650	0.019
18:00 - 19:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.472			2.472			4.944

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

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

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	2650	0.057	2	2650	0.000	2	2650	0.057
08:00 - 09:00	2	2650	1.717	2	2650	0.679	2	2650	2.396
09:00 - 10:00	2	2650	0.075	2	2650	0.038	2	2650	0.113
10:00 - 11:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
11:00 - 12:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
12:00 - 13:00	2	2650	0.019	2	2650	0.000	2	2650	0.019
13:00 - 14:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
14:00 - 15:00	2	2650	0.377	2	2650	0.000	2	2650	0.377
15:00 - 16:00	2	2650	0.208	2	2650	1.642	2	2650	1.850
16:00 - 17:00	2	2650	0.019	2	2650	0.094	2	2650	0.113
17:00 - 18:00	2	2650	0.000	2	2650	0.019	2	2650	0.019
18:00 - 19:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.472			2.472			4.944

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

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

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 2.34

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	2650	1.509	2	2650	0.283	2	2650	1.792
08:00 - 09:00	2	2650	15.849	2	2650	2.792	2	2650	18.641
09:00 - 10:00	2	2650	1.509	2	2650	1.340	2	2650	2.849
10:00 - 11:00	2	2650	0.679	2	2650	0.925	2	2650	1.604
11:00 - 12:00	2	2650	0.528	2	2650	0.472	2	2650	1.000
12:00 - 13:00	2	2650	0.906	2	2650	0.679	2	2650	1.585
13:00 - 14:00	2	2650	0.283	2	2650	0.283	2	2650	0.566
14:00 - 15:00	2	2650	1.755	2	2650	0.660	2	2650	2.415
15:00 - 16:00	2	2650	1.943	2	2650	14.528	2	2650	16.471
16:00 - 17:00	2	2650	0.679	2	2650	2.226	2	2650	2.905
17:00 - 18:00	2	2650	0.170	2	2650	1.057	2	2650	1.227
18:00 - 19:00	2	2650	0.000	2	2650	0.434	2	2650	0.434
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			25.810			25.679			51.489

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

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

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
MULTI-MODAL CARS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	2650	0.755	2	2650	0.208	2	2650	0.963
08:00 - 09:00	2	2650	4.472	2	2650	1.528	2	2650	6.000
09:00 - 10:00	2	2650	0.321	2	2650	2.849	2	2650	3.170
10:00 - 11:00	2	2650	0.094	2	2650	0.170	2	2650	0.264
11:00 - 12:00	2	2650	0.189	2	2650	0.132	2	2650	0.321
12:00 - 13:00	2	2650	0.245	2	2650	0.226	2	2650	0.471
13:00 - 14:00	2	2650	0.132	2	2650	0.094	2	2650	0.226
14:00 - 15:00	2	2650	0.377	2	2650	0.340	2	2650	0.717
15:00 - 16:00	2	2650	3.283	2	2650	3.642	2	2650	6.925
16:00 - 17:00	2	2650	0.491	2	2650	0.679	2	2650	1.170
17:00 - 18:00	2	2650	0.132	2	2650	0.358	2	2650	0.490
18:00 - 19:00	2	2650	0.000	2	2650	0.151	2	2650	0.151
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			10.491			10.377			20.868

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

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

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
MULTI-MODAL LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	2650	0.075	2	2650	0.038	2	2650	0.113
08:00 - 09:00	2	2650	0.094	2	2650	0.075	2	2650	0.169
09:00 - 10:00	2	2650	0.075	2	2650	0.094	2	2650	0.169
10:00 - 11:00	2	2650	0.019	2	2650	0.038	2	2650	0.057
11:00 - 12:00	2	2650	0.075	2	2650	0.094	2	2650	0.169
12:00 - 13:00	2	2650	0.038	2	2650	0.057	2	2650	0.095
13:00 - 14:00	2	2650	0.057	2	2650	0.038	2	2650	0.095
14:00 - 15:00	2	2650	0.019	2	2650	0.019	2	2650	0.038
15:00 - 16:00	2	2650	0.038	2	2650	0.000	2	2650	0.038
16:00 - 17:00	2	2650	0.057	2	2650	0.038	2	2650	0.095
17:00 - 18:00	2	2650	0.000	2	2650	0.057	2	2650	0.057
18:00 - 19:00	2	2650	0.000	2	2650	0.000	2	2650	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.547			0.548			1.095

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

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

Appendix F

DISTRIBUTION DATA

PUBLIC

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)

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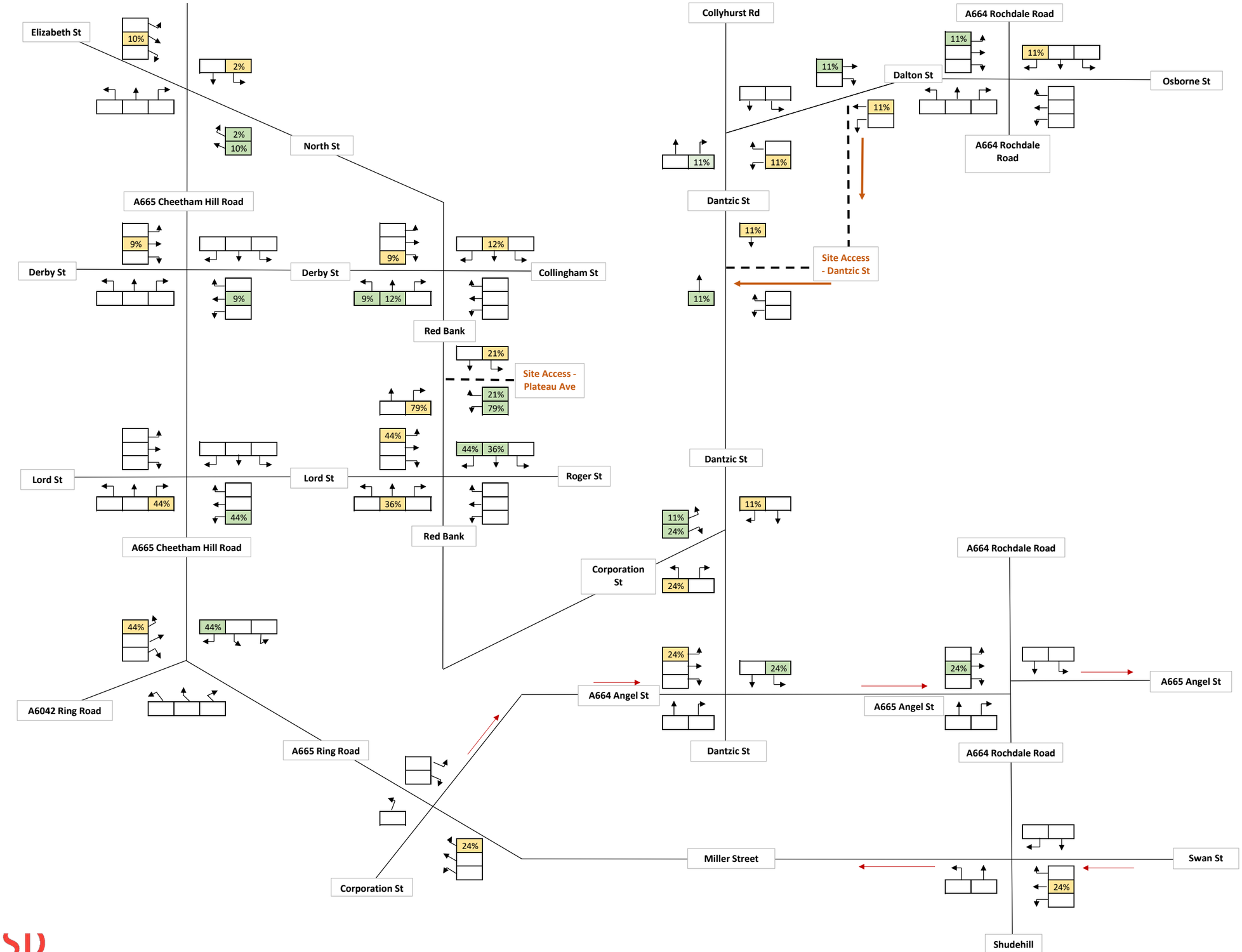
population	All usual residents aged 16 and over in employment the week before the census
units	Persons
date	2011
usual residence	E02006902 : Manchester 054 (2011 super output area - middle layer)

North Street / Cheetham Hill Road (N)	A	2%
Bury New Road (N)	B	9%
A6042 Ring Road (W)	C	44%
Great Ancoats Street (SE)	D	24%
Rochdale Road / Oldham Road	E	11%
North Street / Elizabeth St (N)	F	10%

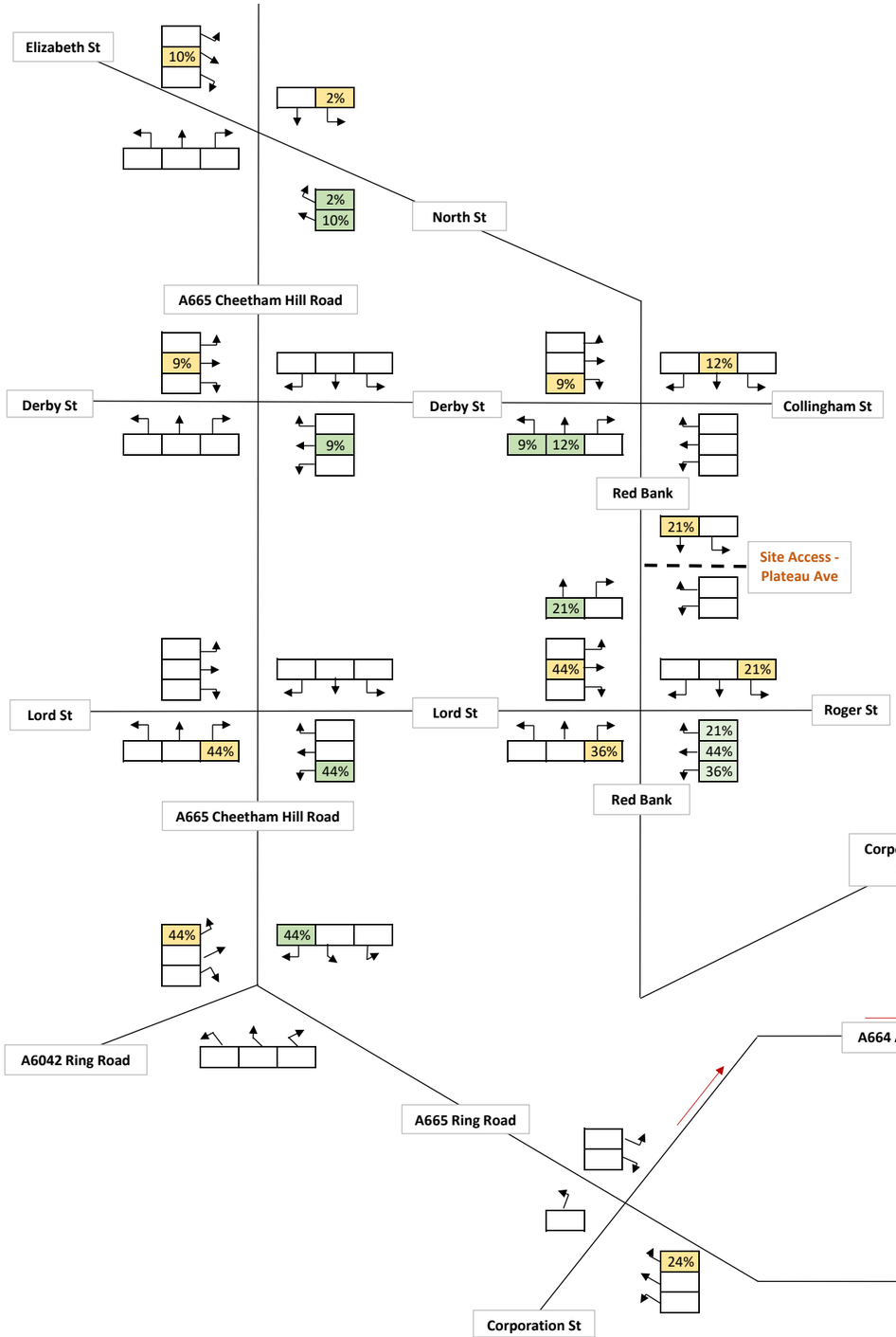
place of work	Driving a car or van					
E02001045 : Manchester 001	1	0%				
E02001046 : Manchester 002	0	0%				
E02001047 : Manchester 003	1	0%				
E02001048 : Manchester 004	2	0%				
E02001049 : Manchester 005	1	0%				
E02001050 : Manchester 006	7	1%	1%	1%		
E02001051 : Manchester 007	2	0%				
E02001052 : Manchester 008	1	0%				
E02001053 : Manchester 009	1	0%				
E02001055 : Manchester 011	4	1%				
E02001056 : Manchester 012	0	0%				
E02001057 : Manchester 013	5	1%				
E02001059 : Manchester 015	5	1%				
E02001061 : Manchester 017	1	0%				
E02001062 : Manchester 018	15	2%	1%	1%		
E02001063 : Manchester 019	8	1%	1%	1%		
E02001064 : Manchester 020	6	1%				
E02001065 : Manchester 021	0	0%				
E02001066 : Manchester 022	17	3%	1%	1%		
E02001067 : Manchester 023	0	0%				
E02001068 : Manchester 024	1	0%	0%	0%		
E02001069 : Manchester 025	1	0%	0%	0%		
E02001070 : Manchester 026	6	1%	0%	0%		
E02001071 : Manchester 027	0	0%				
E02001072 : Manchester 028	3	0%	0%	0%		
E02001073 : Manchester 029	0	0%				
E02001074 : Manchester 030	6	1%	0%	0%		
E02001075 : Manchester 031	1	0%	0%	0%		
E02001076 : Manchester 032	1	0%	0%	0%		
E02001077 : Manchester 033	0	0%				
E02001078 : Manchester 034	3	0%	0%	0%		
E02001079 : Manchester 035	0	0%				
E02001080 : Manchester 036	0	0%				
E02001081 : Manchester 037	1	0%	0%	0%		
E02001082 : Manchester 038	0	0%				
E02001083 : Manchester 039	1	0%	0%	0%		
E02001084 : Manchester 040	2	0%	0%	0%		
E02001085 : Manchester 041	0	0%				
E02001086 : Manchester 042	1	0%	0%	0%		
E02001087 : Manchester 043	2	0%	0%	0%		
E02001088 : Manchester 044	0	0%				
E02001089 : Manchester 045	4	1%	0%	0%		
E02001090 : Manchester 046	2	0%	0%	0%		
E02001091 : Manchester 047	1	0%	0%	0%		
E02001092 : Manchester 048	0	0%				
E02001093 : Manchester 049	4	1%	0%	0%		
E02001094 : Manchester 050	3	0%				
E02001095 : Manchester 051	6	1%	0%	0%		
E02001096 : Manchester 052	6	1%	0%	0%		
E02001097 : Manchester 053	4	1%	0%	0%		
E02006902 : Manchester 054	33	5%	2%	2%	1%	
E02006912 : Manchester 055	18	3%				
E02006913 : Manchester 056	9	1%	1%	1%		
E02006914 : Manchester 057	3	0%				
E02006915 : Manchester 058	2	0%	0%	0%		
E02006916 : Manchester 059	3	0%				
E02006917 : Manchester 060	9	1%				
Manchester	**213**	35%				
Trafford	62	10%				
Salford	60	10%	8%	2%		
Bury	33	5%				
Stockport	31	5%				
Oldham	25	4%				
Tameside	25	4%	2%	2%		
Cheshire East	24	4%	2%	2%		
Warrington	16	3%				
Bolton	15	2%				
Rochdale	13	2%	1%	1%		
Halton	7	1%				
Blackburn with Darwen	6	1%				
Cheshire West and Chester	6	1%				
Burnley	5	1%				
Wigan	5	1%				
Pendle	4	1%				
Liverpool	4	1%				
Leeds	4	1%				
Ribble Valley	3	0%				
Calderdale	3	0%				
Westminster,City of London	3	0%				
Preston	2	0%				
Rossendale	2	0%				
South Ribble	2	0%				
West Lancashire	2	0%				
Sefton	2	0%				
Windsor and Maidenhead	2	0%				
Copeland	1	0%				
Eden	1	0%				
South Lakeland	1	0%				
Chorley	1	0%				
Hyndburn	1	0%				
Lancaster	1	0%				
St. Helens	1	0%				
Wirral	1	0%				
Kirklees	1	0%				
High Peak	1	0%				
Northampton	1	0%				
Stoke-on-Trent	1	0%				
Shropshire	1	0%				
Newcastle-under-Lyme	1	0%				
Stafford	1	0%				
Wyre Forest	1	0%				
Birmingham	1	0%				
Hertsmere	1	0%				
Watford	1	0%				
Camden	1	0%				
Waltham Forest	1	0%				
Wycombe	1	0%				
Tonbridge and Malling	1	0%				
Wiltshire	1	0%				
Isle of Anglesey	1	0%				
Cardiff	1	0%				
Powys	1	0%				
	606					

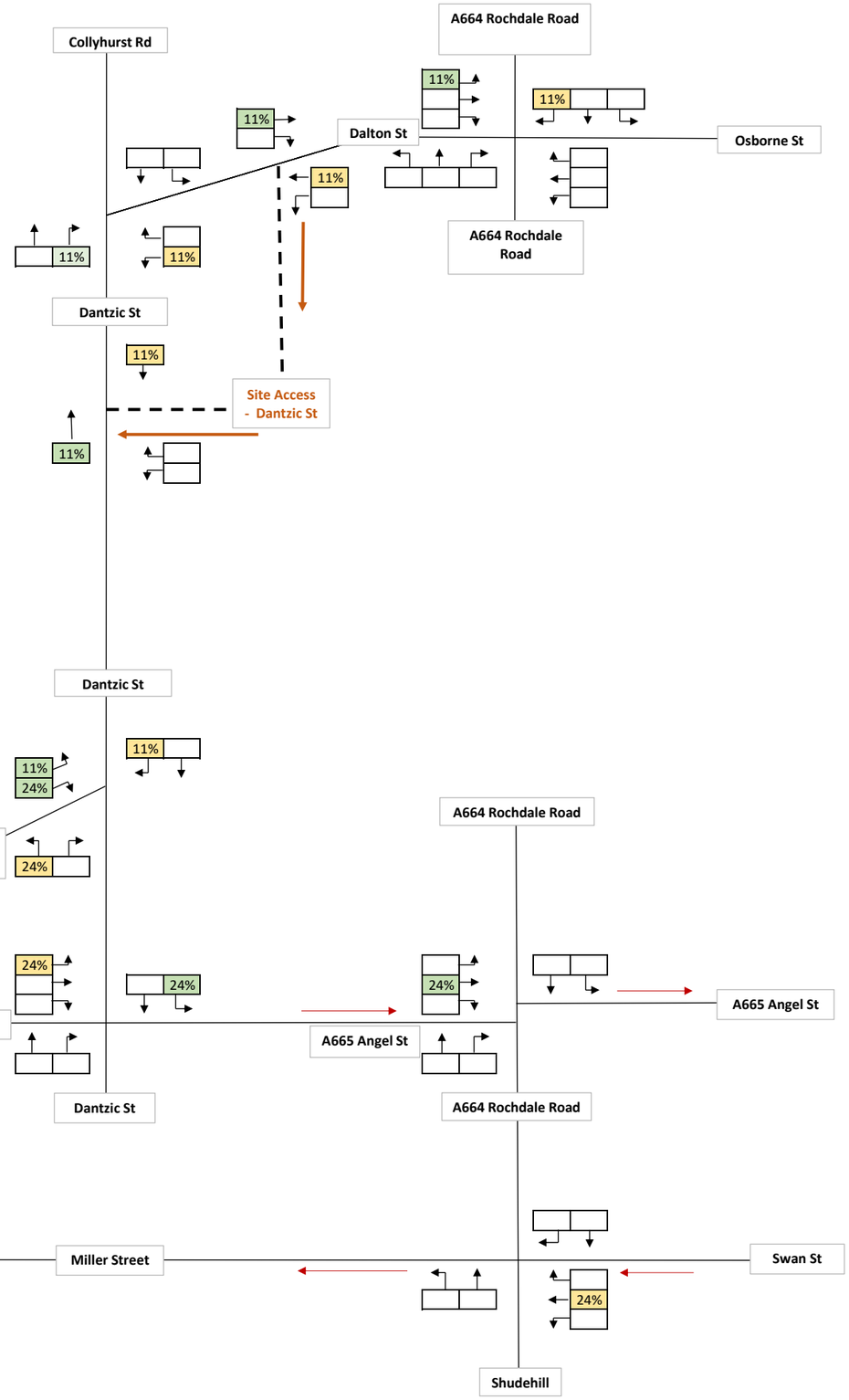
In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

Development Traffic Distribution (Plateau Avenue Site Access)

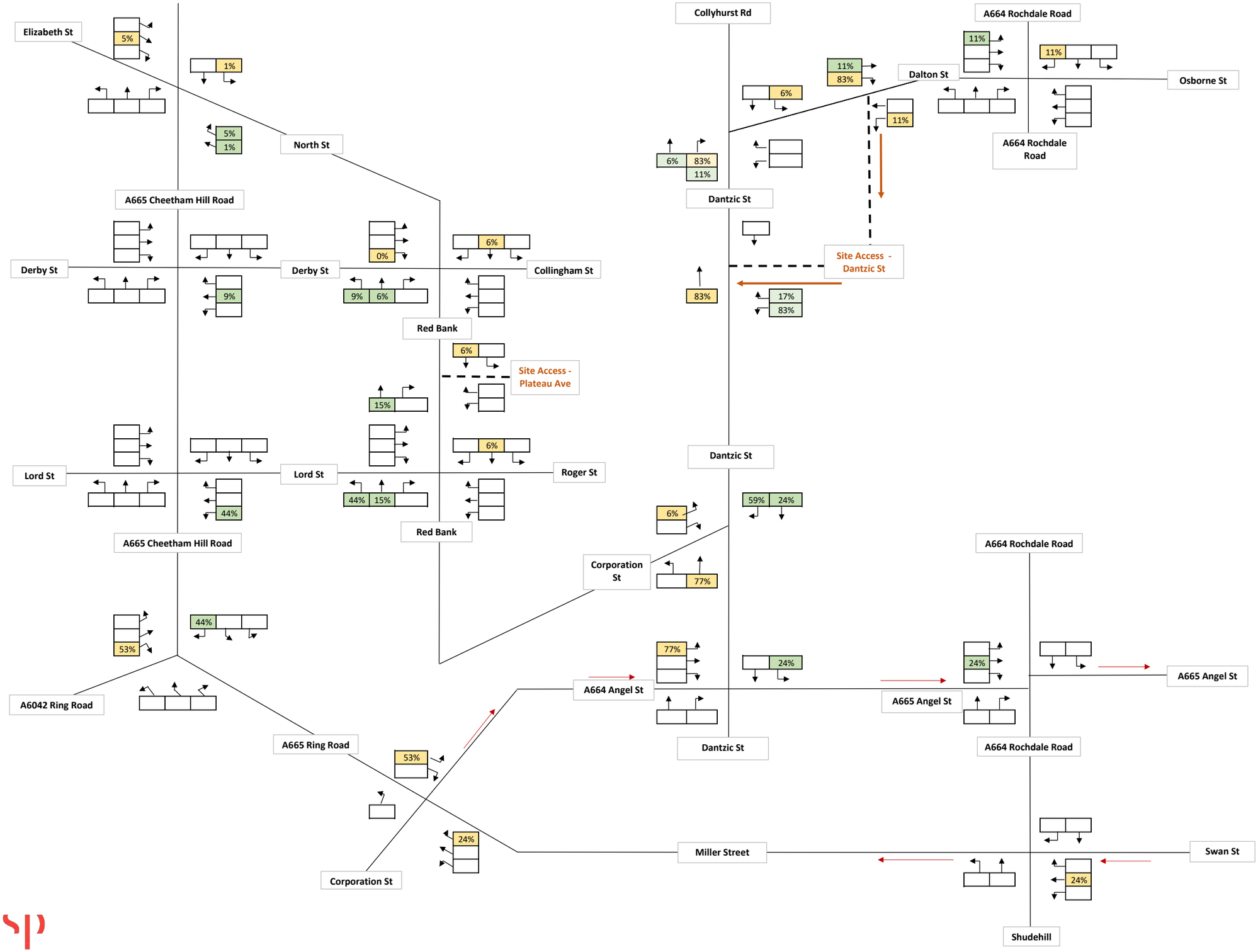


Development Traffic Distribution (Roger St Site Access)





Development Traffic Distribution (Dantzic St Site Access)



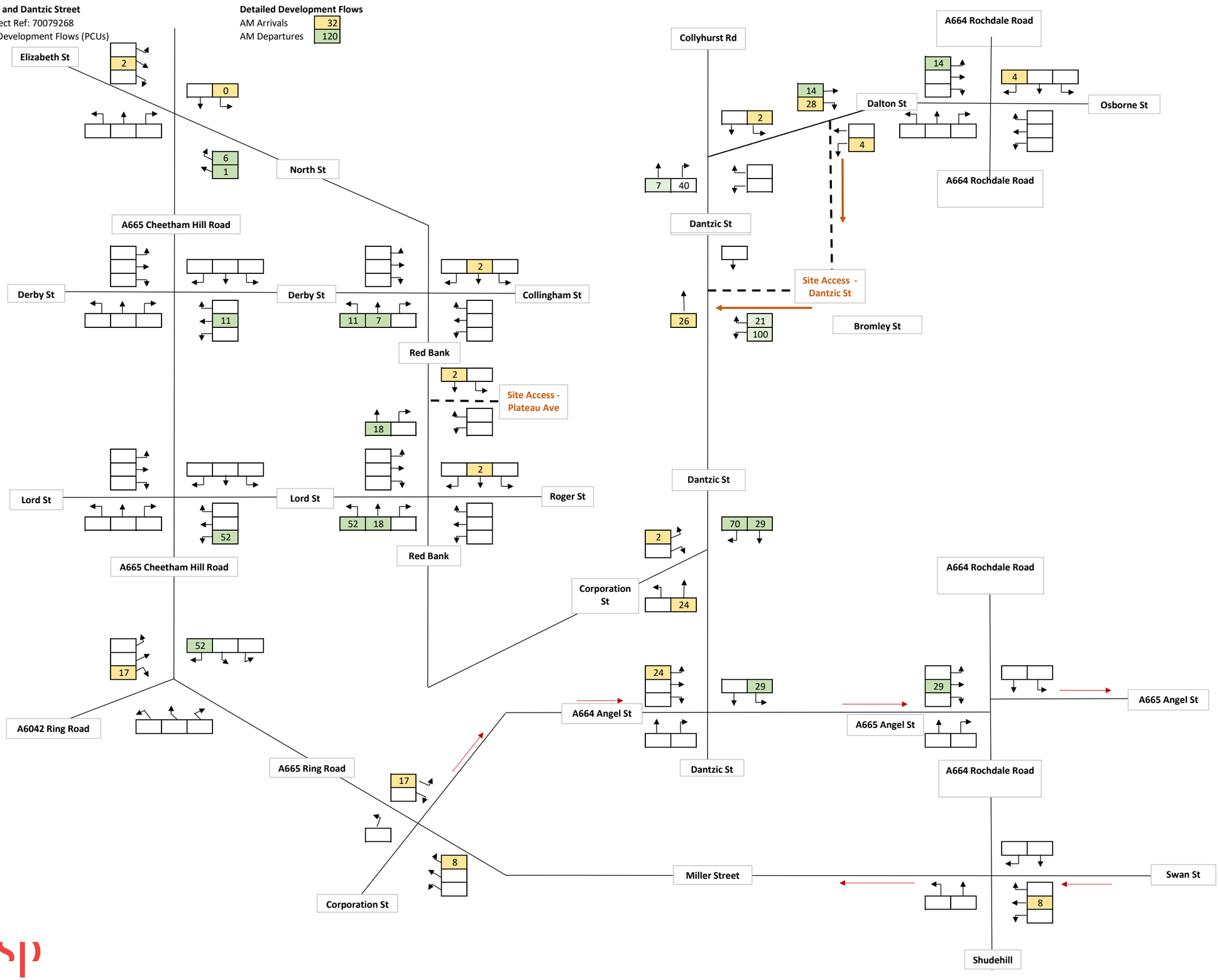
Appendix G

TRAFFIC FLOW DIAGRAMS

PUBLIC

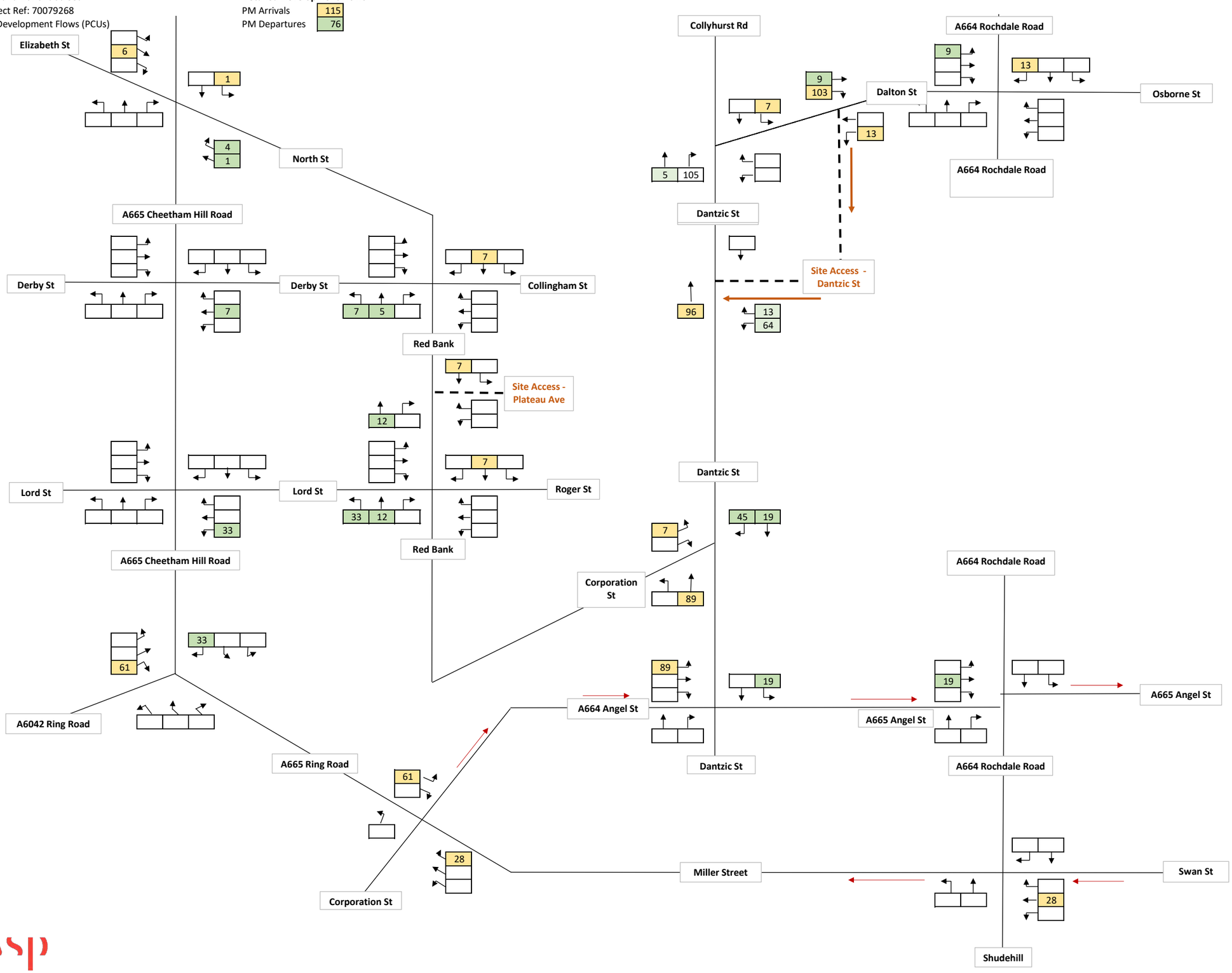
Red Bank and Dantzic Street
WSP Project Ref: 70079268
Detailed Development Flows (PCUs)

Detailed Development Flows
AM Arrivals 32
AM Departures 120



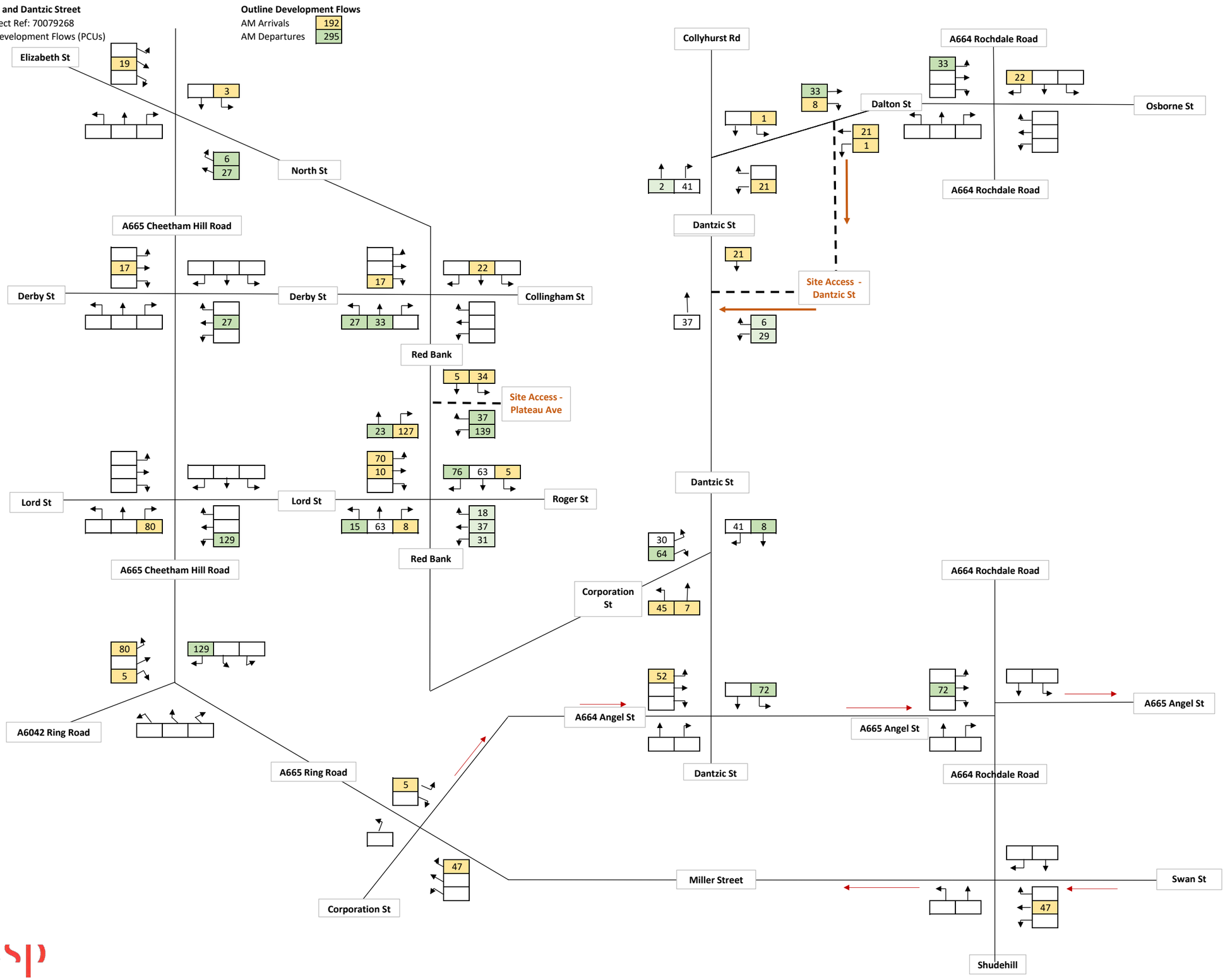
Red Bank and Dantzic Street
WSP Project Ref: 70079268
Detailed Development Flows (PCUs)

Detailed Development Flows
PM Arrivals 115
PM Departures 76



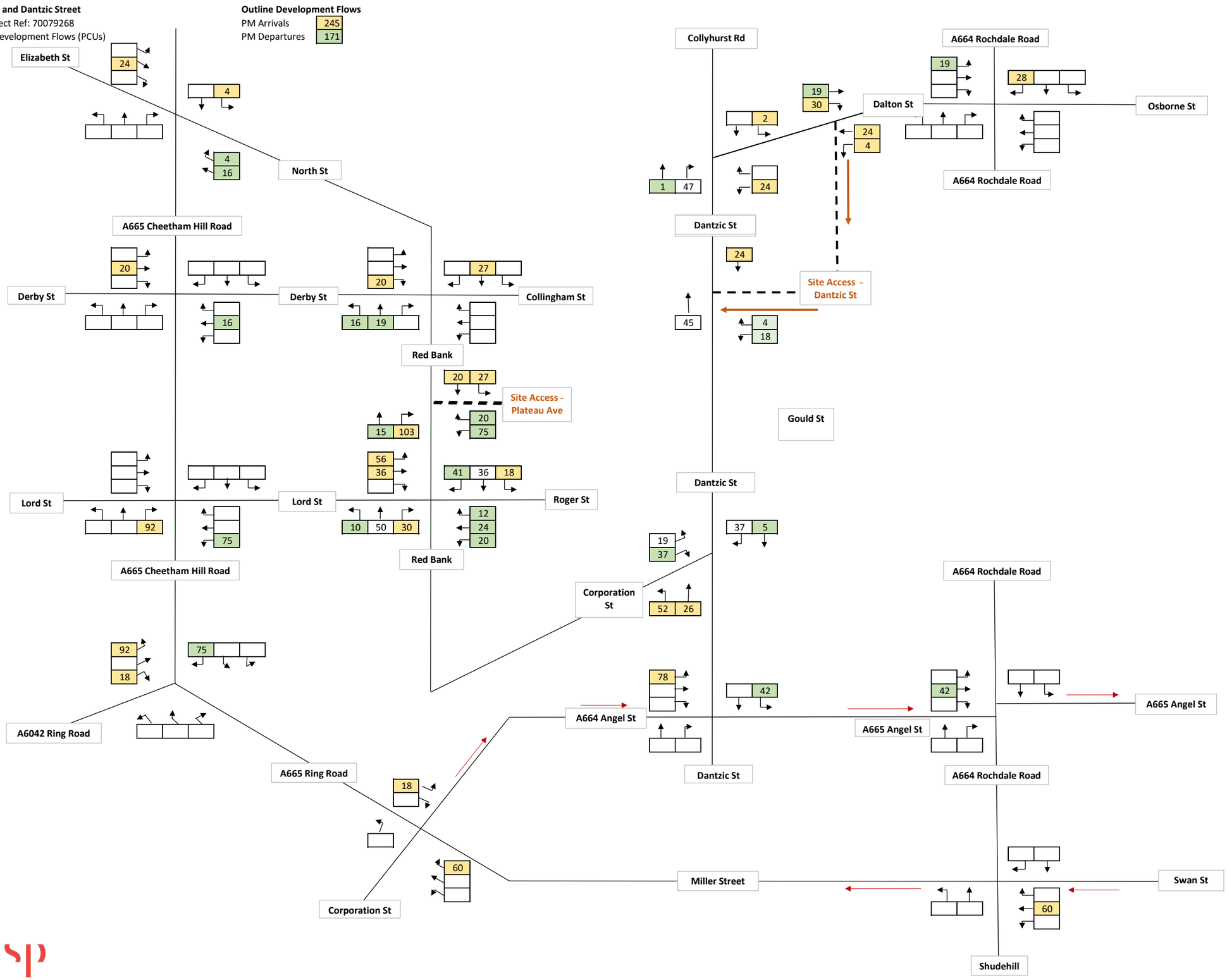
Red Bank and Dantzic Street
WSP Project Ref: 70079268
Outline Development Flows (PCUs)

Outline Development Flows
AM Arrivals 192
AM Departures 295



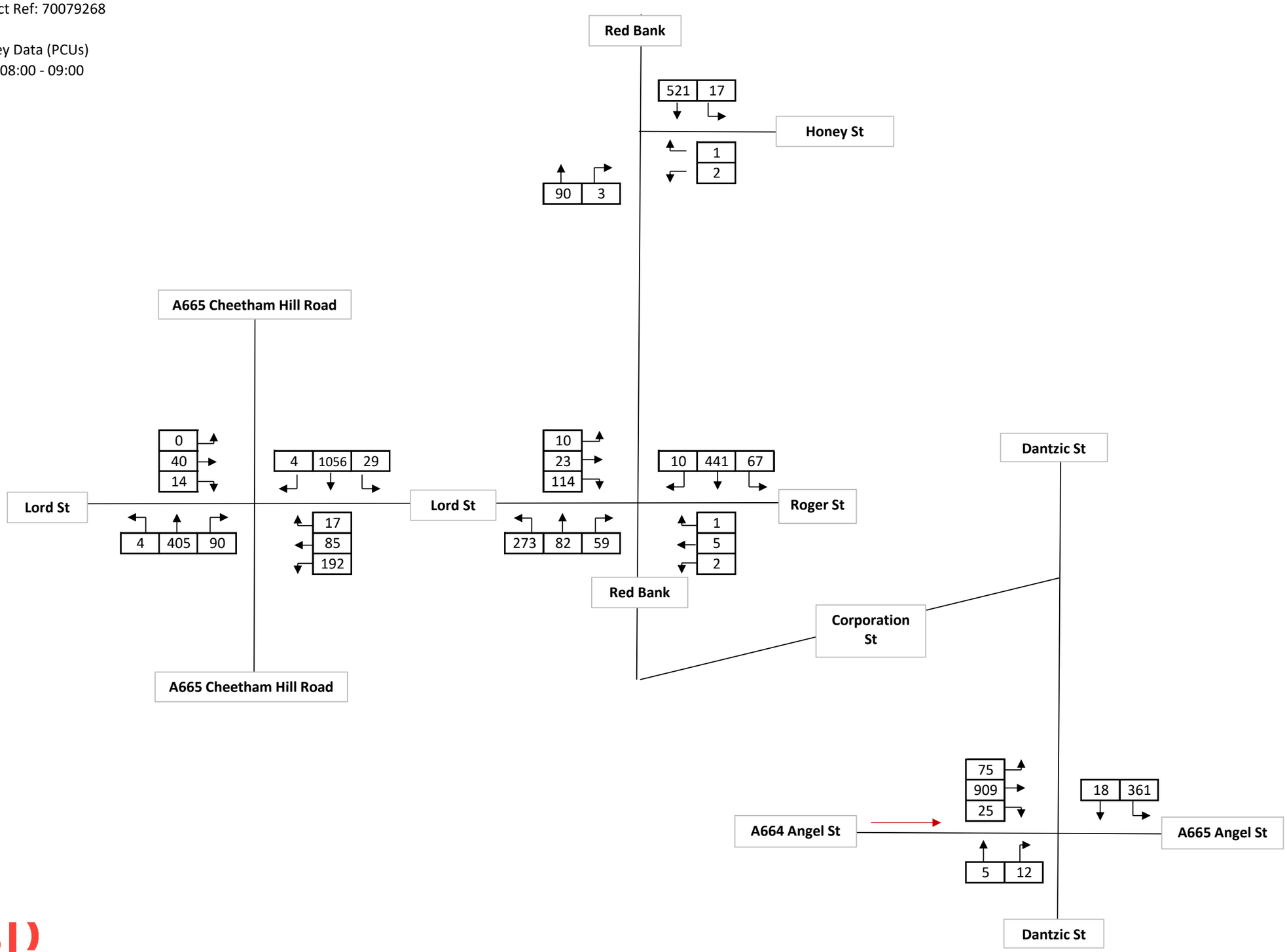
Red Bank and Dantzic Street
WSP Project Ref: 70079268
Outline Development Flows (PCUs)

Outline Development Flows
PM Arrivals 245
PM Departures 171



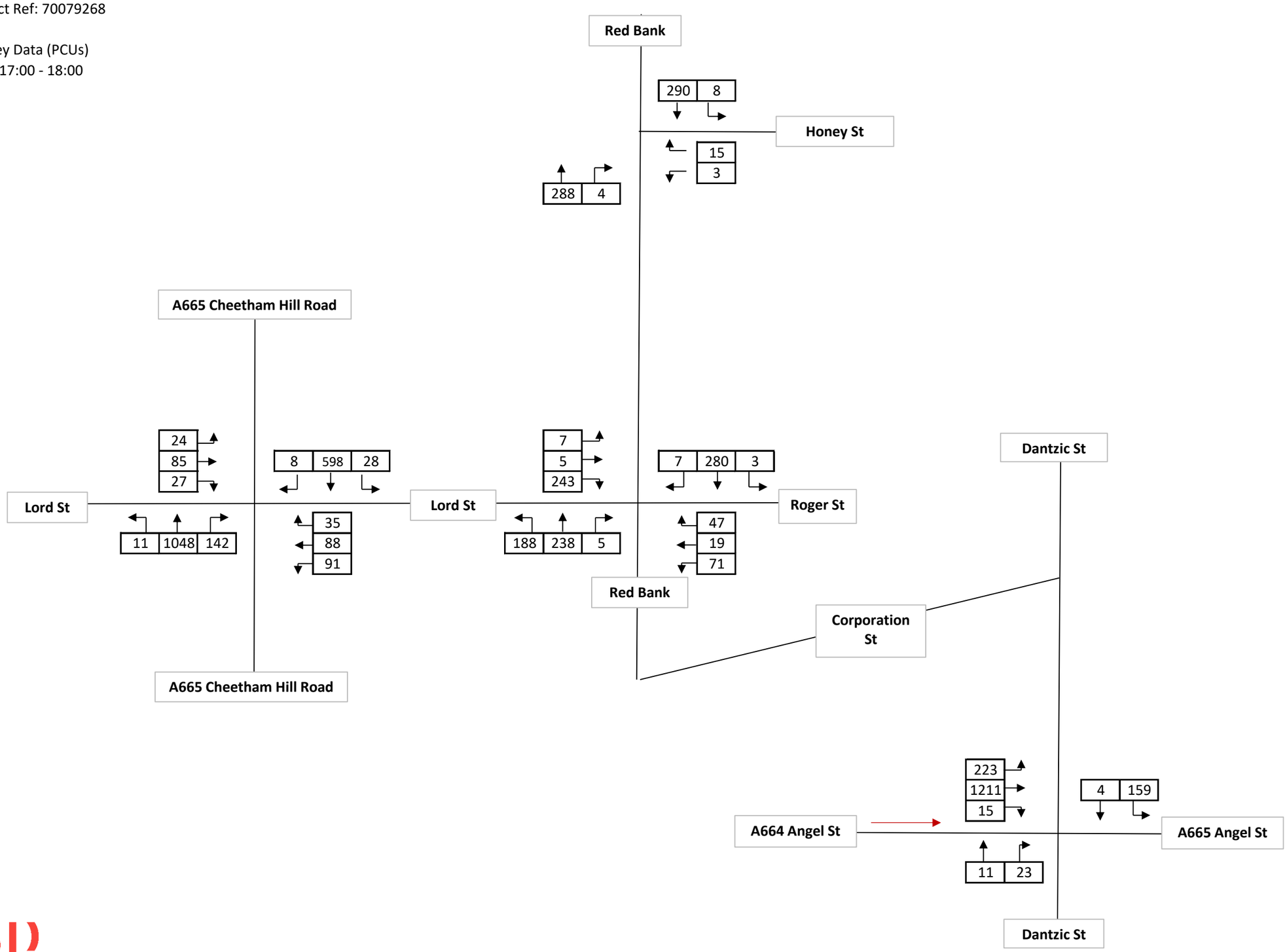
Red Bank and Dantzic Street
WSP Project Ref: 70079268

2018 Survey Data (PCUs)
AM Peak - 08:00 - 09:00



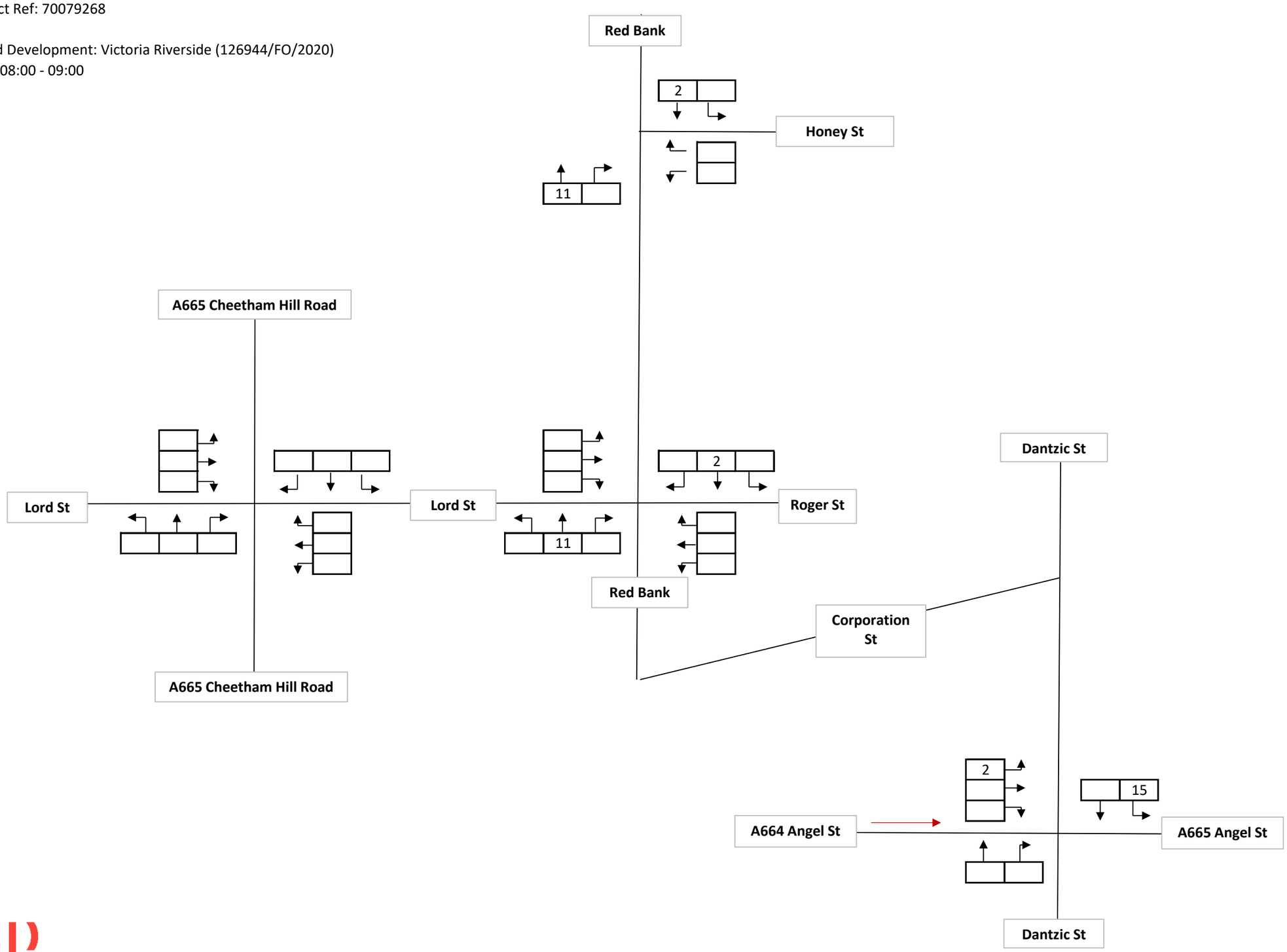
Red Bank and Dantzic Street
WSP Project Ref: 70079268

2018 Survey Data (PCUs)
PM Peak - 17:00 - 18:00



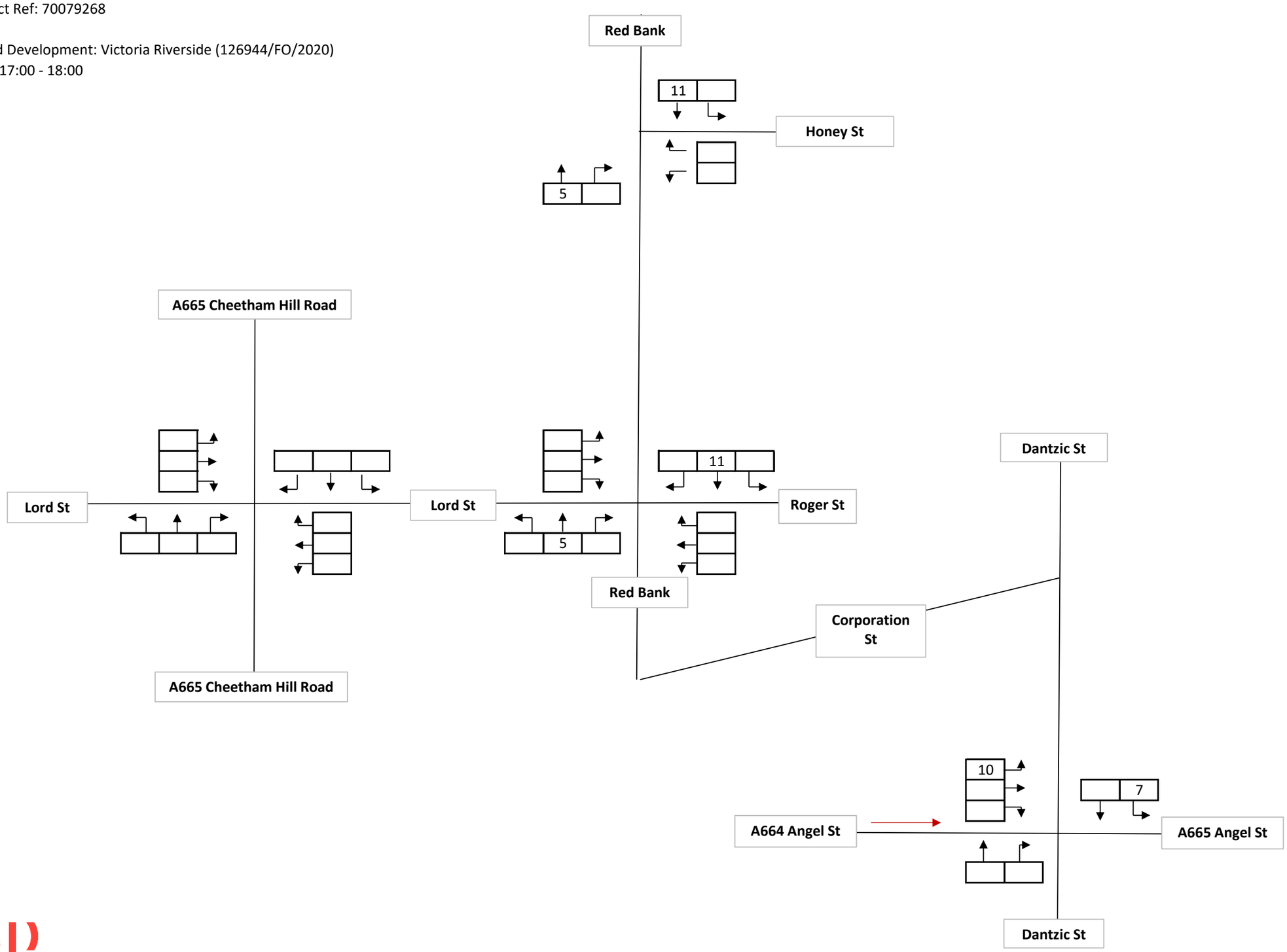
Red Bank and Dantzic Street
WSP Project Ref: 70079268

Committed Development: Victoria Riverside (126944/FO/2020)
AM Peak - 08:00 - 09:00



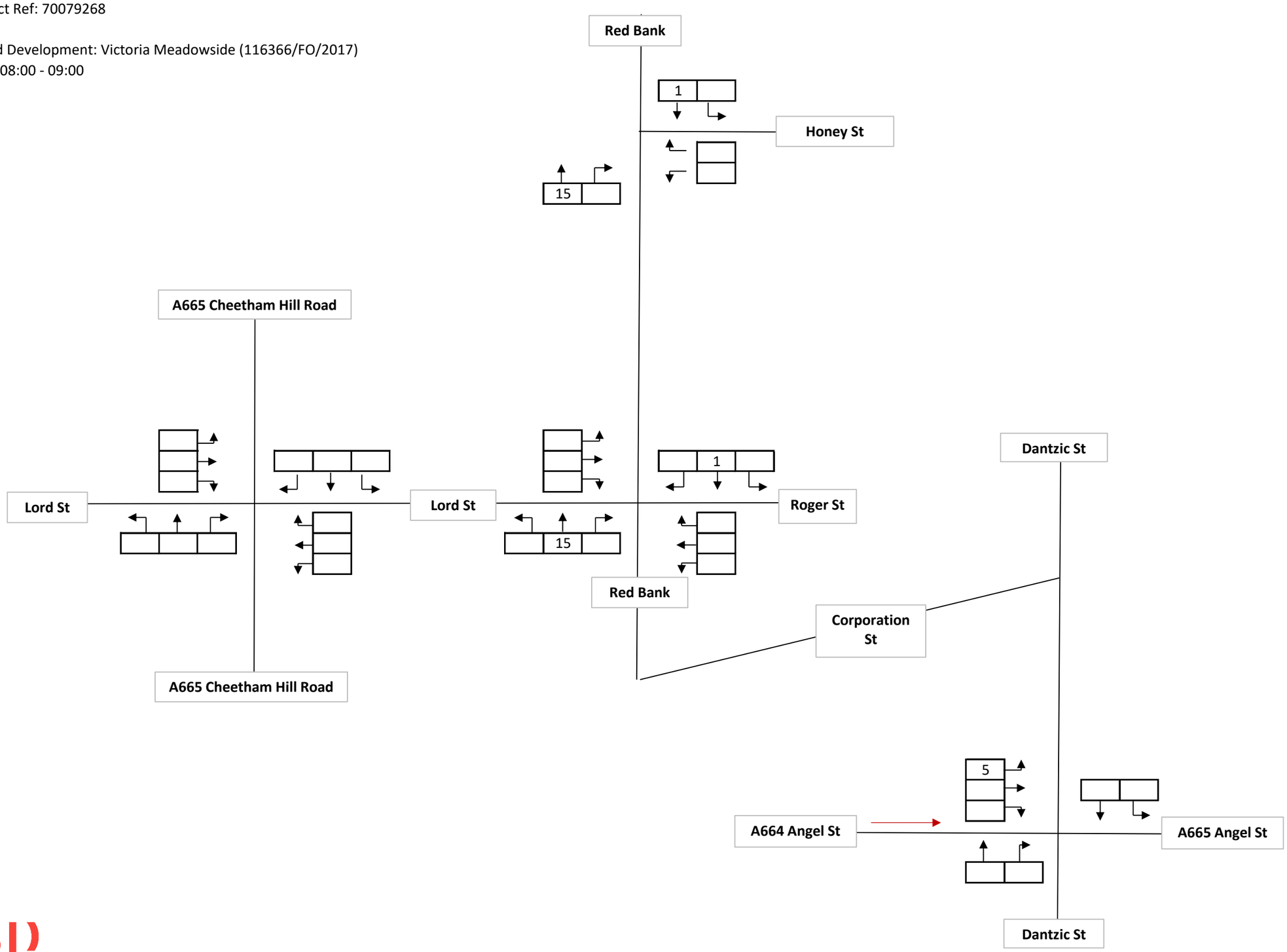
Red Bank and Dantzic Street
WSP Project Ref: 70079268

Committed Development: Victoria Riverside (126944/FO/2020)
PM Peak - 17:00 - 18:00



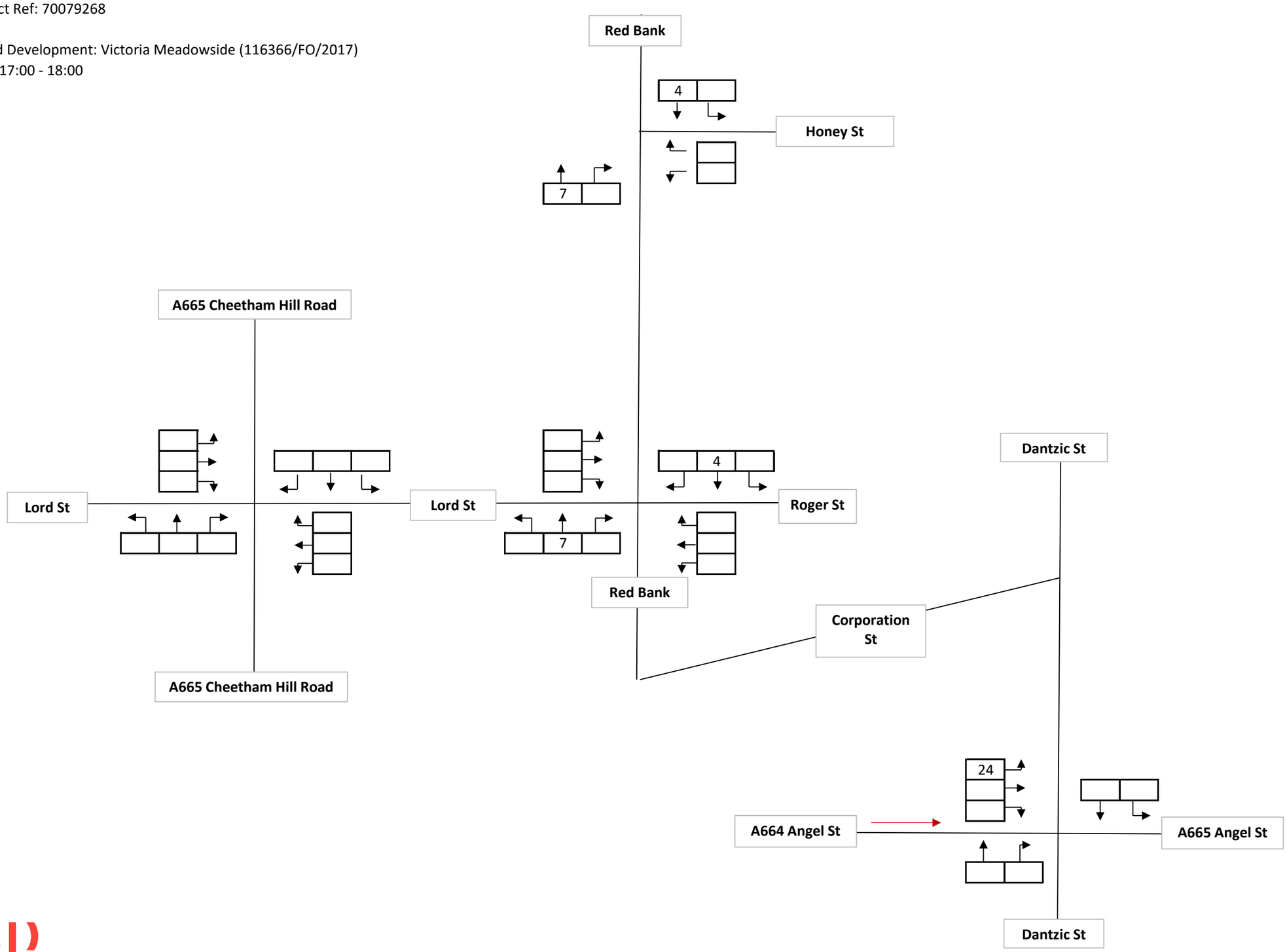
Red Bank and Dantzic Street
WSP Project Ref: 70079268

Committed Development: Victoria Meadowside (116366/FO/2017)
AM Peak - 08:00 - 09:00



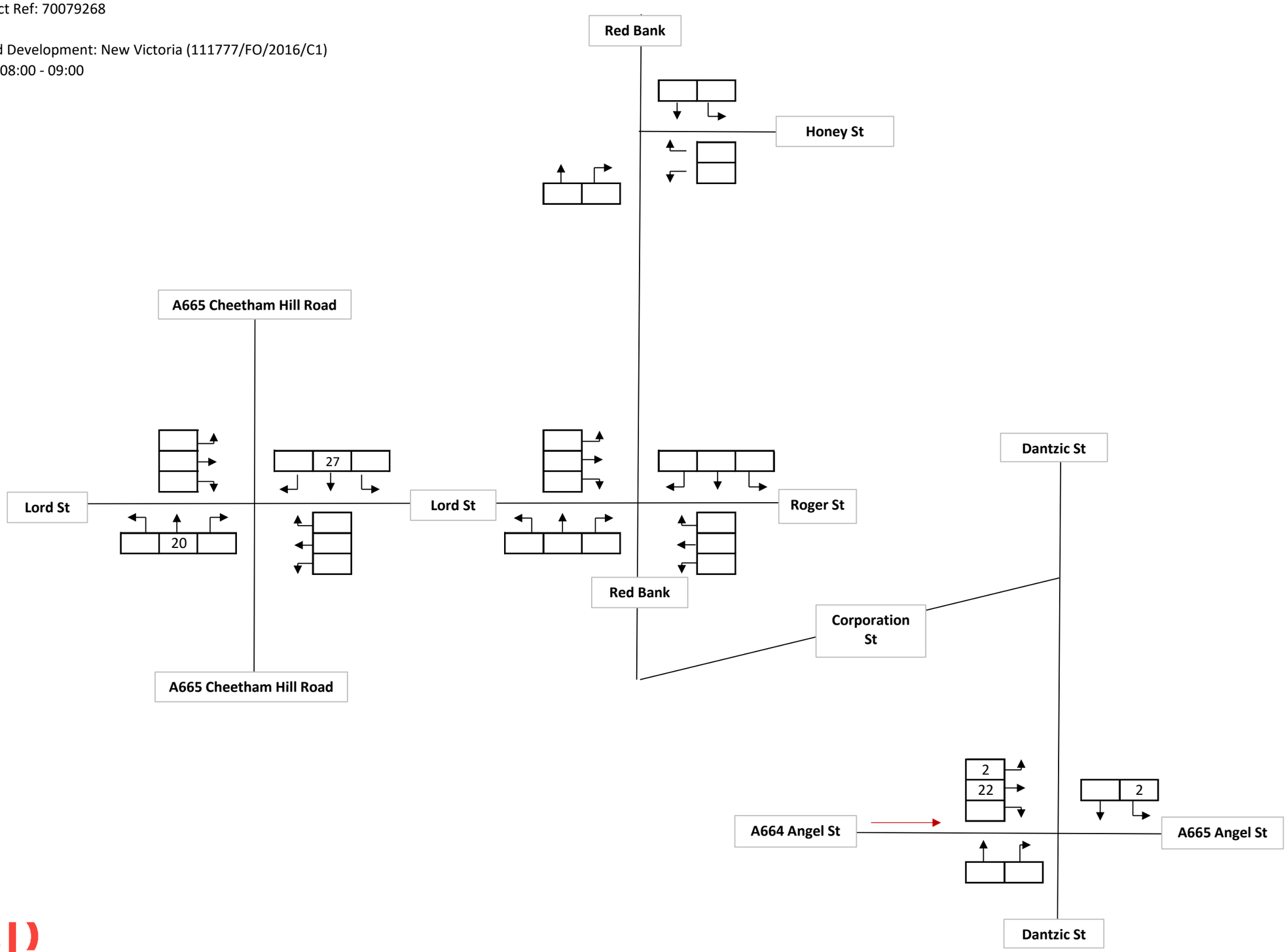
Red Bank and Dantzic Street
WSP Project Ref: 70079268

Committed Development: Victoria Meadowside (116366/FO/2017)
PM Peak - 17:00 - 18:00



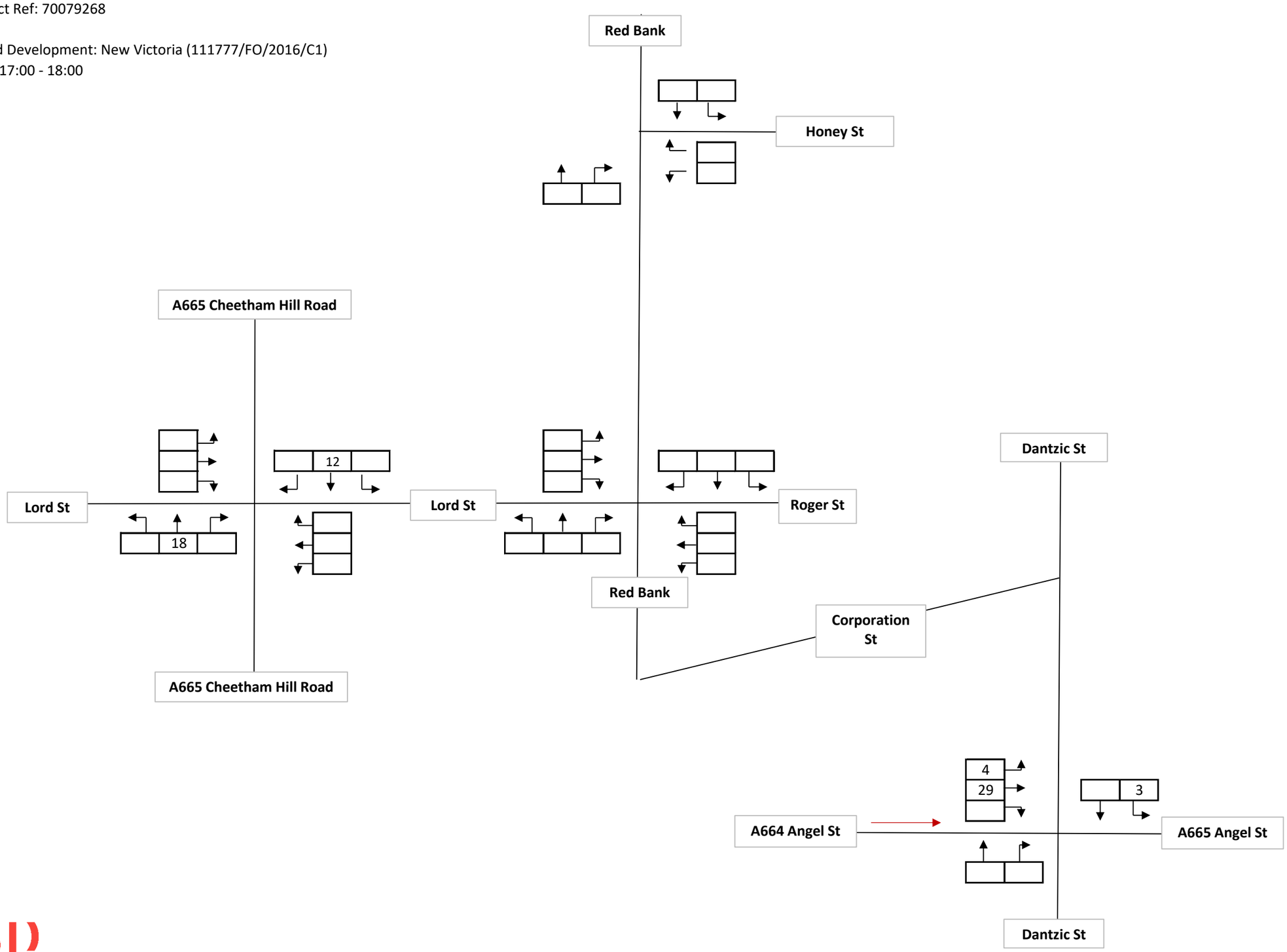
Red Bank and Dantzic Street
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Committed Development: New Victoria (111777/FO/2016/C1)
AM Peak - 08:00 - 09:00



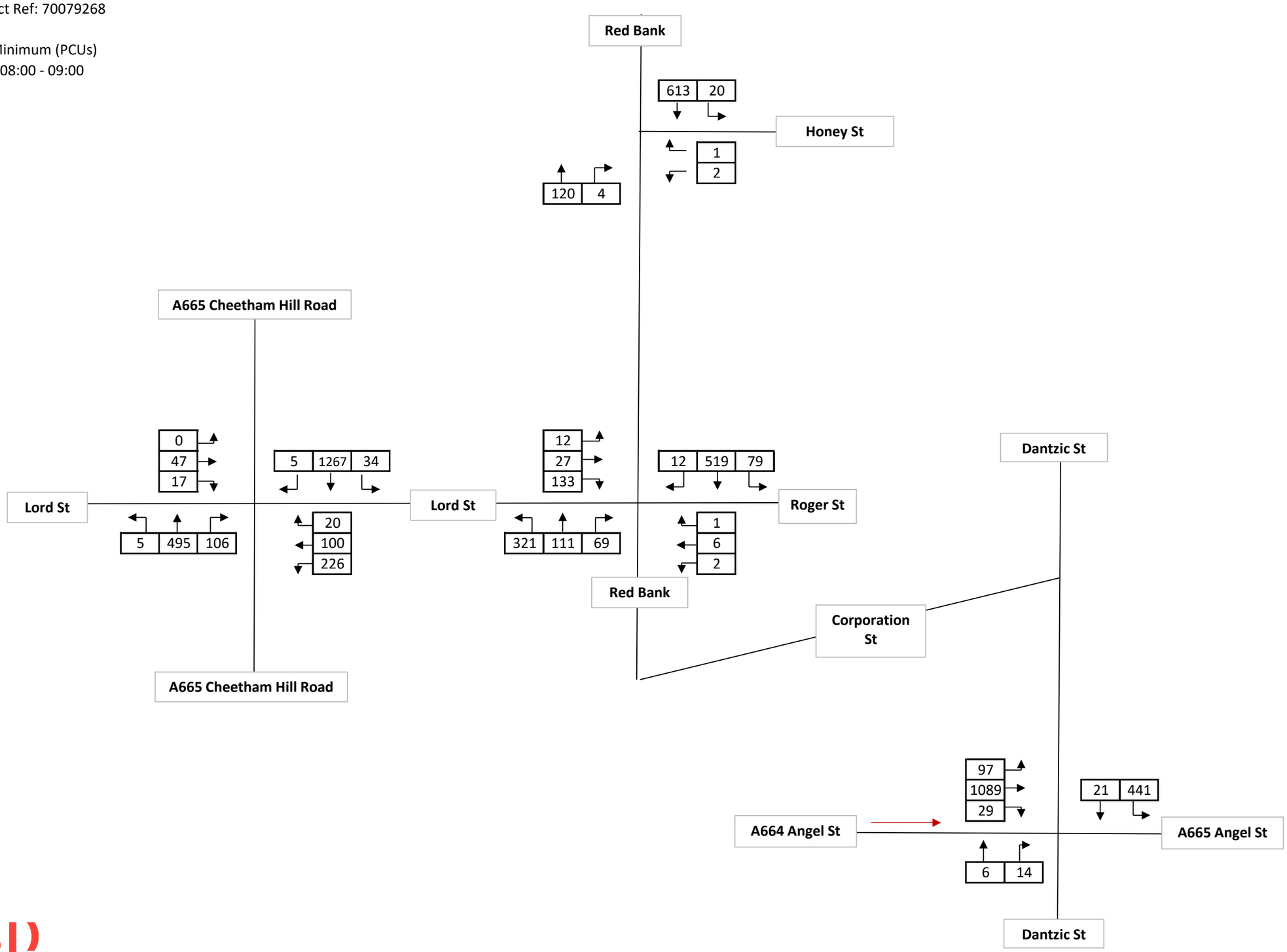
Red Bank and Dantzic Street
WSP Project Ref: 70079268

Committed Development: New Victoria (111777/FO/2016/C1)
PM Peak - 17:00 - 18:00



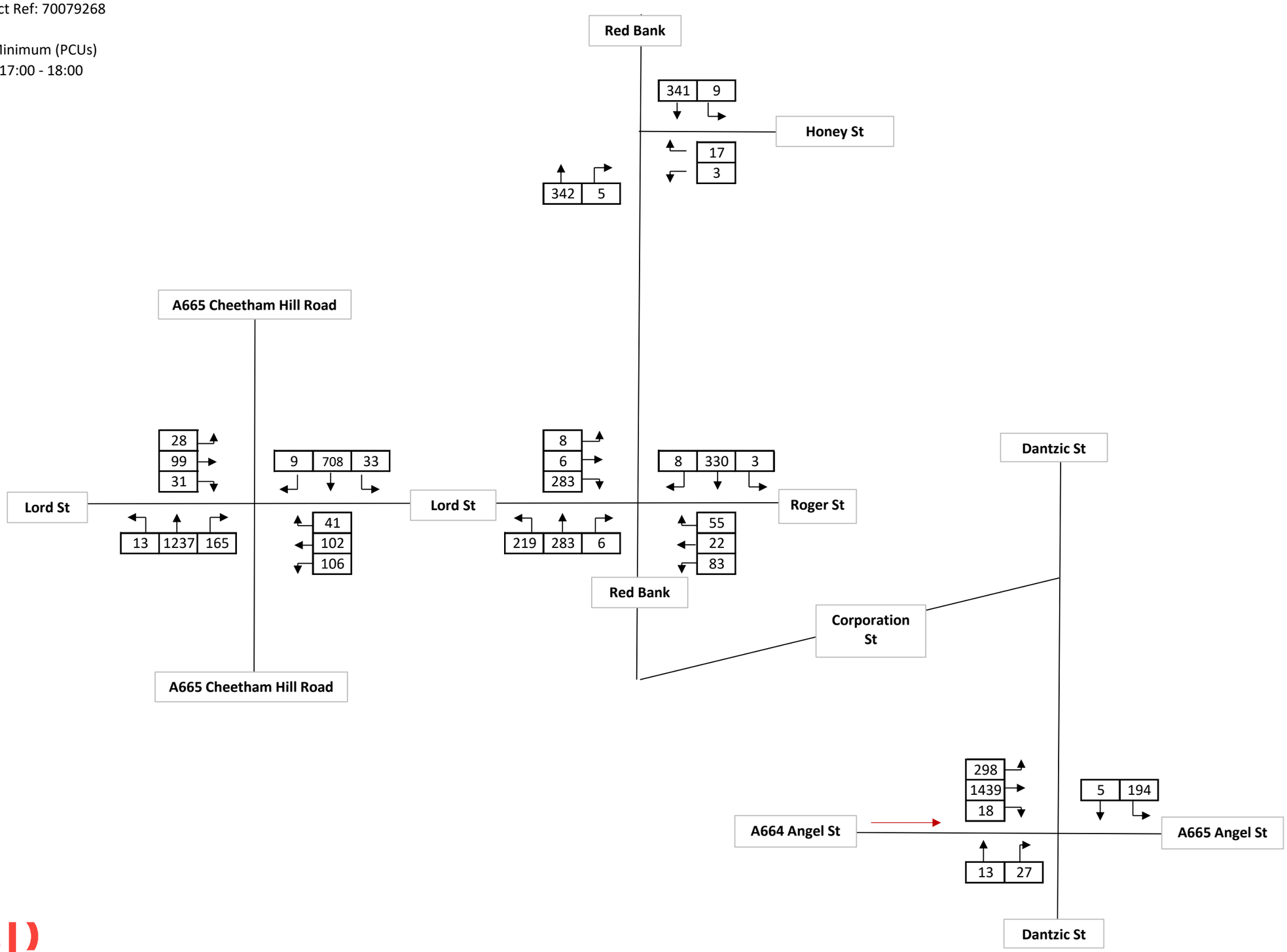
Red Bank and Dantzic Street
WSP Project Ref: 70079268

2034 Do-Minimum (PCUs)
AM Peak - 08:00 - 09:00



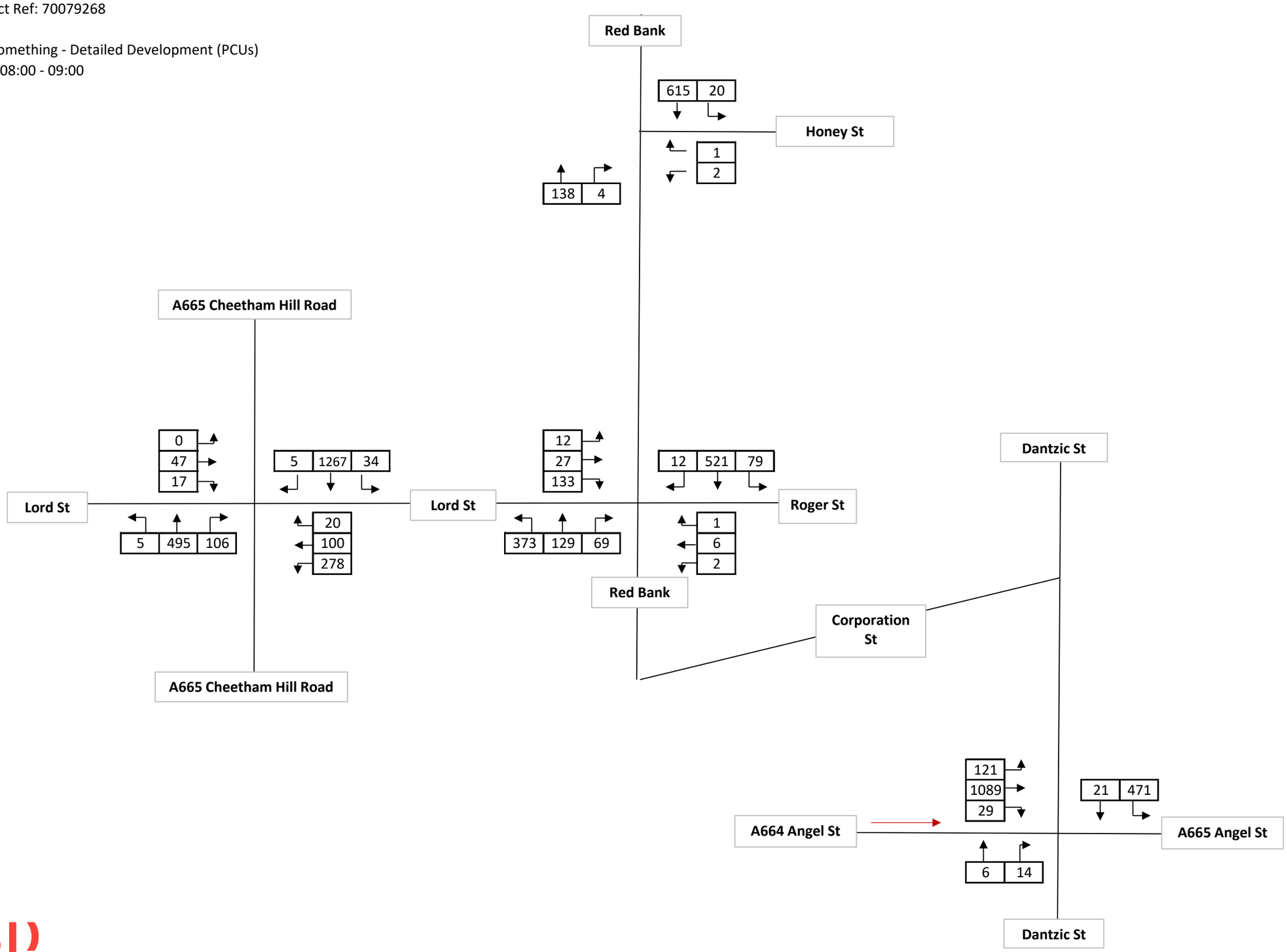
Red Bank and Dantzic Street
WSP Project Ref: 70079268

2034 Do-Minimum (PCUs)
PM Peak - 17:00 - 18:00



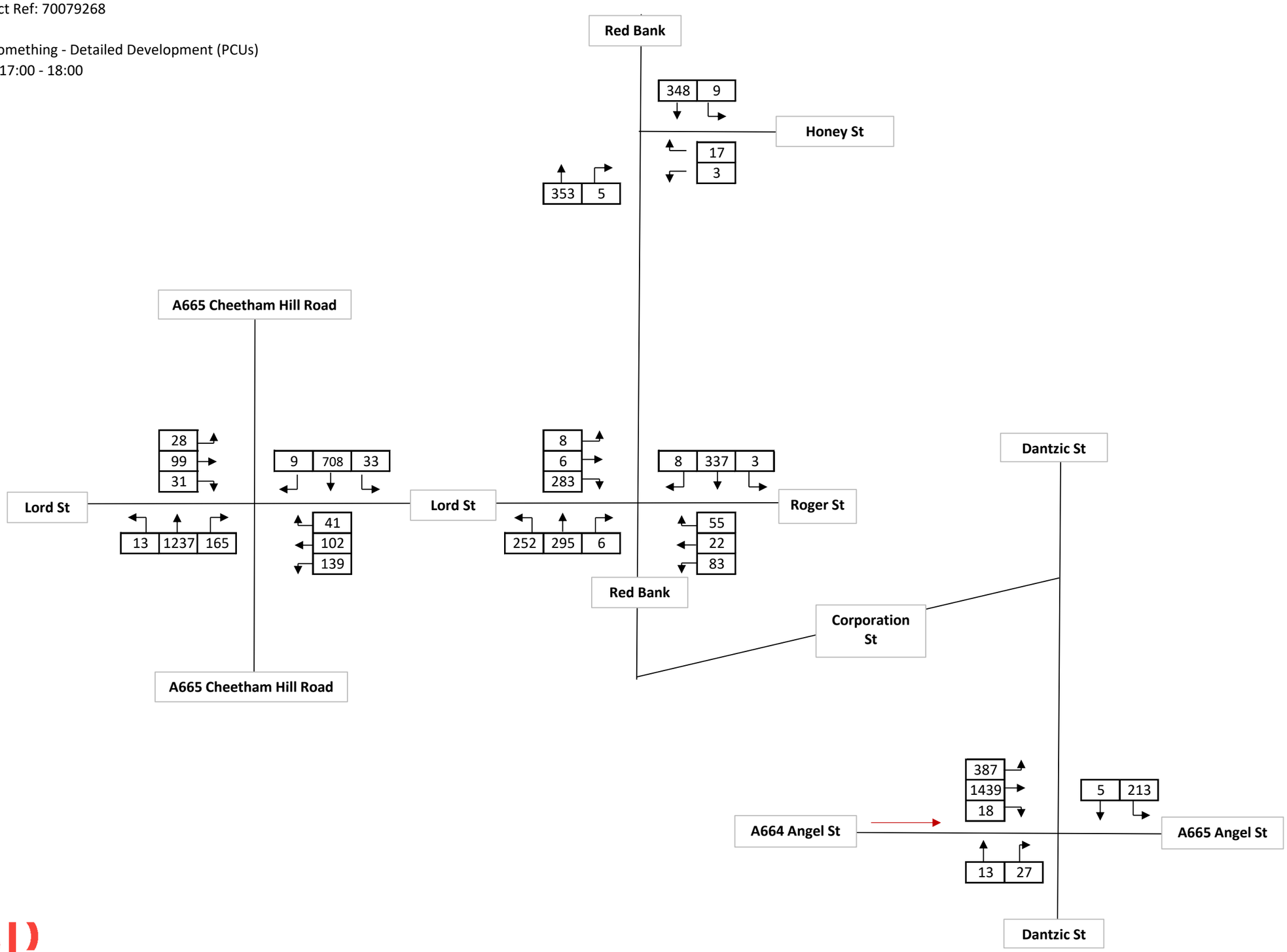
Red Bank and Dantzic Street
WSP Project Ref: 70079268

2034 Do-Something - Detailed Development (PCUs)
AM Peak - 08:00 - 09:00



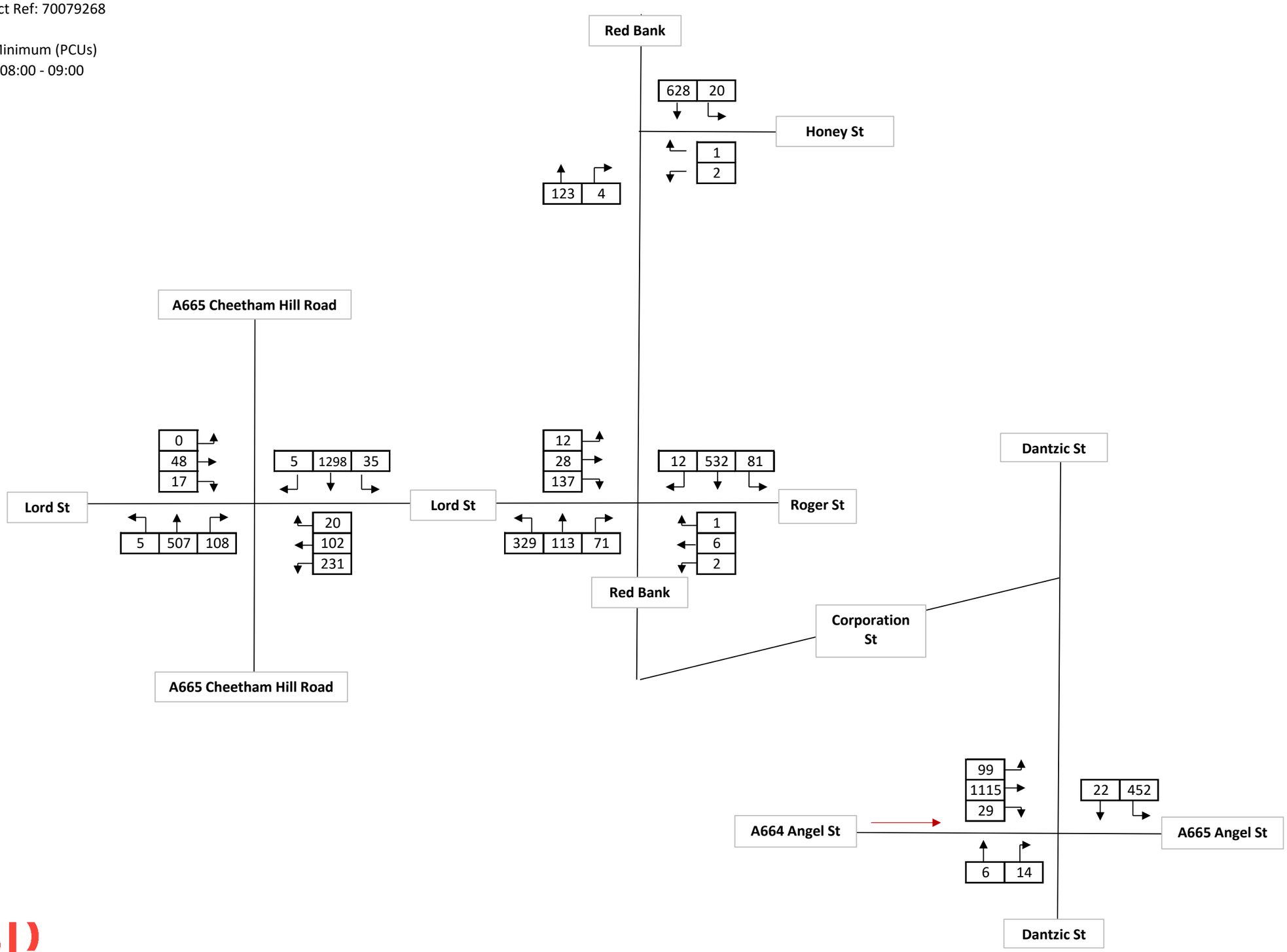
Red Bank and Dantzic Street
WSP Project Ref: 70079268

2034 Do-Something - Detailed Development (PCUs)
PM Peak - 17:00 - 18:00



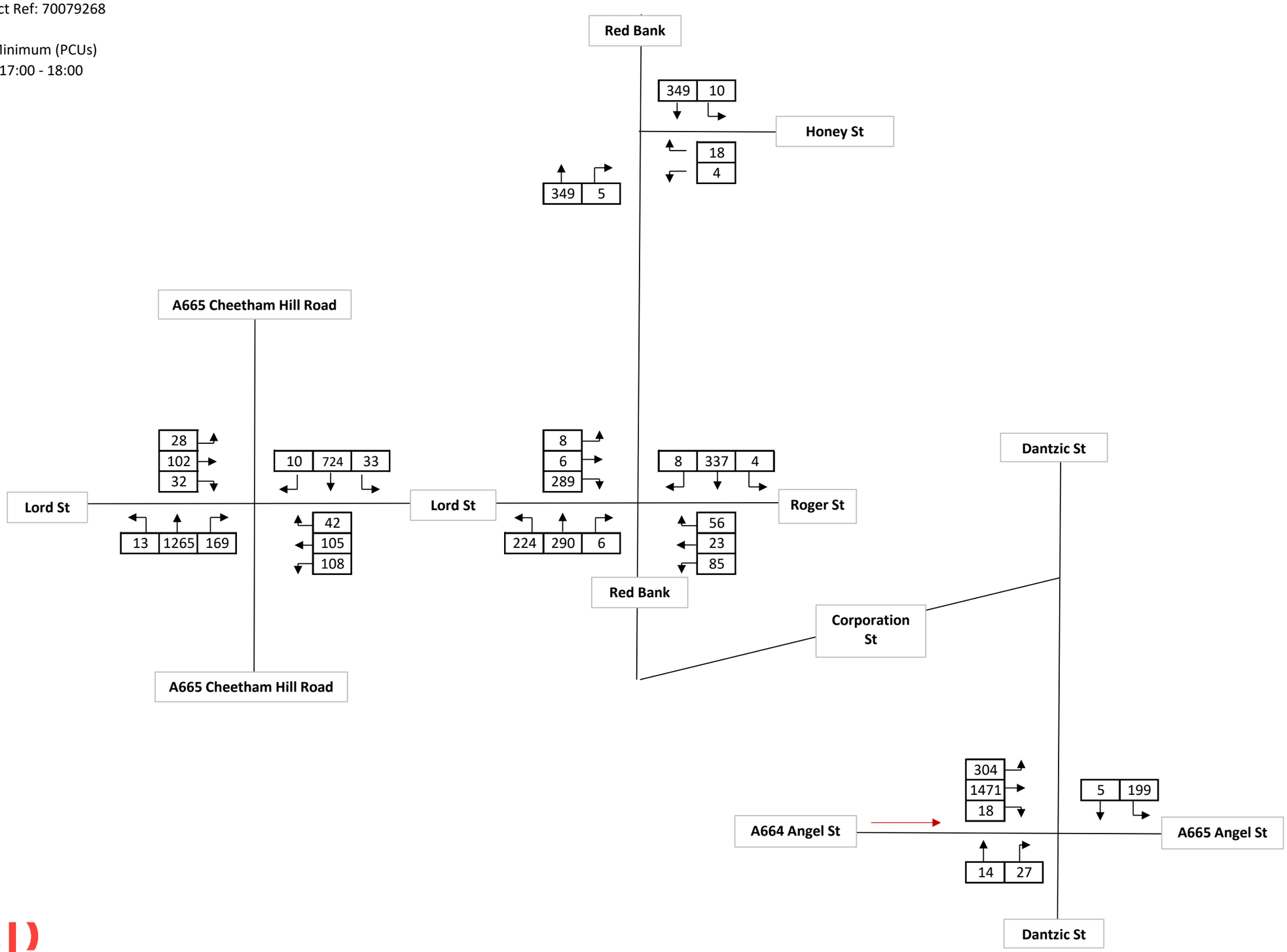
Red Bank and Dantzic Street
WSP Project Ref: 70079268

2037 Do-Minimum (PCUs)
AM Peak - 08:00 - 09:00



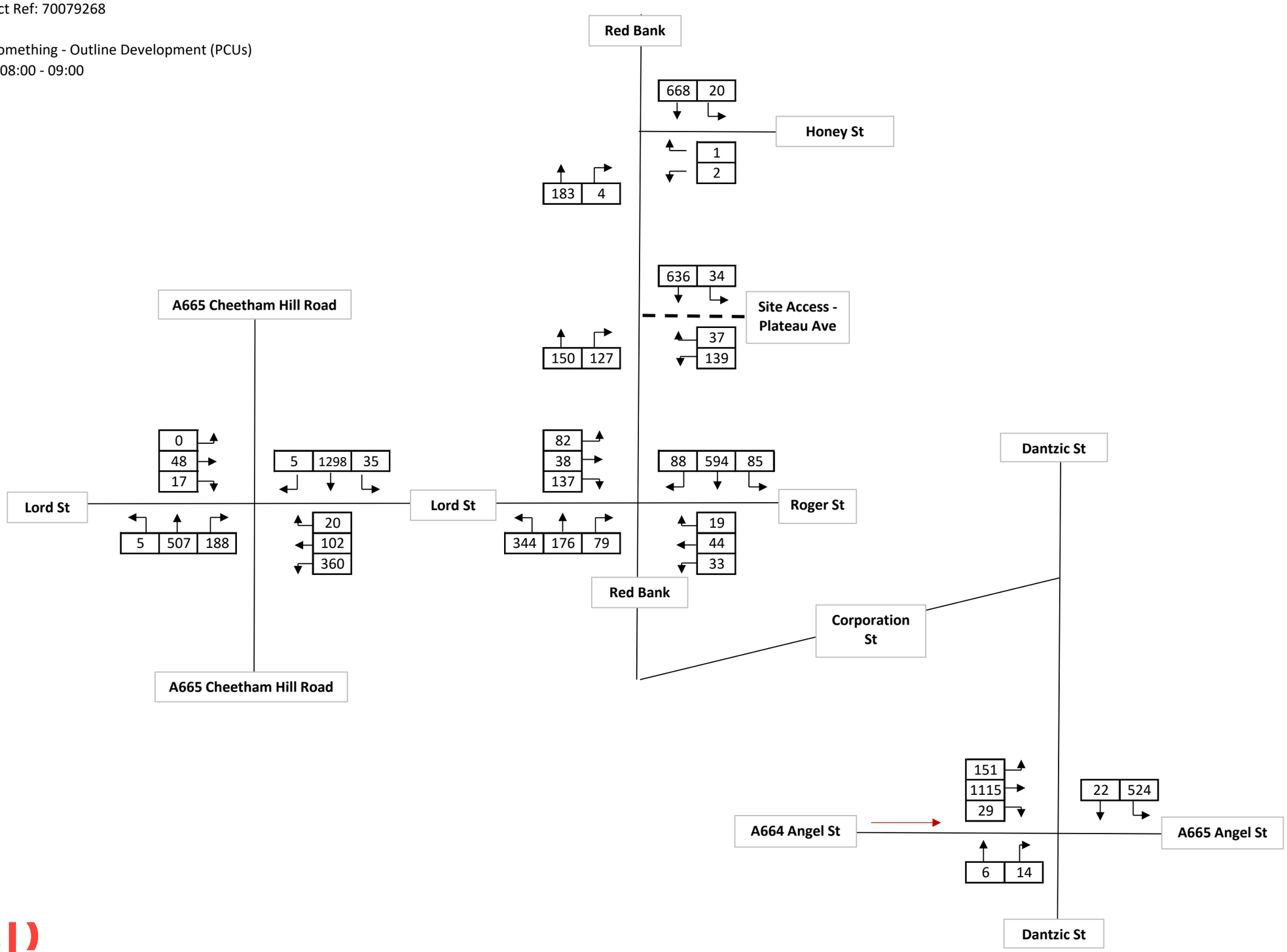
Red Bank and Dantzic Street
WSP Project Ref: 70079268

2037 Do-Minimum (PCUs)
PM Peak - 17:00 - 18:00



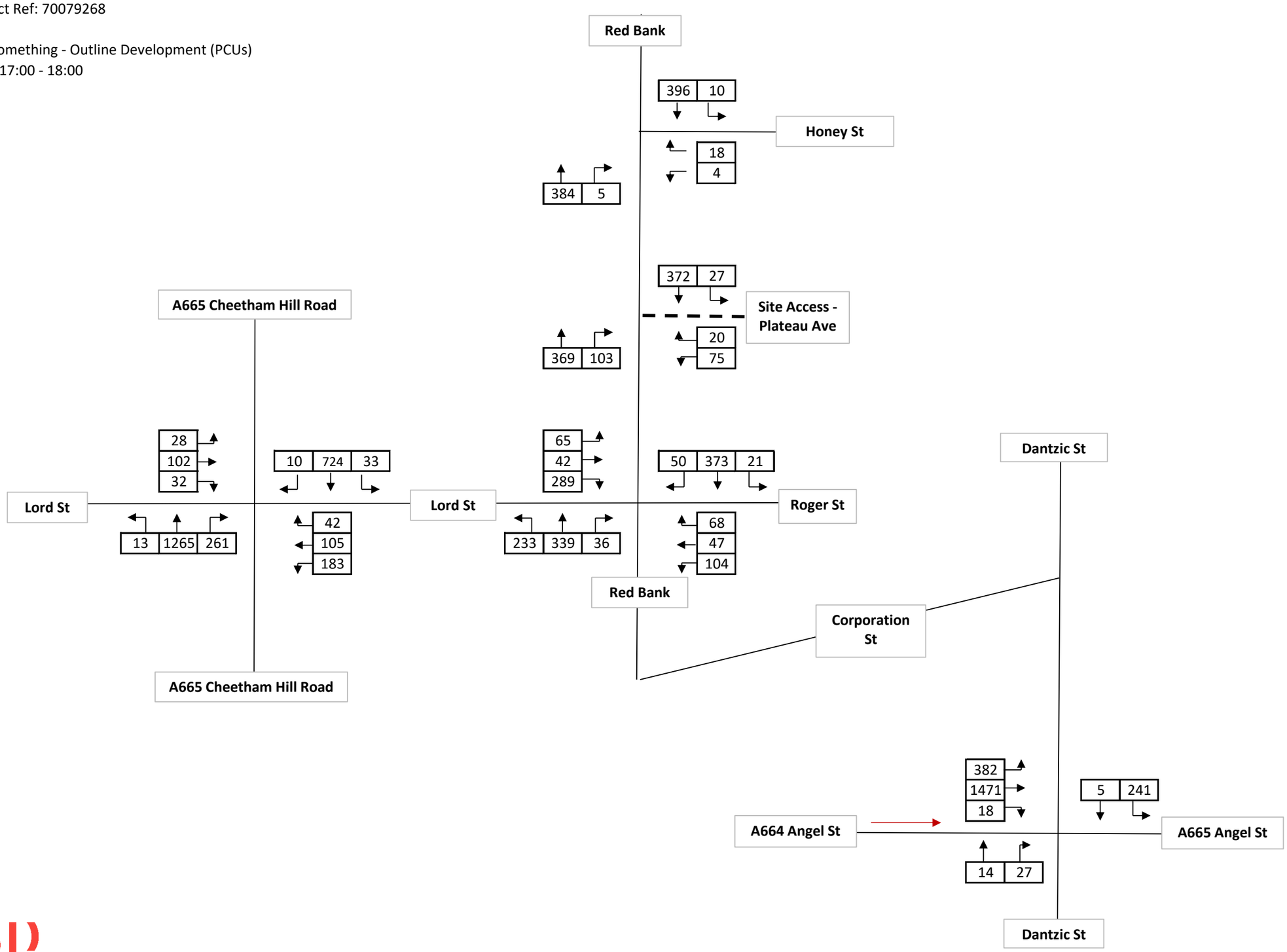
Red Bank and Dantzic Street
WSP Project Ref: 70079268

2037 Do-Something - Outline Development (PCUs)
AM Peak - 08:00 - 09:00



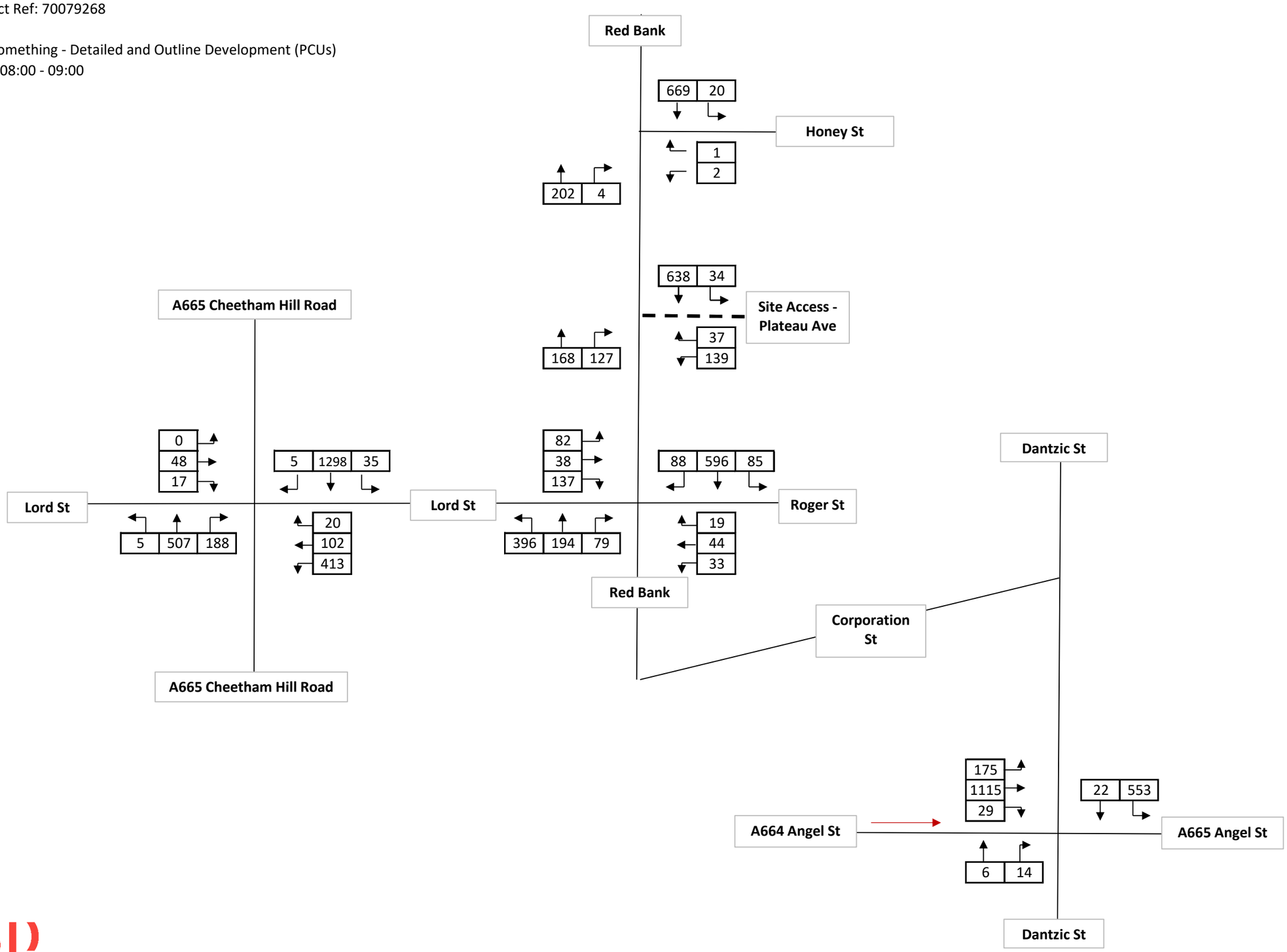
Red Bank and Dantzic Street
WSP Project Ref: 70079268

2037 Do-Something - Outline Development (PCUs)
PM Peak - 17:00 - 18:00



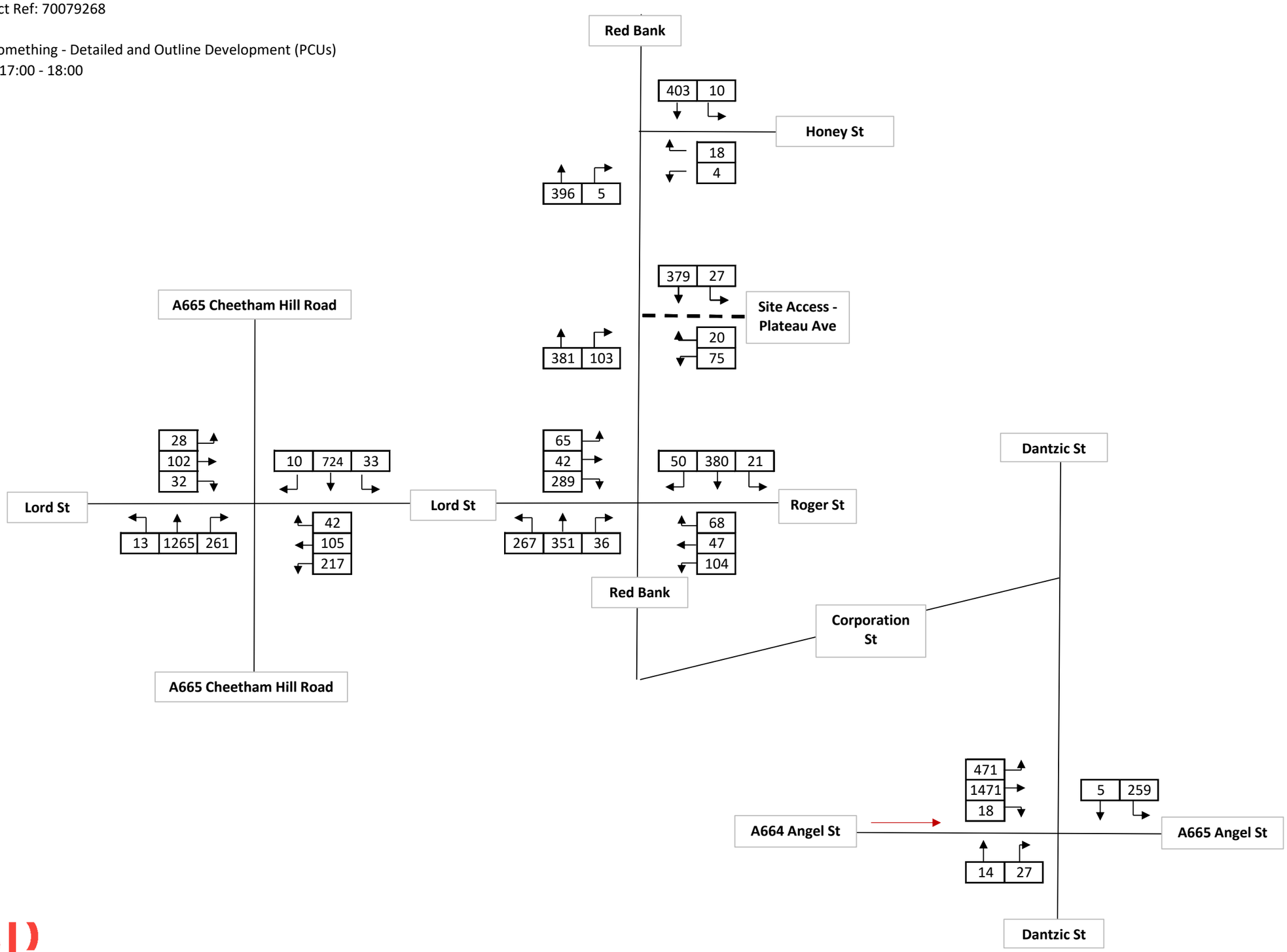
Red Bank and Dantzic Street
WSP Project Ref: 70079268

2037 Do-Something - Detailed and Outline Development (PCUs)
AM Peak - 08:00 - 09:00



Red Bank and Dantzic Street
WSP Project Ref: 70079268

2037 Do-Something - Detailed and Outline Development (PCUs)
PM Peak - 17:00 - 18:00



Appendix H

TRAFFIC SURVEY DATA

PUBLIC

North

Dearden House,
Dearden St,
A174 Corridor,
WF5 8NR

Tel: 01924 288040
Fax: 01924 278670

ARUP
MANCHESTER NORTHERN GATEWAY
MANUAL CLASSIFIED COUNT / QUEUE LENGTHS / PARKING
SURVEY REPORT
DECEMBER 2018

PROJECT NO.	9535
CHECKED	KM
DATE	30/03/2023
CONTACT	K. SHORTER
REVISION	

email: enquiries@nationwidedatacollection.co.uk
website: www.nationwidedatacollection.co.uk

Registered Office:
Haseley Office Centre, Firs Lane,
Haseley, Warwick, CV35 7LS

CONTENTS

Introduction

Appendix A – Vehicle Categories
Appendix B – Classified Count Data
Appendix C – Queue Lengths

INTRODUCTION

Nationwide Data Collection (NDC) was instructed by Arup to undertake a manual classified count in Manchester.

A general location plan is given in Diagram 1.

Manual Classified Count

A Manual Classified count was undertaken at the following sites:

MCC Site 1 – Red Bank /Honey Street
MCC Site 2 – Cheetham Hill Rd / Knowsley St
MCC Site 3 – Red Bank / Roger St / Lord St
MCC Site 4 – Cheetham Hill Rd / Lord St
MCC Site 5 – Cheetham Hill Rd / Trinity Way
MCC Site 6 – Cheetham Hill Rd / Aspin Lane / Miller St / Corporation St
MCC Site 7 – Angel St / Dantzic St
MCC Site 8 – Rochdale Rd Swan St
MCC Site 9 – Rochdale Rd / Angel St
MCC Site 10 – Gould St / Rochdale Rd
MCC Site 11 – Bromley St / Rochdale Rd / Livesey St

The sites were surveyed using telescopically mounted video cameras from which the information was subsequently extracted.

The survey was carried out on Tuesday 11th December 2018. Survey hours were between 0700 to 1000 and 1600 - 1900 hours. All information was collected in fifteen-minute intervals and has been tabulated with hourly totals. Details of the site location are shown on Diagram 9535/01-11.

Vehicles were classified into the following categories:
Cars and taxis (**CAR**), Light Goods Vehicles (**LGV**), Other Goods Vehicle 1**(OGV1)**, Other Goods Vehicle 2 **(OGV 2),** Public Service Vehicles (**PSV**), Motor Cycle **(MCL)**, Pedal Cycle **(PCL)**.

A detailed description of the vehicles included in each category is included in Appendix A.
The results of the classified counts are contained in Appendix B.

Queue Length Survey

A queue length survey was carried out at the same time as the MCC. At priority junctions, queues were recorded in vehicle numbers and by each particular lane on every 5-minute interval. At signalised junctions, queues were recorded at the end of every red signal.

The arm labelling is the same as the MCC. The results are contained in Appendix C.

Parking Survey

A parking survey was carried out at the same time as the traffic counts.

The street parking survey was broken down into zones and undertaken by recording the exact time a vehicle arrived and departed giving a dwell time for each parked car and numbers of parked cars at 30-minute intervals. Each individual site has a diagram containing exact location, any restrictions and approximate number of parking spaces. The hours were the same as the MCC.

Car Park Occupancy

Parked Vehicles were recorded at the start / end of the survey by on site staff. Vehicles were then recorded arriving and departing at the access point at the following sites: -

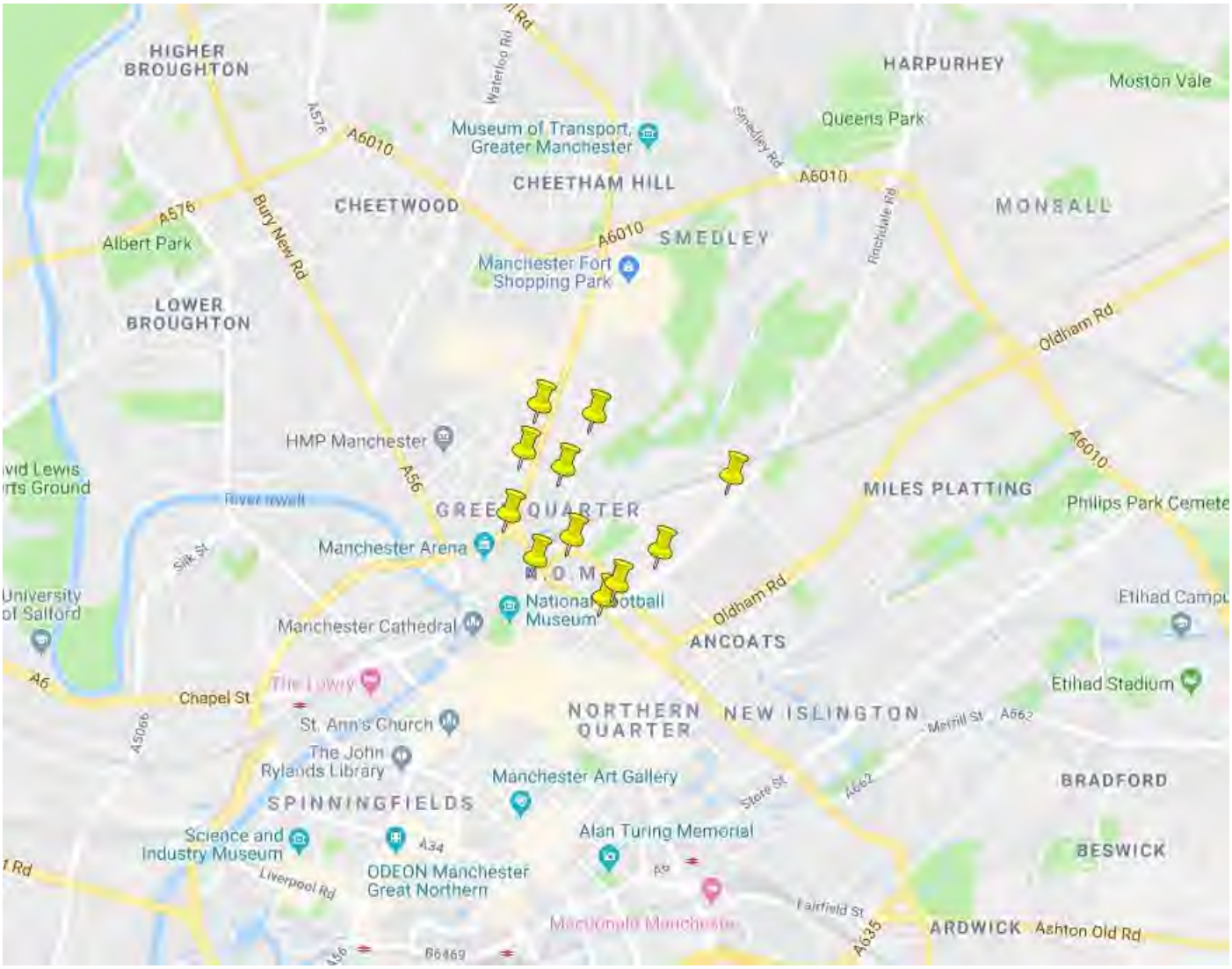
Car Park 1 – Red Bank Car Park
Car Park 2 – Roger St Car Park
Car Park 3 – Hargreaves St Car Park

The sites were surveyed using on-site staff and telescopically mounted video cameras from which the information was subsequently extracted. Survey hours were between 0700 to 1900 hours. All information was collected in 15-minute intervals. Details of site locations are shown Diagram 9535/01CP – 03CP

Manual count Site Notes
The manual count was carried out with no incidents or disruptions likely to affect the results.

Weather: Fine / /Dry

Diagram 1 – General Location Plan



9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 1 DATE: 11/12/2018

LOCATION: Red Bank/Honey Street DAY: TUESDAY

SITE: 1 DATE: 11/12/2018

LOCATION: Red Bank/Honey Street DAY: TUESDAY

	A to C								A to B								A to A							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	0	0	0	0	0	0	0	0	88	2	3	0	0	0	0	93	07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	97	8	2	0	0	0	0	107	07:15	0	0	0	0	0	0	0	0
07:30	1	0	0	0	0	0	0	1	122	7	2	0	0	1	0	132	07:30	0	0	0	0	0	0	0	0
07:45	2	0	0	0	0	0	0	2	145	6	0	0	0	0	1	152	07:45	0	0	0	0	0	0	0	0
H/TOT	3	0	0	0	0	0	0	3	452	23	7	0	0	1	1	484	H/TOT	0	0	0	0	0	0	0	0
08:00	1	1	0	0	0	0	0	2	140	11	0	0	0	0	0	151	08:00	0	0	0	0	0	0	0	0
08:15	1	0	1	0	0	0	0	2	123	6	1	0	0	0	3	133	08:15	0	0	0	0	0	0	0	0
08:30	4	0	1	0	0	0	0	5	127	7	2	0	0	1	0	137	08:30	0	0	0	0	0	0	0	0
08:45	6	0	0	0	0	0	0	6	87	4	5	0	0	0	0	96	08:45	0	0	0	0	0	0	0	0
H/TOT	12	1	2	0	0	0	0	15	477	28	8	0	0	1	3	517	H/TOT	0	0	0	0	0	0	0	0
09:00	1	0	1	0	0	0	0	2	71	7	2	0	0	0	1	81	09:00	0	0	0	0	0	0	0	0
09:15	1	0	0	0	0	0	0	1	60	2	3	0	0	0	1	66	09:15	0	0	0	0	0	0	0	0
09:30	0	0	2	0	0	0	0	2	34	3	3	0	0	0	0	40	09:30	0	0	0	0	0	0	0	0
09:45	1	1	0	0	0	0	0	2	48	6	1	0	0	0	0	55	09:45	0	0	0	0	0	0	0	0
H/TOT	3	1	3	0	0	0	0	7	213	18	9	0	0	0	2	242	H/TOT	0	0	0	0	0	0	0	0
P/TOT	18	2	5	0	0	0	0	25	1142	69	24	0	0	2	6	1243	P/TOT	0	0	0	0	0	0	0	0

	A to C								A to B								A to A							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	1	0	0	0	0	0	0	1	36	9	2	0	0	0	0	47	16:00	0	0	0	0	0	0	0	0
16:15	3	1	0	0	0	0	0	4	47	9	2	0	0	0	1	59	16:15	0	0	0	0	0	0	0	0
16:30	2	1	1	0	0	0	0	4	52	8	4	0	0	1	0	65	16:30	0	0	0	0	0	0	0	0
16:45	0	1	0	0	0	0	0	1	31	2	2	0	0	0	0	35	16:45	0	0	0	0	0	0	0	0
H/TOT	6	3	1	0	0	0	0	10	166	28	10	0	0	1	1	206	H/TOT	0	0	0	0	0	0	0	0
17:00	0	1	0	0	0	0	0	1	78	5	2	0	0	1	1	87	17:00	0	0	0	0	0	0	0	0
17:15	2	0	0	0	0	0	0	2	49	9	1	0	0	0	0	59	17:15	0	0	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	1	54	4	1	0	0	0	0	59	17:30	0	0	0	0	0	0	0	0
17:45	3	1	0	0	0	0	0	4	59	3	0	0	0	0	0	62	17:45	0	0	0	0	0	0	0	0
H/TOT	6	2	0	0	0	0	0	8	240	21	4	0	0	1	1	267	H/TOT	0	0	0	0	0	0	0	0
18:00	3	0	0	0	0	0	0	3	59	4	1	0	0	0	0	64	18:00	0	0	0	0	0	0	0	0
18:15	3	1	0	0	0	0	1	5	52	2	1	0	0	0	0	55	18:15	0	0	0	0	0	0	0	0
18:30	0	0	1	0	0	0	0	1	41	5	1	0	0	0	0	47	18:30	0	0	0	0	0	0	0	0
18:45	1	1	1	0	0	0	0	3	37	2	0	0	0	0	0	39	18:45	0	0	0	0	0	0	0	0
H/TOT	7	2	2	0	0	0	1	12	189	13	3	0	0	0	0	205	H/TOT	0	0	0	0	0	0	0	0
P/TOT	19	7	3	0	0	0	1	30	595	62	17	0	0	2	2	678	P/TOT	0	0	0	0	0	0	0	0

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

1 DATE: 11/12/2018 SITE: 1 DATE: 11/12/2018

Red Bank/Honey Street DAY: TUESDAY LOCATION: Red Bank/Honey Street DAY: TUESDAY

	B to A								B to C								B to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	15	1	1	0	0	0	0	17	0	0	0	0	0	0	0	0	07:00	0	0	0	0	0	0	0	0
07:15	10	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	07:15	0	0	0	0	0	0	0	0
07:30	13	1	0	0	0	0	1	15	0	0	0	0	0	0	0	0	07:30	0	0	0	0	0	0	0	0
07:45	16	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	07:45	0	0	0	0	0	0	0	0
H/TOT	54	2	1	0	0	0	1	58	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
08:00	14	1	0	0	0	0	0	15	0	0	0	0	0	0	0	0	08:00	0	0	0	0	0	0	0	0
08:15	16	3	1	0	0	0	0	20	0	0	0	0	0	0	0	0	08:15	0	0	0	0	0	0	0	0
08:30	14	6	0	0	0	0	0	20	1	0	0	0	0	0	0	1	08:30	0	0	0	0	0	0	0	0
08:45	18	3	1	0	0	0	1	23	1	1	0	0	0	0	0	2	08:45	0	0	0	0	0	0	0	0
H/TOT	62	13	2	0	0	0	1	78	2	1	0	0	0	0	0	3	H/TOT	0	0	0	0	0	0	0	0
09:00	35	0	0	0	0	0	0	35	3	0	0	0	0	0	0	3	09:00	0	0	0	0	0	0	0	0
09:15	12	5	1	0	0	0	0	18	1	0	0	0	0	0	0	1	09:15	0	0	0	0	0	0	0	0
09:30	22	4	0	0	0	0	0	26	1	0	0	0	0	0	0	1	09:30	0	0	0	0	0	0	0	0
09:45	15	3	0	0	0	0	1	19	0	0	0	0	0	0	0	0	09:45	0	0	0	0	0	0	0	0
H/TOT	84	12	1	0	0	0	1	98	5	0	0	0	0	0	0	5	H/TOT	0	0	0	0	0	0	0	0
P/TOT	200	27	4	0	0	0	3	234	7	1	0	0	0	0	0	8	P/TOT	0	0	0	0	0	0	0	0

	B to A								B to C								B to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	41	3	3	0	0	0	0	47	0	0	0	0	0	0	0	0	16:00	0	0	0	0	0	0	0	0
16:15	53	5	0	0	0	0	0	58	1	1	1	0	0	0	0	3	16:15	0	0	0	0	0	0	0	0
16:30	61	8	3	0	0	0	0	72	0	0	0	0	0	0	0	0	16:30	0	0	0	0	0	0	0	0
16:45	65	4	2	0	0	0	0	71	0	0	0	0	0	0	0	0	16:45	0	0	0	0	0	0	0	0
H/TOT	220	20	8	0	0	0	0	248	1	1	1	0	0	0	0	3	H/TOT	0	0	0	0	0	0	0	0
17:00	65	3	1	0	0	0	0	69	0	1	0	0	0	0	0	1	17:00	0	0	0	0	0	0	0	0
17:15	73	7	2	0	0	0	0	82	1	0	0	0	0	0	0	1	17:15	0	0	0	0	0	0	0	0
17:30	54	5	0	0	0	0	0	59	0	0	0	0	0	0	0	0	17:30	0	0	0	0	0	0	0	0
17:45	56	3	0	0	0	0	2	61	1	1	0	0	0	0	0	2	17:45	0	0	0	0	0	0	0	0
H/TOT	248	18	3	0	0	0	2	271	2	2	0	0	0	0	0	4	H/TOT	0	0	0	0	0	0	0	0
18:00	40	2	1	0	0	0	0	43	1	1	0	0	0	0	0	2	18:00	0	0	0	0	0	0	0	0
18:15	48	5	2	0	0	0	0	55	1	0	0	0	0	0	0	1	18:15	0	0	0	0	0	0	0	0
18:30	36	5	2	0	0	0	0	43	0	0	0	0	0	0	0	0	18:30	0	0	0	0	0	0	0	0
18:45	32	1	0	0	0	0	0	33	1	0	0	0	0	0	0	1	18:45	0	0	0	0	0	0	0	0
H/TOT	156	13	5	0	0	0	0	174	3	1	0	0	0	0	0	4	H/TOT	0	0	0	0	0	0	0	0
P/TOT	624	51	16	0	0	0	2	693	6	4	1	0	0	0	0	11	P/TOT	0	0	0	0	0	0	0	0

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 1 DATE: 11/12/2018

LOCATION: Red Bank/Honey Street DAY: TUESDAY

TIME	C to B CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	C to A CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	C to C CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	07:30	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	07:45	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	08:15	0	0	0	0	0	0	0	0
08:30	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
08:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	08:45	0	0	0	0	0	0	0	0
H/TOT	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	H/TOT	0	0	0	0	0	0	0	0
09:00	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	09:00	0	0	0	0	0	0	0	0
09:15	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	2	09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:30	0	0	0	0	0	0	0	0
09:45	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2	09:45	0	0	0	0	0	0	0	0
H/TOT	3	1	1	0	0	0	0	5	4	0	0	0	0	0	0	4	H/TOT	0	0	0	0	0	0	0	0
P/TOT	5	1	1	0	0	0	0	7	5	0	0	0	0	0	0	5	P/TOT	0	0	0	0	0	0	0	0

TIME	C to B CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	C to A CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	C to C CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	1	0	0	0	0	0	0	1	2	2	1	0	0	0	0	5	16:00	0	0	0	0	0	0	0	0
16:15	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2	16:15	0	0	0	0	0	0	0	0
16:30	3	2	1	0	0	0	0	6	0	1	0	0	0	0	0	1	16:30	0	0	0	0	0	0	0	0
16:45	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	16:45	0	0	0	0	0	0	0	0
H/TOT	5	2	2	0	0	0	0	9	3	4	1	0	0	0	0	8	H/TOT	0	0	0	0	0	0	0	0
17:00	0	1	0	0	0	0	0	1	4	0	0	0	0	0	0	4	17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4	17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	17:30	0	0	0	0	0	0	0	0
17:45	2	0	0	0	0	0	0	2	3	2	0	0	0	0	0	5	17:45	0	0	0	0	0	0	0	0
H/TOT	2	1	0	0	0	0	0	3	12	3	0	0	0	0	0	15	H/TOT	0	0	0	0	0	0	0	0
18:00	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4	18:00	0	0	0	0	0	0	0	0
18:15	3	1	0	0	0	0	0	4	2	0	0	0	0	0	0	2	18:15	0	0	0	0	0	0	0	0
18:30	1	0	0	0	0	0	0	1	1	2	1	0	0	0	0	4	18:30	0	0	0	0	0	0	0	0
18:45	3	0	0	0	0	0	0	3	0	1	0	0	0	0	0	1	18:45	0	0	0	0	0	0	0	0
H/TOT	8	1	0	0	0	0	0	9	7	3	1	0	0	0	0	11	H/TOT	0	0	0	0	0	0	0	0
P/TOT	15	4	2	0	0	0	0	21	22	10	2	0	0	0	0	34	P/TOT	0	0	0	0	0	0	0	0

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 1 DATE: 11/12/2018 SITE: 1

LOCATION: Red Bank/Honey Street DAY: TUESDAY LOCATION: Red Bank/Honey Street

	TO ARM A								FROM ARM A								TO ARM B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	15	1	1	0	0	0	0	17	88	2	3	0	0	0	0	93	07:00	88	2	3	0	0	0	0	93
07:15	10	0	0	0	0	0	0	10	97	8	2	0	0	0	0	107	07:15	97	8	2	0	0	0	0	107
07:30	13	1	0	0	0	0	1	15	123	7	2	0	0	1	0	133	07:30	122	7	2	0	0	1	0	132
07:45	16	0	0	0	0	0	0	16	147	6	0	0	0	0	1	154	07:45	145	6	0	0	0	0	1	152
H/TOT	54	2	1	0	0	0	1	58	455	23	7	0	0	1	1	487	**H/TOT**	452	23	7	0	0	1	1	484
08:00	15	1	0	0	0	0	0	16	141	12	0	0	0	0	0	153	08:00	140	11	0	0	0	0	0	151
08:15	16	3	1	0	0	0	0	20	124	6	2	0	0	0	3	135	08:15	123	6	1	0	0	0	3	133
08:30	14	6	0	0	0	0	0	20	131	7	3	0	0	1	0	142	08:30	127	7	2	0	0	1	0	137
08:45	18	3	1	0	0	0	1	23	93	4	5	0	0	0	0	102	08:45	89	4	5	0	0	0	0	98
H/TOT	63	13	2	0	0	0	1	79	489	29	10	0	0	1	3	532	**H/TOT**	479	28	8	0	0	1	3	519
09:00	35	0	0	0	0	0	0	35	72	7	3	0	0	0	1	83	09:00	73	8	2	0	0	0	1	84
09:15	14	5	1	0	0	0	0	20	61	2	3	0	0	0	1	67	09:15	60	2	4	0	0	0	1	67
09:30	22	4	0	0	0	0	0	26	34	3	5	0	0	0	0	42	09:30	34	3	3	0	0	0	0	40
09:45	17	3	0	0	0	0	1	21	49	7	1	0	0	0	0	57	09:45	49	6	1	0	0	0	0	56
H/TOT	88	12	1	0	0	0	1	102	216	19	12	0	0	0	2	249	**H/TOT**	216	19	10	0	0	0	2	247
P/TOT	205	27	4	0	0	0	3	239	1160	71	29	0	0	2	6	1268	**P/TOT**	1147	70	25	0	0	2	6	1250

	TO ARM A								FROM ARM A								TO ARM B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	43	5	4	0	0	0	0	52	37	9	2	0	0	0	0	48	16:00	37	9	2	0	0	0	0	48
16:15	54	6	0	0	0	0	0	60	50	10	2	0	0	0	1	63	16:15	48	9	2	0	0	0	1	60
16:30	61	9	3	0	0	0	0	73	54	9	5	0	0	1	0	69	16:30	55	10	5	0	0	1	0	71
16:45	65	4	2	0	0	0	0	71	31	3	2	0	0	0	0	36	16:45	31	2	3	0	0	0	0	36
H/TOT	223	24	9	0	0	0	0	256	172	31	11	0	0	1	1	216	**H/TOT**	171	30	12	0	0	1	1	215
17:00	69	3	1	0	0	0	0	73	78	6	2	0	0	1	1	88	17:00	78	6	2	0	0	1	1	88
17:15	76	8	2	0	0	0	0	86	51	9	1	0	0	0	0	61	17:15	49	9	1	0	0	0	0	59
17:30	56	5	0	0	0	0	0	61	55	4	1	0	0	0	0	60	17:30	54	4	1	0	0	0	0	59
17:45	59	5	0	0	0	0	2	66	62	4	0	0	0	0	0	66	17:45	61	3	0	0	0	0	0	64
H/TOT	260	21	3	0	0	0	2	286	246	23	4	0	0	1	1	275	**H/TOT**	242	22	4	0	0	1	1	270
18:00	44	2	1	0	0	0	0	47	62	4	1	0	0	0	0	67	18:00	60	4	1	0	0	0	0	65
18:15	50	5	2	0	0	0	0	57	55	3	1	0	0	0	1	60	18:15	55	3	1	0	0	0	0	59
18:30	37	7	3	0	0	0	0	47	41	5	2	0	0	0	0	48	18:30	42	5	1	0	0	0	0	48
18:45	32	2	0	0	0	0	0	34	38	3	1	0	0	0	0	42	18:45	40	2	0	0	0	0	0	42
H/TOT	163	16	6	0	0	0	0	185	196	15	5	0	0	0	1	217	**H/TOT**	197	14	3	0	0	0	0	214
P/TOT	646	61	18	0	0	0	2	727	614	69	20	0	0	2	3	708	**P/TOT**	610	66	19	0	0	2	2	699

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 1 DATE: 11/12/2018

DAY: TUESDAY LOCATION: Red Bank/Honey Street DAY: TUESDAY

FROM ARM B									TO ARM C								FROM ARM C							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
15	1	1	0	0	0	0	17	07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	10	07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	1	0	0	0	0	1	15	07:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	16	07:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
54	2	1	0	0	0	1	58	H/TOT	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
14	1	0	0	0	0	0	15	08:00	1	1	0	0	0	0	0	2	1	0	0	0	0	0	0	1
16	3	1	0	0	0	0	20	08:15	1	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0
15	6	0	0	0	0	0	21	08:30	5	0	1	0	0	0	0	6	0	0	0	0	0	0	0	0
19	4	1	0	0	0	1	25	08:45	7	1	0	0	0	0	0	8	2	0	0	0	0	0	0	2
64	14	2	0	0	0	1	81	H/TOT	14	2	2	0	0	0	0	18	3	0	0	0	0	0	0	3
38	0	0	0	0	0	0	38	09:00	4	0	1	0	0	0	0	5	2	1	0	0	0	0	0	3
13	5	1	0	0	0	0	19	09:15	2	0	0	0	0	0	0	2	2	0	1	0	0	0	0	3
23	4	0	0	0	0	0	27	09:30	1	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0
15	3	0	0	0	0	1	19	09:45	1	1	0	0	0	0	0	2	3	0	0	0	0	0	0	3
89	12	1	0	0	0	1	103	H/TOT	8	1	3	0	0	0	0	12	7	1	1	0	0	0	0	9
207	28	4	0	0	0	3	242	P/TOT	25	3	5	0	0	0	0	33	10	1	1	0	0	0	0	12

FROM ARM B									TO ARM C								FROM ARM C							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
41	3	3	0	0	0	0	47	16:00	1	0	0	0	0	0	0	1	3	2	1	0	0	0	0	6
54	6	1	0	0	0	0	61	16:15	4	2	1	0	0	0	0	7	2	1	0	0	0	0	0	3
61	8	3	0	0	0	0	72	16:30	2	1	1	0	0	0	0	4	3	3	1	0	0	0	0	7
65	4	2	0	0	0	0	71	16:45	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1
221	21	9	0	0	0	0	251	H/TOT	7	4	2	0	0	0	0	13	8	6	3	0	0	0	0	17
65	4	1	0	0	0	0	70	17:00	0	2	0	0	0	0	0	2	4	1	0	0	0	0	0	5
74	7	2	0	0	0	0	83	17:15	3	0	0	0	0	0	0	3	3	1	0	0	0	0	0	4
54	5	0	0	0	0	0	59	17:30	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
57	4	0	0	0	0	2	63	17:45	4	2	0	0	0	0	0	6	5	2	0	0	0	0	0	7
250	20	3	0	0	0	2	275	H/TOT	8	4	0	0	0	0	0	12	14	4	0	0	0	0	0	18
41	3	1	0	0	0	0	45	18:00	4	1	0	0	0	0	0	5	5	0	0	0	0	0	0	5
49	5	2	0	0	0	0	56	18:15	4	1	0	0	0	0	1	6	5	1	0	0	0	0	0	6
36	5	2	0	0	0	0	43	18:30	0	0	1	0	0	0	0	1	2	2	1	0	0	0	0	5
33	1	0	0	0	0	0	34	18:45	2	1	1	0	0	0	0	4	3	1	0	0	0	0	0	4
159	14	5	0	0	0	0	178	H/TOT	10	3	2	0	0	0	1	16	15	4	1	0	0	0	0	20
630	55	17	0	0	0	2	704	P/TOT	25	11	4	0	0	0	1	41	37	14	4	0	0	0	0	55

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 3 DATE: 11/12/2018 SITE: 3

LOCATION: Red Bank/Roger Street/Lord Street DAY: TUESDAY LOCATION: Red Bank/Roger Street/Lord Street

	A to D								A to C								A to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	16	0	0	0	0	0	0	16	68	2	3	0	0	0	0	73	07:00	1	0	0	0	0	0	0	1
07:15	19	1	0	0	0	0	0	20	76	8	1	0	0	0	0	85	07:15	2	0	0	0	0	0	0	2
07:30	18	0	0	0	0	0	0	18	106	5	2	0	0	1	0	114	07:30	2	0	0	0	0	0	0	2
07:45	16	1	0	0	0	0	1	18	130	4	0	0	0	0	0	134	07:45	2	0	0	0	0	0	0	2
H/TOT	69	2	0	0	0	0	1	72	380	19	6	0	0	1	0	406	H/TOT	7	0	0	0	0	0	0	7
08:00	20	0	0	0	0	0	0	20	118	9	0	0	0	0	0	127	08:00	1	0	0	0	0	0	0	1
08:15	20	0	0	0	0	0	0	20	104	6	0	0	0	1	2	113	08:15	2	0	0	0	0	0	0	2
08:30	18	0	0	0	0	0	0	18	98	7	1	0	0	1	0	107	08:30	5	0	0	0	0	0	0	5
08:45	9	0	0	0	0	0	0	9	84	6	3	0	0	0	0	93	08:45	2	0	0	0	0	0	0	2
H/TOT	67	0	0	0	0	0	0	67	404	28	4	0	0	2	2	440	H/TOT	10	0	0	0	0	0	0	10
09:00	7	1	0	0	0	0	0	8	59	7	2	1	0	0	1	70	09:00	3	0	0	0	0	0	0	3
09:15	7	0	0	0	0	0	0	7	52	2	1	0	0	0	1	56	09:15	2	0	1	0	0	0	0	3
09:30	4	0	0	0	0	0	0	4	31	2	2	0	0	0	0	35	09:30	0	0	0	0	0	0	0	0
09:45	4	0	0	0	0	0	0	4	47	4	0	0	0	0	0	51	09:45	4	1	0	0	0	0	0	5
H/TOT	22	1	0	0	0	0	0	23	189	15	5	1	0	0	2	212	H/TOT	9	1	1	0	0	0	0	11
P/TOT	158	3	0	0	0	0	1	162	973	62	15	1	0	3	4	1058	P/TOT	26	1	1	0	0	0	0	28

	A to D								A to C								A to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	0	0	0	0	0	0	2	2	35	7	2	0	0	0	0	44	16:00	2	0	0	0	0	0	0	2
16:15	0	0	0	0	0	0	0	0	51	7	1	0	0	0	1	60	16:15	1	1	0	0	0	0	0	2
16:30	2	0	0	0	0	0	0	2	56	12	4	0	0	1	0	73	16:30	1	0	1	0	0	0	0	2
16:45	0	0	0	0	0	0	0	0	37	7	2	0	0	0	0	46	16:45	1	0	1	0	0	0	0	2
H/TOT	2	0	0	0	0	0	2	4	179	33	9	0	0	1	1	223	H/TOT	5	1	2	0	0	0	0	8
17:00	1	0	0	0	0	0	0	1	71	6	2	0	0	3	0	82	17:00	3	0	0	0	0	0	0	3
17:15	1	0	0	0	0	0	0	1	52	8	1	0	0	0	0	61	17:15	1	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	58	8	0	0	0	0	0	66	17:30	2	0	0	0	0	0	0	2
17:45	1	0	0	0	0	0	0	1	66	4	0	0	0	0	0	70	17:45	1	0	0	0	0	0	0	1
H/TOT	3	0	0	0	0	0	0	3	247	26	3	0	0	3	0	279	H/TOT	7	0	0	0	0	0	0	7
18:00	0	0	0	0	0	0	0	0	57	9	1	0	0	0	0	67	18:00	3	1	0	0	0	0	0	4
18:15	1	0	0	0	0	0	0	1	52	4	1	0	0	0	0	57	18:15	3	0	0	0	0	0	0	3
18:30	1	0	0	0	0	0	0	1	41	5	1	0	0	0	0	47	18:30	1	0	0	0	0	0	0	1
18:45	2	0	0	0	0	0	0	2	35	4	0	0	0	0	0	39	18:45	2	0	0	0	0	0	0	2
H/TOT	4	0	0	0	0	0	0	4	185	22	3	0	0	0	0	210	H/TOT	9	1	0	0	0	0	0	10
P/TOT	9	0	0	0	0	0	2	11	611	81	15	0	0	4	1	712	P/TOT	21	2	2	0	0	0	0	25

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 3

DAY: TUESDAY LOCATION: Red Bank/Roger Street/Lord Street

DATE: 11/12/2018

DAY: TUESDAY

A to A									B to A								B to D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
0	0	0	0	0	0	0	0	07:00	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	10
0	0	0	0	0	0	0	0	07:15	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	9
0	0	0	0	0	0	0	0	07:30	2	0	0	0	0	0	0	2	8	1	0	0	0	0	1	10
0	0	0	0	0	0	0	0	07:45	1	0	0	0	0	0	0	1	8	0	0	0	0	0	0	8
0	0	0	0	0	0	0	0	H/TOT	3	0	0	0	0	0	0	3	32	4	0	0	0	0	1	37
0	0	0	0	0	0	0	0	08:00	2	0	2	0	0	0	0	4	4	0	0	0	0	0	0	4
0	0	0	0	0	0	0	0	08:15	1	0	0	0	0	0	0	1	8	0	0	0	0	0	0	8
0	0	0	0	0	0	0	0	08:30	1	0	0	0	0	0	0	1	5	0	0	0	0	0	0	5
0	0	0	0	0	0	0	0	08:45	1	1	0	0	0	0	0	2	6	0	0	0	0	0	0	6
0	0	0	0	0	0	0	0	H/TOT	5	1	2	0	0	0	0	8	23	0	0	0	0	0	0	23
0	0	0	0	0	0	0	0	09:00	3	1	0	0	0	0	0	4	6	1	0	0	0	0	0	7
0	0	0	0	0	0	0	0	09:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
0	0	0	0	0	0	0	0	09:30	3	0	0	0	0	0	0	3	5	0	0	0	0	0	0	5
0	0	0	0	0	0	0	0	09:45	4	0	0	0	0	0	0	4	7	0	0	0	0	0	0	7
0	0	0	0	0	0	0	0	H/TOT	10	1	0	0	0	0	0	11	21	1	0	0	0	0	0	22
0	0	0	0	0	0	0	0	P/TOT	18	2	2	0	0	0	0	22	76	5	0	0	0	0	1	82

A to A									B to A								B to D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
0	0	0	0	0	0	0	0	16:00	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	16:15	4	0	0	0	0	0	0	4	1	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	16:30	3	0	0	0	0	0	0	3	2	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	16:45	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	H/TOT	11	1	0	0	0	0	0	12	3	0	0	0	0	0	0	3
0	0	0	0	0	0	0	0	17:00	1	1	0	0	0	0	0	2	1	1	0	0	0	0	0	2
0	0	0	0	0	0	0	0	17:15	2	1	0	0	0	0	0	3	0	0	1	0	0	0	1	2
0	0	0	0	0	0	0	0	17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	17:45	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	H/TOT	5	2	0	0	0	0	0	7	2	1	1	0	0	0	1	5
0	0	0	0	0	0	0	0	18:00	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
0	0	0	0	0	0	0	0	18:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	18:30	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4
0	0	0	0	0	0	0	0	18:45	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	H/TOT	12	0	0	0	0	0	0	12	4	1	0	0	0	0	0	5
0	0	0	0	0	0	0	0	P/TOT	28	3	0	0	0	0	0	31	9	2	1	0	0	0	1	13

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 3 DATE: 11/12/2018 SITE: 3

LOCATION: Red Bank/Roger Street/Lord Street DAY: TUESDAY LOCATION: Red Bank/Roger Street/Lord Street

	B to C								B to B								C to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	21	2	0	0	0	0	0	23	0	0	0	0	0	0	0	0	07:00	33	5	1	2	0	0	0	41
07:15	17	2	0	0	0	0	1	20	0	0	0	0	0	0	0	0	07:15	54	2	2	0	0	0	0	58
07:30	13	3	0	0	0	0	0	16	0	0	0	0	0	0	0	0	07:30	36	0	1	0	0	0	0	37
07:45	30	0	0	0	0	0	0	30	0	0	0	0	0	0	0	0	07:45	50	4	1	0	0	0	0	55
H/TOT	81	7	0	0	0	0	1	89	0	0	0	0	0	0	0	0	H/TOT	173	11	5	2	0	0	0	191
08:00	31	0	1	0	0	0	2	34	0	0	0	0	0	0	0	0	08:00	64	2	0	0	0	0	0	66
08:15	20	1	1	0	0	0	0	22	0	0	0	0	0	0	0	0	08:15	73	5	0	0	0	0	0	78
08:30	27	1	0	0	0	1	0	29	0	0	0	0	0	0	0	0	08:30	66	4	0	0	0	1	0	71
08:45	25	2	1	0	0	0	0	28	0	0	0	0	0	0	0	0	08:45	55	2	1	0	0	0	0	58
H/TOT	103	4	3	0	0	1	2	113	0	0	0	0	0	0	0	0	H/TOT	258	13	1	0	0	1	0	273
09:00	19	2	0	0	0	0	0	21	0	0	0	0	0	0	0	0	09:00	33	4	2	0	0	0	0	39
09:15	19	2	1	0	0	0	0	22	0	0	0	0	0	0	0	0	09:15	45	6	0	2	0	0	0	53
09:30	13	2	0	0	0	0	0	15	0	0	0	0	0	0	0	0	09:30	22	4	0	1	0	0	0	27
09:45	18	1	0	0	0	0	0	19	0	0	0	0	0	0	0	0	09:45	19	5	0	0	0	1	0	25
H/TOT	69	7	1	0	0	0	0	77	0	0	0	0	0	0	0	0	H/TOT	119	19	2	3	0	1	0	144
P/TOT	253	18	4	0	0	1	3	279	0	0	0	0	0	0	0	0	P/TOT	550	43	8	5	0	2	0	608

	B to C								B to B								C to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	32	4	4	0	0	1	0	41	0	0	0	0	0	0	0	0	16:00	56	7	0	0	0	0	0	63
16:15	35	5	4	0	0	0	0	44	0	0	0	0	0	0	0	0	16:15	38	8	0	0	0	0	1	47
16:30	56	4	1	0	0	1	0	62	0	0	0	0	0	0	0	0	16:30	34	2	1	0	0	0	0	37
16:45	50	5	1	0	0	1	0	57	0	0	0	0	0	0	0	0	16:45	41	2	1	0	0	0	0	44
H/TOT	173	18	10	0	0	3	0	204	0	0	0	0	0	0	0	0	H/TOT	169	19	2	0	0	0	1	191
17:00	49	6	1	0	0	0	1	57	0	0	0	0	0	0	0	0	17:00	49	1	0	0	0	0	0	50
17:15	71	5	1	0	0	0	0	77	0	0	0	0	0	0	0	0	17:15	43	3	1	0	0	0	0	47
17:30	50	3	1	0	0	0	0	54	0	0	0	0	0	0	0	0	17:30	38	4	3	0	0	1	0	46
17:45	47	4	1	0	0	0	1	53	0	0	0	0	0	0	0	0	17:45	38	2	1	0	0	0	0	41
H/TOT	217	18	4	0	0	0	2	241	0	0	0	0	0	0	0	0	H/TOT	168	10	5	0	0	1	0	184
18:00	38	2	1	0	0	0	0	41	0	0	0	0	0	0	0	0	18:00	40	3	2	0	0	0	0	45
18:15	75	5	2	0	0	1	0	83	0	0	0	0	0	0	0	0	18:15	38	1	0	0	0	0	0	39
18:30	30	2	1	0	0	0	0	33	0	0	0	0	0	0	0	0	18:30	37	2	0	0	0	0	0	39
18:45	22	0	2	0	0	0	0	24	0	0	0	0	0	0	0	0	18:45	28	3	0	0	0	0	0	31
H/TOT	165	9	6	0	0	1	0	181	0	0	0	0	0	0	0	0	H/TOT	143	9	2	0	0	0	0	154
P/TOT	555	45	20	0	0	4	2	626	0	0	0	0	0	0	0	0	P/TOT	480	38	9	0	0	1	1	529

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 3

DAY: TUESDAY LOCATION: Red Bank/Roger Street/Lord Street

DATE: 11/12/2018

DAY: TUESDAY

	C to A								C to D								C to C							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16	1	1	0	0	0	0	18	07:00	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	13	07:15	21	0	1	0	0	0	0	22	0	0	0	0	0	0	0	0
14	2	0	0	0	0	1	17	07:30	11	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	16	07:45	18	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0
59	3	1	0	0	0	1	64	H/TOT	62	0	1	0	0	0	0	63	0	0	0	0	0	0	0	0
9	1	0	0	0	0	0	10	08:00	10	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0
15	4	1	0	0	0	0	20	08:15	17	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0
19	5	1	0	0	0	0	25	08:30	17	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0
24	1	0	0	0	0	0	25	08:45	15	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0
67	11	2	0	0	0	0	80	H/TOT	59	0	0	0	0	0	0	59	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	31	09:00	10	1	0	0	0	0	0	11	0	0	0	0	0	0	0	0
17	4	1	1	0	0	0	23	09:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
23	6	1	0	0	0	0	30	09:30	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
13	2	1	0	0	0	0	16	09:45	2	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0
84	12	3	1	0	0	0	100	H/TOT	20	3	0	0	0	0	0	23	0	0	0	0	0	0	0	0
210	26	6	1	0	0	1	244	P/TOT	141	3	1	0	0	0	0	145	0	0	0	0	0	0	0	0

	C to A								C to D								C to C							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
32	2	5	0	0	0	0	39	16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	6	0	0	0	0	0	46	16:15	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
54	9	2	0	0	0	0	65	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	5	2	0	0	0	0	56	16:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
175	22	9	0	0	0	0	206	H/TOT	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
56	2	1	0	0	1	0	60	17:00	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
62	4	2	0	0	0	0	68	17:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
48	5	0	0	0	0	0	53	17:30	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
52	2	0	0	0	0	2	56	17:45	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
218	13	3	0	0	1	2	237	H/TOT	2	3	0	0	0	0	0	5	0	0	0	0	0	0	0	0
34	4	1	0	0	0	0	39	18:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
41	5	2	0	0	0	0	48	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	4	3	0	0	0	0	42	18:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
25	2	0	0	0	0	0	27	18:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
135	15	6	0	0	0	0	156	H/TOT	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
528	50	18	0	0	1	2	599	P/TOT	8	4	0	0	0	0	0	12	0	0	0	0	0	0	0	0

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 3 DATE: 11/12/2018 SITE: 3

LOCATION: Red Bank/Roger Street/Lord Street DAY: TUESDAY LOCATION: Red Bank/Roger Street/Lord Street

	D to C								D to B								D to A							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL
07:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	07:00	0	0	0	0	0	0	0
07:15	1	1	0	0	0	0	0	2	1	0	0	0	0	0	0	1	07:15	0	0	0	0	0	0	0
07:30	2	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	07:30	0	0	0	0	0	0	1
07:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	07:45	0	0	0	0	0	0	0
H/TOT	4	1	0	0	0	0	0	5	2	0	1	0	0	0	0	3	H/TOT	0	0	0	0	0	0	1
08:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	08:00	0	0	0	0	0	0	0
08:15	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	08:15	0	0	0	0	0	0	0
08:30	1	0	0	0	0	0	0	1	2	0	0	0	0	0	1	3	08:30	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	08:45	1	0	0	0	0	0	0
H/TOT	2	0	0	0	0	0	0	2	5	0	0	0	0	0	1	6	H/TOT	1	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	09:00	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	09:15	0	0	0	0	0	0	0
09:30	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	09:30	0	0	0	0	0	0	0
09:45	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	09:45	1	1	0	0	0	0	0
H/TOT	2	0	0	0	0	0	0	2	3	1	0	0	0	0	0	4	H/TOT	1	1	0	0	0	0	0
P/TOT	8	1	0	0	0	0	0	9	10	1	1	0	0	0	1	13	P/TOT	2	1	0	0	0	0	1

	D to C								D to B								D to A							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL
16:00	12	0	0	0	0	0	0	12	14	1	0	0	0	0	0	15	16:00	7	0	1	0	0	0	0
16:15	10	0	0	0	0	0	0	10	11	0	0	0	0	0	0	11	16:15	13	0	0	0	0	0	0
16:30	22	0	0	0	0	0	0	22	5	0	0	0	0	0	0	5	16:30	8	0	0	0	0	0	0
16:45	18	0	0	0	0	0	0	18	11	0	0	0	0	0	0	11	16:45	13	0	0	0	0	0	0
H/TOT	62	0	0	0	0	0	0	62	41	1	0	0	0	0	0	42	H/TOT	41	0	1	0	0	0	0
17:00	15	0	0	0	0	0	0	15	4	0	0	0	0	0	0	4	17:00	15	0	0	0	0	0	0
17:15	17	0	0	0	0	0	0	17	5	0	0	0	0	0	0	5	17:15	12	0	0	0	0	0	0
17:30	18	0	0	0	0	0	0	18	6	0	0	0	0	0	1	7	17:30	11	0	0	0	0	0	0
17:45	20	1	0	0	0	0	0	21	4	0	0	0	0	0	0	4	17:45	8	1	0	0	0	0	0
H/TOT	70	1	0	0	0	0	0	71	19	0	0	0	0	0	1	20	H/TOT	46	1	0	0	0	0	0
18:00	16	1	0	0	0	0	0	17	6	0	0	0	0	0	0	6	18:00	3	0	0	0	0	0	0
18:15	15	0	1	0	0	0	0	16	4	0	0	0	0	0	0	4	18:15	5	0	0	0	0	0	0
18:30	6	0	0	0	0	0	0	6	2	0	0	0	0	0	0	2	18:30	4	0	0	0	0	0	0
18:45	1	0	0	0	0	0	0	1	6	0	0	0	0	0	0	6	18:45	2	0	0	0	0	0	0
H/TOT	38	1	1	0	0	0	0	40	18	0	0	0	0	0	0	18	H/TOT	14	0	0	0	0	0	0
P/TOT	170	2	1	0	0	0	0	173	78	1	0	0	0	0	1	80	P/TOT	101	1	1	0	0	0	0

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 3 DATE: 11/12/2018

DAY: DAY: TUESDAY LOCATION: Red Bank/Roger Street/Lord Street DAY: TUESDA 0

	D to D									TO ARM A								FROM ARM A							
TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
0	0	0	0	0	0	0	0	0	07:00	16	1	1	0	0	0	0	18	85	2	3	0	0	0	0	90
0	0	0	0	0	0	0	0	0	07:15	13	0	0	0	0	0	0	13	97	9	1	0	0	0	0	107
1	0	0	0	0	0	0	0	0	07:30	16	2	0	0	0	0	2	20	126	5	2	0	0	1	0	134
0	0	0	0	0	0	0	0	0	07:45	17	0	0	0	0	0	0	17	148	5	0	0	0	0	1	154
1	0	0	0	0	0	0	0	0	H/TOT	62	3	1	0	0	0	2	68	456	21	6	0	0	1	1	485
0	0	0	0	0	0	0	0	0	08:00	11	1	2	0	0	0	0	14	139	9	0	0	0	0	0	148
0	0	0	0	0	0	0	0	0	08:15	16	4	1	0	0	0	0	21	126	6	0	0	0	1	2	135
0	0	0	0	0	0	0	0	0	08:30	20	5	1	0	0	0	0	26	121	7	1	0	0	1	0	130
1	0	0	0	0	0	0	0	0	08:45	26	2	0	0	0	0	0	28	95	6	3	0	0	0	0	104
1	0	0	0	0	0	0	0	0	H/TOT	73	12	4	0	0	0	0	89	481	28	4	0	0	2	2	517
0	0	0	0	0	0	0	0	0	09:00	34	1	0	0	0	0	0	35	69	8	2	1	0	0	1	81
0	0	0	0	0	0	0	0	0	09:15	17	4	1	1	0	0	0	23	61	2	2	0	0	0	1	66
0	0	0	0	0	0	0	0	0	09:30	26	6	1	0	0	0	0	33	35	2	2	0	0	0	0	39
2	0	0	0	0	0	0	0	0	09:45	18	3	1	0	0	0	0	22	55	5	0	0	0	0	0	60
2	0	0	0	0	0	0	0	0	H/TOT	95	14	3	1	0	0	0	113	220	17	6	1	0	0	2	246
4	0	0	0	0	0	0	0	0	P/TOT	230	29	8	1	0	0	2	270	1157	66	16	1	0	3	5	1248

	D to D									TO ARM A								FROM ARM A							
TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
8	0	0	0	0	0	0	0	0	16:00	40	3	6	0	0	0	0	49	37	7	2	0	0	0	2	48
13	0	0	0	0	0	0	0	0	16:15	57	6	0	0	0	0	0	63	52	8	1	0	0	0	1	62
8	0	0	0	0	0	0	0	0	16:30	65	9	2	0	0	0	0	76	59	12	5	0	0	1	0	77
13	0	0	0	0	0	0	0	0	16:45	65	5	2	0	0	0	0	72	38	7	3	0	0	0	0	48
42	0	0	0	0	0	0	0	0	H/TOT	227	23	10	0	0	0	0	260	186	34	11	0	0	1	3	235
15	0	0	0	0	0	0	0	0	17:00	72	3	1	0	0	1	0	77	75	6	2	0	0	3	0	86
12	0	0	0	0	0	0	0	0	17:15	76	5	2	0	0	0	0	83	54	8	1	0	0	0	0	63
11	0	0	0	0	0	0	0	0	17:30	59	5	0	0	0	0	0	64	60	8	0	0	0	0	0	68
9	0	0	0	0	0	0	0	0	17:45	62	3	0	0	0	0	2	67	68	4	0	0	0	0	0	72
47	0	0	0	0	0	0	0	0	H/TOT	269	16	3	0	0	1	2	291	257	26	3	0	0	3	0	289
3	0	0	0	0	0	0	0	0	18:00	38	4	1	0	0	0	0	43	60	10	1	0	0	0	0	71
5	0	0	0	0	0	0	0	0	18:15	49	5	2	0	0	0	0	56	56	4	1	0	0	0	0	61
4	0	0	0	0	0	0	0	0	18:30	41	4	3	0	0	0	0	48	43	5	1	0	0	0	0	49
2	0	0	0	0	0	0	0	0	18:45	33	2	0	0	0	0	0	35	39	4	0	0	0	0	0	43
14	0	0	0	0	0	0	0	0	H/TOT	161	15	6	0	0	0	0	182	198	23	3	0	0	0	0	224
103	0	0	0	0	0	0	0	0	P/TOT	657	54	19	0	0	1	2	733	641	83	17	0	0	4	3	748

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 3 DATE: 11/12/2018 SITE: 3

LOCATION: Red Bank/Roger Street/Lord Street DAY: TUESDAY LOCATION: Red Bank/Roger Street/Lord Street

	TO ARM B								FROM ARM B								TO ARM C							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	35	5	1	2	0	0	0	43	30	3	0	0	0	0	0	33	07:00	89	4	3	0	0	0	0	96
07:15	57	2	2	0	0	0	0	61	24	4	0	0	0	0	1	29	07:15	94	11	1	0	0	0	1	107
07:30	38	0	2	0	0	0	0	40	23	4	0	0	0	0	1	28	07:30	121	8	2	0	0	1	0	132
07:45	52	4	1	0	0	0	0	57	39	0	0	0	0	0	0	39	07:45	161	4	0	0	0	0	0	165
H/TOT	182	11	6	2	0	0	0	201	116	11	0	0	0	0	2	129	H/TOT	465	27	6	0	0	1	1	500
08:00	66	2	0	0	0	0	0	68	37	0	3	0	0	0	2	42	08:00	149	9	1	0	0	0	2	161
08:15	76	5	0	0	0	0	0	81	29	1	1	0	0	0	0	31	08:15	125	7	1	0	0	1	2	136
08:30	73	4	0	0	0	1	1	79	33	1	0	0	0	1	0	35	08:30	126	8	1	0	0	2	0	137
08:45	58	2	1	0	0	0	0	61	32	3	1	0	0	0	0	36	08:45	109	8	4	0	0	0	0	121
H/TOT	273	13	1	0	0	1	1	289	131	5	5	0	0	1	2	144	H/TOT	509	32	7	0	0	3	4	555
09:00	37	5	2	0	0	0	0	44	28	4	0	0	0	0	0	32	09:00	78	9	2	1	0	0	1	91
09:15	47	6	1	2	0	0	0	56	22	2	1	0	0	0	0	25	09:15	71	4	2	0	0	0	1	78
09:30	23	4	0	1	0	0	0	28	21	2	0	0	0	0	0	23	09:30	45	4	2	0	0	0	0	51
09:45	24	6	0	0	0	1	0	31	29	1	0	0	0	0	0	30	09:45	66	5	0	0	0	0	0	71
H/TOT	131	21	3	3	0	1	0	159	100	9	1	0	0	0	0	110	H/TOT	260	22	6	1	0	0	2	291
P/TOT	586	45	10	5	0	2	1	649	347	25	6	0	0	1	4	383	P/TOT	1234	81	19	1	0	4	7	1346

	TO ARM B								FROM ARM B								TO ARM C							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	72	8	0	0	0	0	0	80	33	5	4	0	0	1	0	43	16:00	79	11	6	0	0	1	0	97
16:15	50	9	0	0	0	0	1	60	40	5	4	0	0	0	0	49	16:15	96	12	5	0	0	0	1	114
16:30	40	2	2	0	0	0	0	44	61	4	1	0	0	1	0	67	16:30	134	16	5	0	0	2	0	157
16:45	53	2	2	0	0	0	0	57	53	5	1	0	0	1	0	60	16:45	105	12	3	0	0	1	0	121
H/TOT	215	21	4	0	0	0	1	241	187	19	10	0	0	3	0	219	H/TOT	414	51	19	0	0	4	1	489
17:00	56	1	0	0	0	0	0	57	51	8	1	0	0	0	1	61	17:00	135	12	3	0	0	3	1	154
17:15	49	3	1	0	0	0	0	53	73	6	2	0	0	0	1	82	17:15	140	13	2	0	0	0	0	155
17:30	46	4	3	0	0	1	1	55	50	3	1	0	0	0	0	54	17:30	126	11	1	0	0	0	0	138
17:45	43	2	1	0	0	0	0	46	50	4	1	0	0	0	1	56	17:45	133	9	1	0	0	0	1	144
H/TOT	194	10	5	0	0	1	1	211	224	21	5	0	0	0	3	253	H/TOT	534	45	7	0	0	3	2	591
18:00	49	4	2	0	0	0	0	55	39	3	1	0	0	0	0	43	18:00	111	12	2	0	0	0	0	125
18:15	45	1	0	0	0	0	0	46	78	5	2	0	0	1	0	86	18:15	142	9	4	0	0	1	0	156
18:30	40	2	0	0	0	0	0	42	36	2	1	0	0	0	0	39	18:30	77	7	2	0	0	0	0	86
18:45	36	3	0	0	0	0	0	39	28	0	2	0	0	0	0	30	18:45	58	4	2	0	0	0	0	64
H/TOT	170	10	2	0	0	0	0	182	181	10	6	0	0	1	0	198	H/TOT	388	32	10	0	0	1	0	431
P/TOT	579	41	11	0	0	1	2	634	592	50	21	0	0	4	3	670	P/TOT	1336	128	36	0	0	8	3	1511

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 3

DAY: TUESDAY LOCATION: Red Bank/Roger Street/Lord Street

DATE: 11/12/2018

DAY: TUESDAY

FROM ARM C									TO ARM D								FROM ARM D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
61	6	2	2	0	0	0	71	07:00	37	1	0	0	0	0	0	38	1	0	0	0	0	0	0	1
88	2	3	0	0	0	0	93	07:15	47	3	1	0	0	0	0	51	2	1	0	0	0	0	0	3
61	2	1	0	0	0	1	65	07:30	37	1	0	0	0	0	1	39	2	0	1	0	0	0	1	4
84	4	1	0	0	0	0	89	07:45	42	1	0	0	0	0	1	44	1	0	0	0	0	0	0	1
294	14	7	2	0	0	1	318	H/TOT	163	6	1	0	0	0	2	172	6	1	1	0	0	0	1	9
83	3	0	0	0	0	0	86	08:00	34	0	0	0	0	0	0	34	1	0	0	0	0	0	0	1
105	9	1	0	0	0	0	115	08:15	45	0	0	0	0	0	0	45	2	0	0	0	0	0	0	2
102	9	1	0	0	1	0	113	08:30	40	0	0	0	0	0	0	40	3	0	0	0	0	0	1	4
94	3	1	0	0	0	0	98	08:45	30	0	0	0	0	0	0	30	2	0	0	0	0	0	0	2
384	24	3	0	0	1	0	412	H/TOT	149	0	0	0	0	0	0	149	8	0	0	0	0	0	1	9
74	5	2	0	0	0	0	81	09:00	23	3	0	0	0	0	0	26	1	1	0	0	0	0	0	2
65	10	1	3	0	0	0	79	09:15	13	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0
50	10	1	1	0	0	0	62	09:30	14	0	0	0	0	0	0	14	2	0	0	0	0	0	0	2
34	9	1	0	0	1	0	45	09:45	13	2	0	0	0	0	0	15	3	1	0	0	0	0	0	4
223	34	5	4	0	1	0	267	H/TOT	63	5	0	0	0	0	0	68	6	2	0	0	0	0	0	8
901	72	15	6	0	2	1	997	P/TOT	375	11	1	0	0	0	2	389	20	3	1	0	0	0	2	26

FROM ARM C									TO ARM D								FROM ARM D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
88	9	5	0	0	0	0	102	16:00	0	0	0	0	0	0	2	2	33	1	1	0	0	0	0	35
78	15	0	0	0	0	1	94	16:15	1	1	0	0	0	0	0	2	34	0	0	0	0	0	0	34
88	11	3	0	0	0	0	102	16:30	4	0	0	0	0	0	0	4	35	0	0	0	0	0	0	35
91	7	3	0	0	0	0	101	16:45	1	0	0	0	0	0	0	1	42	0	0	0	0	0	0	42
345	42	11	0	0	0	1	399	H/TOT	6	1	0	0	0	0	2	9	144	1	1	0	0	0	0	146
105	4	1	0	0	1	0	111	17:00	2	2	0	0	0	0	0	4	34	0	0	0	0	0	0	34
106	7	3	0	0	0	0	116	17:15	2	0	1	0	0	0	1	4	34	0	0	0	0	0	0	34
86	10	3	0	0	1	0	100	17:30	0	1	0	0	0	0	0	1	35	0	0	0	0	0	1	36
91	5	1	0	0	0	2	99	17:45	3	1	0	0	0	0	0	4	32	2	0	0	0	0	0	34
388	26	8	0	0	2	2	426	H/TOT	7	4	1	0	0	0	1	13	135	2	0	0	0	0	1	138
76	7	3	0	0	0	0	86	18:00	2	1	0	0	0	0	0	3	25	1	0	0	0	0	0	26
79	6	2	0	0	0	0	87	18:15	1	0	0	0	0	0	0	1	24	0	1	0	0	0	0	25
73	6	3	0	0	0	0	82	18:30	6	0	0	0	0	0	0	6	12	0	0	0	0	0	0	12
55	5	0	0	0	0	0	60	18:45	4	0	0	0	0	0	0	4	9	0	0	0	0	0	0	9
283	24	8	0	0	0	0	315	H/TOT	13	1	0	0	0	0	0	14	70	1	1	0	0	0	0	72
1016	92	27	0	0	2	3	1140	P/TOT	26	6	1	0	0	0	3	36	349	4	2	0	0	0	1	356

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 4 DATE: 11/12/2018 SITE: 4

LOCATION: Cheetham Hill Road/Lord Street DAY: TUESDAY LOCATION: Cheetham Hill Road/Lord Street

	A to D								A to C								A to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	12	2	0	0	0	0	0	14	252	27	3	2	1	3	5	293	07:00	0	0	0	0	0	0	0	0
07:15	9	0	0	0	0	0	0	9	219	26	6	0	5	3	2	261	07:15	0	0	1	0	0	0	0	1
07:30	6	2	0	0	0	0	0	8	243	23	1	1	5	5	7	285	07:30	1	1	0	0	0	0	0	2
07:45	7	1	0	0	0	0	0	8	272	18	5	1	2	1	4	303	07:45	2	1	0	0	0	0	0	3
H/TOT	34	5	0	0	0	0	0	39	986	94	15	4	13	12	18	1142	H/TOT	3	2	1	0	0	0	0	6
08:00	12	0	0	0	0	0	0	12	258	14	4	2	3	2	3	286	08:00	0	0	0	0	0	0	0	0
08:15	3	1	0	0	0	0	0	4	224	9	2	1	4	2	5	247	08:15	1	0	0	0	0	0	0	1
08:30	7	0	0	0	0	0	0	7	242	11	3	1	2	3	5	267	08:30	1	0	0	0	0	0	0	1
08:45	6	0	0	0	0	0	0	6	212	12	3	1	3	2	3	236	08:45	2	0	0	0	0	0	0	2
H/TOT	28	1	0	0	0	0	0	29	936	46	12	5	12	9	16	1036	H/TOT	4	0	0	0	0	0	0	4
09:00	7	2	0	0	0	0	0	9	216	21	5	0	0	1	5	248	09:00	1	0	0	0	0	0	0	1
09:15	8	1	0	0	0	0	0	9	183	15	4	3	3	1	1	210	09:15	2	1	0	0	0	0	0	3
09:30	6	0	0	0	0	0	0	6	147	15	4	2	4	1	2	175	09:30	1	0	0	0	0	0	0	1
09:45	5	0	0	0	0	0	0	5	175	18	8	0	4	0	0	205	09:45	2	0	0	0	0	0	0	2
H/TOT	26	3	0	0	0	0	0	29	721	69	21	5	11	3	8	838	H/TOT	6	1	0	0	0	0	0	7
P/TOT	88	9	0	0	0	0	0	97	2643	209	48	14	36	24	42	3016	P/TOT	13	3	1	0	0	0	0	17

	A to D								A to C								A to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	7	0	0	0	0	0	0	7	102	5	2	1	4	2	2	118	16:00	5	0	0	0	0	0	0	5
16:15	2	1	0	0	0	0	0	3	149	10	4	1	3	0	4	171	16:15	2	0	0	0	0	0	0	2
16:30	5	1	0	0	0	0	0	6	148	9	1	0	3	1	0	162	16:30	1	0	0	0	0	0	0	1
16:45	11	3	0	0	0	0	0	14	125	9	2	0	3	0	3	142	16:45	1	0	0	0	0	0	0	1
H/TOT	25	5	0	0	0	0	0	30	524	33	9	2	13	3	9	593	H/TOT	9	0	0	0	0	0	0	9
17:00	7	0	0	0	0	0	0	7	112	15	0	1	3	0	0	131	17:00	3	1	0	0	0	0	0	4
17:15	5	2	0	0	0	0	0	7	133	4	0	0	4	1	3	145	17:15	2	0	0	0	0	0	0	2
17:30	8	0	0	0	0	0	0	8	139	4	1	0	3	1	1	149	17:30	1	0	0	0	0	0	0	1
17:45	4	2	0	0	0	0	0	6	144	6	2	0	2	0	6	160	17:45	1	0	0	0	0	0	0	1
H/TOT	24	4	0	0	0	0	0	28	528	29	3	1	12	2	10	585	H/TOT	7	1	0	0	0	0	0	8
18:00	13	2	0	0	0	0	0	15	162	5	0	0	2	1	1	171	18:00	1	0	0	0	0	0	0	1
18:15	13	1	0	0	0	0	0	14	162	11	3	0	2	0	2	180	18:15	3	1	0	0	0	0	0	4
18:30	7	0	0	0	0	0	0	7	167	7	0	0	3	1	3	181	18:30	1	0	0	0	0	0	0	1
18:45	9	0	0	0	0	0	0	9	142	7	2	0	4	0	1	156	18:45	2	0	0	0	0	0	0	2
H/TOT	42	3	0	0	0	0	0	45	633	30	5	0	11	2	7	688	H/TOT	7	1	0	0	0	0	0	8
P/TOT	91	12	0	0	0	0	0	103	1685	92	17	3	36	7	26	1866	P/TOT	23	2	0	0	0	0	0	25



9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 4 DATE: 11/12/2018

DAY: TUESDAY LOCATION: Cheetham Hill Road/Lord Street DAY: TUESDAY

A to A									B to A								B to D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
0	0	0	0	0	0	0	0	07:00	1	0	0	0	0	0	0	1	6	0	0	0	0	0	0	6
0	0	0	0	0	0	0	0	07:15	0	0	1	0	0	0	0	1	4	2	0	0	0	0	1	7
0	0	0	0	0	0	0	0	07:30	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5
0	0	0	0	0	0	0	0	07:45	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	13
0	0	0	0	0	0	0	0	H/TOT	1	0	1	0	0	0	0	2	27	3	0	0	0	0	1	31
0	0	0	0	0	0	0	0	08:00	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	13
0	0	0	0	0	0	0	0	08:15	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8
0	0	0	0	0	0	0	0	08:30	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11
0	0	0	0	0	0	0	0	08:45	0	0	0	0	0	0	0	0	4	2	1	0	0	0	0	7
0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0	36	2	1	0	0	0	0	39
0	0	0	0	0	0	0	0	09:00	0	0	0	1	0	0	0	1	6	0	0	0	0	0	0	6
0	0	0	0	0	0	0	0	09:15	0	1	0	0	0	0	0	1	5	0	1	0	0	0	0	6
0	0	0	0	0	0	0	0	09:30	0	0	0	0	0	0	0	0	10	1	0	0	0	0	0	11
0	0	0	0	0	0	0	0	09:45	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	6
0	0	0	0	0	0	0	0	H/TOT	0	1	0	1	0	0	0	2	26	2	1	0	0	0	0	29
0	0	0	0	0	0	0	0	P/TOT	1	1	1	1	0	0	0	4	89	7	2	0	0	0	1	99

A to A									B to A								B to D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
0	0	0	0	0	0	0	0	16:00	4	0	0	0	0	0	0	4	8	2	2	0	0	0	0	12
0	0	0	0	0	0	0	0	16:15	4	0	0	0	0	0	0	4	17	3	3	0	0	0	0	23
0	0	0	0	0	0	0	0	16:30	2	1	0	0	0	0	0	3	15	2	1	0	0	2	0	20
0	0	0	0	0	0	0	0	16:45	4	0	0	0	0	0	0	4	12	1	0	0	0	0	0	13
0	0	0	0	0	0	0	0	H/TOT	14	1	0	0	0	0	0	15	52	8	6	0	0	2	0	68
0	0	0	0	0	0	0	0	17:00	5	0	0	0	0	0	0	5	22	6	1	0	0	0	1	30
0	0	0	0	0	0	0	0	17:15	11	0	1	0	0	0	0	12	19	1	1	0	0	0	0	21
0	0	0	0	0	0	0	0	17:30	4	0	0	0	0	0	0	4	14	1	1	0	0	0	0	16
0	0	0	0	0	0	0	0	17:45	2	0	0	0	0	0	0	2	16	0	0	0	0	0	2	18
0	0	0	0	0	0	0	0	H/TOT	22	0	1	0	0	0	0	23	71	8	3	0	0	0	3	85
0	0	0	0	0	0	0	0	18:00	4	0	0	0	0	0	0	4	21	2	0	0	0	0	0	23
0	0	0	0	0	0	0	0	18:15	1	0	0	0	0	0	0	1	19	2	1	0	0	0	0	22
0	0	0	0	0	0	0	0	18:30	2	0	0	0	0	0	0	2	10	1	1	0	0	0	0	12
0	0	0	0	0	0	0	0	18:45	1	0	0	0	0	0	0	1	6	0	1	0	0	0	0	7
0	0	0	0	0	0	0	0	H/TOT	8	0	0	0	0	0	0	8	56	5	3	0	0	0	0	64
0	0	0	0	0	0	0	0	P/TOT	44	1	1	0	0	0	0	46	179	21	12	0	0	2	3	217

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 4 DATE: 11/12/2018 SITE: 4

LOCATION: Cheetham Hill Road/Lord Street DAY: TUESDAY LOCATION: Cheetham Hill Road/Lord Street

	B to C								B to B								C to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	07:00	2	1	0	0	0	0	0	3
07:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	07:15	0	0	0	0	1	0	0	1
07:30	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	07:30	1	1	0	0	0	0	0	2
07:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	07:45	3	0	0	0	0	0	0	3
H/TOT	7	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	H/TOT	6	2	0	0	1	0	0	9
08:00	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	08:00	0	0	0	0	0	0	0	0
08:15	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	08:15	0	1	0	0	0	0	0	1
08:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	08:30	2	0	0	0	0	0	0	2
08:45	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	08:45	1	0	0	0	0	0	0	1
H/TOT	14	0	0	0	0	0	1	15	0	0	0	0	0	0	0	0	H/TOT	3	1	0	0	0	0	0	4
09:00	3	0	0	0	1	0	0	4	0	0	0	0	0	0	0	0	09:00	1	0	1	0	0	0	0	2
09:15	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	09:15	1	0	0	0	0	0	0	1
09:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	09:30	2	1	1	0	0	0	0	4
09:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	09:45	3	0	0	0	0	0	0	3
H/TOT	7	0	0	0	1	0	0	8	0	0	0	0	0	0	0	0	H/TOT	7	1	2	0	0	0	0	10
P/TOT	28	1	0	0	1	0	1	31	0	0	0	0	0	0	0	0	P/TOT	16	4	2	0	1	0	0	23

	B to C								B to B								C to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	16:00	6	1	0	0	0	0	0	7
16:15	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	16:15	4	0	0	0	0	0	0	4
16:30	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	16:30	5	1	0	0	0	0	0	6
16:45	6	0	0	0	1	0	0	7	0	0	0	0	0	0	0	0	16:45	7	0	0	0	0	0	0	7
H/TOT	20	1	0	0	1	0	0	22	0	0	0	0	0	0	0	0	H/TOT	22	2	0	0	0	0	0	24
17:00	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	17:00	5	0	0	0	0	0	0	5
17:15	10	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	17:15	0	0	0	0	0	0	0	0
17:30	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	17:30	2	0	0	0	0	0	0	2
17:45	4	2	0	0	0	0	0	6	0	0	0	0	0	0	0	0	17:45	4	0	0	0	0	0	0	4
H/TOT	25	2	0	0	0	0	0	27	0	0	0	0	0	0	0	0	H/TOT	11	0	0	0	0	0	0	11
18:00	9	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0	18:00	0	0	0	0	0	0	0	0
18:15	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	18:15	2	0	0	0	0	1	0	3
18:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	18:30	3	0	0	0	0	0	0	3
18:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	18:45	0	0	0	0	0	0	0	0
H/TOT	14	1	0	0	0	0	0	15	0	0	0	0	0	0	0	0	H/TOT	5	0	0	0	0	1	0	6
P/TOT	59	4	0	0	1	0	0	64	0	0	0	0	0	0	0	0	P/TOT	38	2	0	0	0	1	0	41



9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 4 DATE: 11/12/2018

DAY: TUESDAY LOCATION: Cheetham Hill Road/Lord Street DAY: TUESDAY

C to A									C to D									C to C							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
56	6	5	0	4	0	2	73	07:00	13	1	0	0	0	0	0	14	0	0	0	0	0	0	0	0
72	2	2	0	3	0	0	79	07:15	11	1	0	0	0	0	0	12	0	0	0	0	0	0	0	0
80	3	3	3	2	1	1	93	07:30	10	1	0	0	0	0	0	11	0	0	0	0	0	0	0	0
75	5	3	2	3	0	4	92	07:45	24	0	1	0	0	0	0	25	0	0	0	0	0	0	0	0
283	16	13	5	12	1	7	337	H/TOT	58	3	1	0	0	0	0	62	0	0	0	0	0	0	0	0
67	10	4	3	3	0	2	89	08:00	16	0	2	0	0	0	0	18	0	0	0	0	0	0	0	0
93	8	3	0	2	0	0	106	08:15	19	1	1	0	0	0	0	21	0	0	0	0	0	0	0	0
63	9	4	1	5	0	3	85	08:30	20	0	1	0	0	1	0	22	0	0	0	0	0	0	0	0
79	5	2	0	3	1	2	92	08:45	24	2	0	0	0	0	0	26	0	0	0	0	0	0	0	0
302	32	13	4	13	1	7	372	H/TOT	79	3	4	0	0	1	0	87	0	0	0	0	0	0	0	0
117	13	1	0	2	1	4	138	09:00	17	1	0	0	0	0	0	18	0	0	0	0	0	0	0	0
95	13	5	1	6	0	1	121	09:15	14	1	0	0	0	0	0	15	0	0	0	0	0	0	0	0
95	16	3	1	4	1	1	121	09:30	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
135	22	9	2	4	1	1	174	09:45	25	0	1	0	0	0	0	26	0	0	0	0	0	0	0	0
442	64	18	4	16	3	7	554	H/TOT	60	3	1	0	0	0	0	64	0	0	0	0	0	0	0	0
1027	112	44	13	41	5	21	1263	P/TOT	197	9	6	0	0	1	0	213	0	0	0	0	0	0	0	0

C to A									C to D									C to C							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
227	18	4	1	2	4	3	259	16:00	21	6	3	0	0	1	0	31	0	0	0	0	0	0	0	0
229	22	3	0	3	4	9	270	16:15	26	1	1	0	0	0	0	28	0	0	0	0	0	0	0	0
227	17	3	1	3	0	6	257	16:30	37	2	1	0	0	0	0	40	0	0	0	0	0	0	0	0
242	15	1	0	3	3	5	269	16:45	31	5	1	0	0	1	0	38	0	0	0	0	0	0	0	0
925	72	11	2	11	11	23	1055	H/TOT	115	14	6	0	0	2	0	137	0	0	0	0	0	0	0	0
226	16	5	1	3	3	6	260	17:00	30	1	0	0	0	0	0	31	0	0	0	0	0	0	0	0
247	12	2	0	4	3	7	275	17:15	43	1	0	0	0	0	0	44	0	0	0	0	0	0	0	0
229	13	1	0	3	0	2	248	17:30	33	2	0	0	0	0	0	35	0	0	0	0	0	0	0	0
239	10	1	0	1	2	9	262	17:45	27	3	1	0	0	0	0	31	0	0	0	0	0	0	0	0
941	51	9	1	11	8	24	1045	H/TOT	133	7	1	0	0	0	0	141	0	0	0	0	0	0	0	0
209	10	1	0	5	1	5	231	18:00	22	0	1	0	0	0	0	23	0	0	0	0	0	0	0	0
208	8	0	0	3	2	2	223	18:15	46	1	0	0	0	1	0	48	0	0	0	0	0	0	0	0
188	9	1	0	3	1	4	206	18:30	31	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0
186	4	3	0	5	2	2	202	18:45	15	0	1	0	0	0	0	16	0	0	0	0	0	0	0	0
791	31	5	0	16	6	13	862	H/TOT	114	1	2	0	0	1	0	118	0	0	0	0	0	0	0	0
2657	154	25	3	38	25	60	2962	P/TOT	362	22	9	0	0	3	0	396	0	0	0	0	0	0	0	0

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 4 DATE: 11/12/2018 SITE: 4

LOCATION: Cheetham Hill Road/Lord Street DAY: TUESDAY LOCATION: Cheetham Hill Road/Lord Street

	D to C								D to B								D to A							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	29	3	1	1	0	0	0	34	9	1	0	0	0	0	0	10	07:00	1	1	0	0	0	0	1	3
07:15	34	2	1	1	0	0	0	38	27	1	1	0	0	0	0	29	07:15	6	0	0	0	0	0	0	6
07:30	25	0	2	0	0	0	0	27	17	0	0	0	0	0	0	17	07:30	6	0	0	0	0	0	0	6
07:45	32	1	1	0	0	0	0	34	16	2	0	0	0	0	0	18	07:45	3	0	0	0	0	0	0	3
H/TOT	120	6	5	2	0	0	0	133	69	4	1	0	0	0	0	74	H/TOT	16	1	0	0	0	0	1	18
08:00	49	3	0	0	0	0	1	53	16	1	0	0	0	0	0	17	08:00	4	0	0	0	0	0	0	4
08:15	49	0	0	0	0	0	0	49	29	0	0	0	0	0	0	29	08:15	3	0	0	0	0	0	0	3
08:30	45	3	0	0	0	0	0	48	20	0	0	0	0	0	0	20	08:30	4	0	0	0	0	0	0	4
08:45	40	1	1	0	0	0	1	43	17	2	0	0	0	0	0	19	08:45	6	0	0	0	0	0	0	6
H/TOT	183	7	1	0	0	0	2	193	82	3	0	0	0	0	0	85	H/TOT	17	0	0	0	0	0	0	17
09:00	23	3	1	0	0	0	0	27	15	1	0	0	0	0	0	16	09:00	1	0	0	0	0	0	0	1
09:15	32	2	0	1	0	0	0	35	14	0	2	1	0	0	0	17	09:15	2	1	0	0	0	0	0	3
09:30	16	4	2	1	0	0	1	24	12	1	0	0	0	0	0	13	09:30	4	0	0	0	0	0	0	4
09:45	11	3	0	0	0	0	0	14	7	2	0	0	0	0	0	9	09:45	2	1	0	0	0	1	0	4
H/TOT	82	12	3	2	0	0	1	100	48	4	2	1	0	0	0	55	H/TOT	9	2	0	0	0	1	0	12
P/TOT	385	25	9	4	0	0	3	426	199	11	3	1	0	0	0	214	P/TOT	42	3	0	0	0	1	1	47

	D to C								D to B								D to A							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	24	4	0	0	0	0	0	28	26	1	0	0	0	0	0	27	16:00	16	2	0	0	0	0	0	18
16:15	21	5	0	0	0	0	0	26	24	3	0	0	0	0	1	28	16:15	5	0	0	0	0	0	0	5
16:30	13	2	1	0	0	0	0	16	19	2	0	0	0	0	1	22	16:30	6	0	0	0	0	0	0	6
16:45	23	0	1	0	0	0	1	25	25	1	1	0	0	0	0	27	16:45	2	1	0	0	0	0	0	3
H/TOT	81	11	2	0	0	0	1	95	94	7	1	0	0	0	2	104	H/TOT	29	3	0	0	0	0	0	32
17:00	15	0	0	0	0	1	0	16	26	2	0	0	0	0	0	28	17:00	14	0	0	0	0	0	0	14
17:15	25	1	0	0	0	0	0	26	18	2	1	0	0	0	0	21	17:15	6	1	0	0	0	0	0	7
17:30	21	2	0	0	0	2	0	25	15	2	2	0	0	0	1	20	17:30	5	0	0	0	0	0	0	5
17:45	24	0	1	0	0	0	0	25	14	1	1	0	0	0	0	16	17:45	9	0	0	0	0	0	0	9
H/TOT	85	3	1	0	0	3	0	92	73	7	4	0	0	0	1	85	H/TOT	34	1	0	0	0	0	0	35
18:00	30	2	0	0	0	0	0	32	18	2	2	0	0	0	0	22	18:00	9	2	0	0	0	0	0	11
18:15	16	0	0	0	0	0	0	16	20	0	0	0	0	0	0	20	18:15	10	1	0	0	0	0	0	11
18:30	19	2	0	0	0	0	0	21	13	2	0	0	0	0	0	15	18:30	5	1	0	0	0	0	0	6
18:45	24	1	0	0	0	0	0	25	11	0	0	0	0	0	0	11	18:45	9	1	0	0	0	0	0	10
H/TOT	89	5	0	0	0	0	0	94	62	4	2	0	0	0	0	68	H/TOT	33	5	0	0	0	0	0	38
P/TOT	255	19	3	0	0	3	1	281	229	18	7	0	0	0	3	257	P/TOT	96	9	0	0	0	0	0	105

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 4 DATE: 11/12/2018

DAY: DAY: TUESDAY LOCATION: Cheetham Hill Road/Lord Street DAY: TUESDA 0

D to D									TO ARM A								FROM ARM A							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
0	0	0	0	0	0	0	0	07:00	58	7	5	0	4	0	3	77	264	29	3	2	1	3	5	307
0	0	0	0	0	0	0	0	07:15	78	2	3	0	3	0	0	86	228	26	7	0	5	3	2	271
0	0	0	0	0	0	0	0	07:30	86	3	3	3	2	1	1	99	250	26	1	1	5	5	7	295
0	0	0	0	0	0	0	0	07:45	78	5	3	2	3	0	4	95	281	20	5	1	2	1	4	314
0	0	0	0	0	0	0	0	H/TOT	300	17	14	5	12	1	8	357	1023	101	16	4	13	12	18	1187
0	0	0	0	0	0	0	0	08:00	71	10	4	3	3	0	2	93	270	14	4	2	3	2	3	298
0	0	0	0	0	0	0	0	08:15	96	8	3	0	2	0	0	109	228	10	2	1	4	2	5	252
0	0	0	0	0	0	0	0	08:30	67	9	4	1	5	0	3	89	250	11	3	1	2	3	5	275
0	0	0	0	0	0	0	0	08:45	85	5	2	0	3	1	2	98	220	12	3	1	3	2	3	244
0	0	0	0	0	0	0	0	H/TOT	319	32	13	4	13	1	7	389	968	47	12	5	12	9	16	1069
0	0	0	0	0	0	0	0	09:00	118	13	1	1	2	1	4	140	224	23	5	0	0	1	5	258
0	0	0	0	0	0	0	0	09:15	97	15	5	1	6	0	1	125	193	17	4	3	3	1	1	222
0	0	0	0	0	0	0	0	09:30	99	16	3	1	4	1	1	125	154	15	4	2	4	1	2	182
0	0	0	0	0	0	0	0	09:45	137	23	9	2	4	2	1	178	182	18	8	0	4	0	0	212
0	0	0	0	0	0	0	0	H/TOT	451	67	18	5	16	4	7	568	753	73	21	5	11	3	8	874
0	0	0	0	0	0	0	0	P/TOT	1070	116	45	14	41	6	22	1314	2744	221	49	14	36	24	42	3130

D to D									TO ARM A								FROM ARM A							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
0	0	0	0	0	0	0	0	16:00	247	20	4	1	2	4	3	281	114	5	2	1	4	2	2	130
0	0	0	0	0	0	0	0	16:15	238	22	3	0	3	4	9	279	153	11	4	1	3	0	4	176
0	0	0	0	0	0	0	0	16:30	235	18	3	1	3	0	6	266	154	10	1	0	3	1	0	169
0	0	0	0	0	0	0	0	16:45	248	16	1	0	3	3	5	276	137	12	2	0	3	0	3	157
0	0	0	0	0	0	0	0	H/TOT	968	76	11	2	11	11	23	1102	558	38	9	2	13	3	9	632
0	0	0	0	0	0	0	0	17:00	245	16	5	1	3	3	6	279	122	16	0	1	3	0	0	142
0	0	0	0	0	0	0	0	17:15	264	13	3	0	4	3	7	294	140	6	0	0	4	1	3	154
0	0	0	0	0	0	0	0	17:30	238	13	1	0	3	0	2	257	148	4	1	0	3	1	1	158
0	0	0	0	0	0	0	0	17:45	250	10	1	0	1	2	9	273	149	8	2	0	2	0	6	167
0	0	0	0	0	0	0	0	H/TOT	997	52	10	1	11	8	24	1103	559	34	3	1	12	2	10	621
0	0	0	0	0	0	0	0	18:00	222	12	1	0	5	1	5	246	176	7	0	0	2	1	1	187
0	0	0	0	0	0	0	0	18:15	219	9	0	0	3	2	2	235	178	13	3	0	2	0	2	198
0	0	0	0	0	0	0	0	18:30	195	10	1	0	3	1	4	214	175	7	0	0	3	1	3	189
0	0	0	0	0	0	0	0	18:45	196	5	3	0	5	2	2	213	153	7	2	0	4	0	1	167
0	0	0	0	0	0	0	0	H/TOT	832	36	5	0	16	6	13	908	682	34	5	0	11	2	7	741
0	0	0	0	0	0	0	0	P/TOT	2797	164	26	3	38	25	60	3113	1799	106	17	3	36	7	26	1994

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 4 DATE: 11/12/2018 SITE: 4

LOCATION: Cheetham Hill Road/Lord Street DAY: TUESDAY LOCATION: Cheetham Hill Road/Lord Street

	TO ARM B								FROM ARM B								TO ARM C							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	11	2	0	0	0	0	0	13	7	0	0	0	0	0	0	7	07:00	281	30	4	3	1	3	5	327
07:15	27	1	2	0	1	0	0	31	7	2	1	0	0	0	1	11	07:15	256	28	7	1	5	3	2	302
07:30	19	2	0	0	0	0	0	21	6	2	0	0	0	0	0	8	07:30	270	24	3	1	5	5	7	315
07:45	21	3	0	0	0	0	0	24	15	0	0	0	0	0	0	15	07:45	306	19	6	1	2	1	4	339
H/TOT	78	8	2	0	1	0	0	89	35	4	1	0	0	0	1	41	H/TOT	1113	101	20	6	13	12	18	1283
08:00	16	1	0	0	0	0	0	17	21	0	0	0	0	0	0	21	08:00	315	17	4	2	3	2	4	347
08:15	30	1	0	0	0	0	0	31	12	0	0	0	0	0	0	12	08:15	277	9	2	1	4	2	5	300
08:30	23	0	0	0	0	0	0	23	12	0	0	0	0	0	0	12	08:30	288	14	3	1	2	3	5	316
08:45	20	2	0	0	0	0	0	22	5	2	1	0	0	0	1	9	08:45	253	13	4	1	3	2	5	281
H/TOT	89	4	0	0	0	0	0	93	50	2	1	0	0	0	1	54	H/TOT	1133	53	13	5	12	9	19	1244
09:00	17	1	1	0	0	0	0	19	9	0	0	1	1	0	0	11	09:00	242	24	6	0	1	1	5	279
09:15	17	1	2	1	0	0	0	21	7	1	1	0	0	0	0	9	09:15	217	17	4	4	3	1	1	247
09:30	15	2	1	0	0	0	0	18	11	1	0	0	0	0	0	12	09:30	164	19	6	3	4	1	3	200
09:45	12	2	0	0	0	0	0	14	6	1	0	0	0	0	0	7	09:45	187	21	8	0	4	0	0	220
H/TOT	61	6	4	1	0	0	0	72	33	3	1	1	1	0	0	39	H/TOT	810	81	24	7	12	3	9	946
P/TOT	228	18	6	1	1	0	0	254	118	9	3	1	1	0	2	134	P/TOT	3056	235	57	18	37	24	46	3473

	TO ARM B								FROM ARM B								TO ARM C							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	37	2	0	0	0	0	0	39	20	2	2	0	0	0	0	24	16:00	134	9	2	1	4	2	2	154
16:15	30	3	0	0	0	0	1	34	24	4	3	0	0	0	0	31	16:15	173	16	4	1	3	0	4	201
16:30	25	3	0	0	0	0	1	29	20	3	1	0	0	2	0	26	16:30	164	11	2	0	3	1	0	181
16:45	33	1	1	0	0	0	0	35	22	1	0	0	1	0	0	24	16:45	154	9	3	0	4	0	4	174
H/TOT	125	9	1	0	0	0	2	137	86	10	6	0	1	2	0	105	H/TOT	625	45	11	2	14	3	10	710
17:00	34	3	0	0	0	0	0	37	33	6	1	0	0	0	1	41	17:00	133	15	0	1	3	1	0	153
17:15	20	2	1	0	0	0	0	23	40	1	2	0	0	0	0	43	17:15	168	5	0	0	4	1	3	181
17:30	18	2	2	0	0	0	1	23	23	1	1	0	0	0	0	25	17:30	165	6	1	0	3	3	1	179
17:45	19	1	1	0	0	0	0	21	22	2	0	0	0	0	2	26	17:45	172	8	3	0	2	0	6	191
H/TOT	91	8	4	0	0	0	1	104	118	10	4	0	0	0	3	135	H/TOT	638	34	4	1	12	5	10	704
18:00	19	2	2	0	0	0	0	23	34	3	0	0	0	0	0	37	18:00	201	8	0	0	2	1	1	213
18:15	25	1	0	0	0	1	0	27	22	2	1	0	0	0	0	25	18:15	180	11	3	0	2	0	2	198
18:30	17	2	0	0	0	0	0	19	13	1	1	0	0	0	0	15	18:30	187	9	0	0	3	1	3	203
18:45	13	0	0	0	0	0	0	13	9	0	1	0	0	0	0	10	18:45	168	8	2	0	4	0	1	183
H/TOT	74	5	2	0	0	1	0	82	78	6	3	0	0	0	0	87	H/TOT	736	36	5	0	11	2	7	797
P/TOT	290	22	7	0	0	1	3	323	282	26	13	0	1	2	3	327	P/TOT	1999	115	20	3	37	10	27	2211

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 4 DATE: 11/12/2018

DAY: TUESDAY LOCATION: Cheetham Hill Road/Lord Street DAY: TUESDAY

FROM ARM C									TO ARM D								FROM ARM D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
71	8	5	0	4	0	2	90	07:00	31	3	0	0	0	0	0	34	39	5	1	1	0	0	1	47
83	3	2	0	4	0	0	92	07:15	24	3	0	0	0	0	1	28	67	3	2	1	0	0	0	73
91	5	3	3	2	1	1	106	07:30	20	4	0	0	0	0	0	24	48	0	2	0	0	0	0	50
102	5	4	2	3	0	4	120	07:45	44	1	1	0	0	0	0	46	51	3	1	0	0	0	0	55
347	21	14	5	13	1	7	408	H/TOT	119	11	1	0	0	0	1	132	205	11	6	2	0	0	1	225
83	10	6	3	3	0	2	107	08:00	41	0	2	0	0	0	0	43	69	4	0	0	0	0	1	74
112	10	4	0	2	0	0	128	08:15	30	2	1	0	0	0	0	33	81	0	0	0	0	0	0	81
85	9	5	1	5	1	3	109	08:30	38	0	1	0	0	1	0	40	69	3	0	0	0	0	0	72
104	7	2	0	3	1	2	119	08:45	34	4	1	0	0	0	0	39	63	3	1	0	0	0	1	68
384	36	17	4	13	2	7	463	H/TOT	143	6	5	0	0	1	0	155	282	10	1	0	0	0	2	295
135	14	2	0	2	1	4	158	09:00	30	3	0	0	0	0	0	33	39	4	1	0	0	0	0	44
110	14	5	1	6	0	1	137	09:15	27	2	1	0	0	0	0	30	48	3	2	2	0	0	0	55
101	18	4	1	4	1	1	130	09:30	20	2	0	0	0	0	0	22	32	5	2	1	0	0	1	41
163	22	10	2	4	1	1	203	09:45	35	1	1	0	0	0	0	37	20	6	0	0	0	1	0	27
509	68	21	4	16	3	7	628	H/TOT	112	8	2	0	0	0	0	122	139	18	5	3	0	1	1	167
1240	125	52	13	42	6	21	1499	P/TOT	374	25	8	0	0	1	1	409	626	39	12	5	0	1	4	687

FROM ARM C									TO ARM D								FROM ARM D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
254	25	7	1	2	5	3	297	16:00	36	8	5	0	0	1	0	50	66	7	0	0	0	0	0	73
259	23	4	0	3	4	9	302	16:15	45	5	4	0	0	0	0	54	50	8	0	0	0	0	1	59
269	20	4	1	3	0	6	303	16:30	57	5	2	0	0	2	0	66	38	4	1	0	0	0	1	44
280	20	2	0	3	4	5	314	16:45	54	9	1	0	0	1	0	65	50	2	2	0	0	0	1	55
1062	88	17	2	11	13	23	1216	H/TOT	192	27	12	0	0	4	0	235	204	21	3	0	0	0	3	231
261	17	5	1	3	3	6	296	17:00	59	7	1	0	0	0	1	68	55	2	0	0	0	1	0	58
290	13	2	0	4	3	7	319	17:15	67	4	1	0	0	0	0	72	49	4	1	0	0	0	0	54
264	15	1	0	3	0	2	285	17:30	55	3	1	0	0	0	0	59	41	4	2	0	0	2	1	50
270	13	2	0	1	2	9	297	17:45	47	5	1	0	0	0	2	55	47	1	2	0	0	0	0	50
1085	58	10	1	11	8	24	1197	H/TOT	228	19	4	0	0	0	3	254	192	11	5	0	0	3	1	212
231	10	2	0	5	1	5	254	18:00	56	4	1	0	0	0	0	61	57	6	2	0	0	0	0	65
256	9	0	0	3	4	2	274	18:15	78	4	1	0	0	1	0	84	46	1	0	0	0	0	0	47
222	9	1	0	3	1	4	240	18:30	48	1	1	0	0	0	0	50	37	5	0	0	0	0	0	42
201	4	4	0	5	2	2	218	18:45	30	0	2	0	0	0	0	32	44	2	0	0	0	0	0	46
910	32	7	0	16	8	13	986	H/TOT	212	9	5	0	0	1	0	227	184	14	2	0	0	0	0	200
3057	178	34	3	38	29	60	3399	P/TOT	632	55	21	0	0	5	3	716	580	46	10	0	0	3	4	643

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 7 DATE: 11/12/2018 SITE: 7

LOCATION: Angel Street /Danzic Street DAY: TUESDAY LOCATION: Angel Street /Danzic Street

	A to D								A to C								A to B								
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	54	4	1	0	0	0	0	59	4	0	1	0	0	0	1	6	07:00								0
07:15	60	6	4	0	0	0	0	70	2	1	0	0	0	0	0	3	07:15								0
07:30	103	8	1	0	0	0	0	112	8	0	0	0	0	0	0	8	07:30								0
07:45	107	3	1	1	0	0	0	112	8	0	0	0	0	0	2	10	07:45								0
H/TOT	324	21	7	1	0	0	0	353	22	1	1	0	0	0	3	27	H/TOT	0	0	0	0	0	0	0	0
08:00	79	6	0	0	0	0	2	87	7	0	0	0	0	0	1	8	08:00								0
08:15	88	3	1	0	0	0	0	92	7	0	0	0	0	0	0	7	08:15								0
08:30	90	5	0	0	0	1	0	96	2	0	0	0	0	0	0	2	08:30								0
08:45	76	3	3	1	0	0	0	83	2	0	0	0	0	0	0	2	08:45								0
H/TOT	333	17	4	1	0	1	2	358	18	0	0	0	0	0	1	19	H/TOT	0	0	0	0	0	0	0	0
09:00	52	6	1	0	0	0	2	61	2	1	0	0	0	0	0	3	09:00								0
09:15	50	2	0	0	0	0	0	52	0	0	0	0	0	0	0	0	09:15								0
09:30	29	3	1	0	0	0	0	33	0	0	0	0	0	0	1	1	09:30								0
09:45	36	4	1	0	0	0	0	41	0	0	1	0	0	0	2	3	09:45								0
H/TOT	167	15	3	0	0	0	2	187	2	1	1	0	0	0	3	7	H/TOT	0	0	0	0	0	0	0	0
P/TOT	824	53	14	2	0	1	4	898	42	2	2	0	0	0	7	53	P/TOT	0	0	0	0	0	0	0	0

	A to D								A to C								A to B								
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	34	3	0	0	0	0	0	37	0	0	0	0	0	0	0	0	16:00								0
16:15	33	3	0	0	0	0	0	36	0	0	0	0	0	0	0	0	16:15								0
16:30	46	5	1	0	0	0	0	52	0	0	0	0	0	0	0	0	16:30								0
16:45	37	2	1	0	0	0	0	40	0	0	0	0	0	0	0	0	16:45								0
H/TOT	150	13	2	0	0	0	0	165	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
17:00	37	4	0	0	0	0	0	41	4	0	0	0	0	0	0	4	17:00								0
17:15	32	2	1	0	0	1	0	36	0	0	0	0	0	0	0	0	17:15								0
17:30	41	2	0	0	0	0	1	44	0	0	0	0	0	0	0	0	17:30								0
17:45	36	2	0	0	0	0	0	38	0	0	0	0	0	0	0	0	17:45								0
H/TOT	146	10	1	0	0	1	1	159	4	0	0	0	0	0	0	4	H/TOT	0	0	0	0	0	0	0	0
18:00	31	1	0	0	0	0	0	32	0	0	0	0	0	0	0	0	18:00								0
18:15	40	1	1	0	0	0	0	42	0	0	0	0	0	0	0	0	18:15								0
18:30	33	2	0	0	0	0	0	35	0	0	0	0	0	0	1	1	18:30								0
18:45	31	0	0	0	0	0	0	31	2	0	0	0	0	0	0	2	18:45								0
H/TOT	135	4	1	0	0	0	0	140	2	0	0	0	0	0	1	3	H/TOT	0	0	0	0	0	0	0	0
P/TOT	431	27	4	0	0	1	1	464	6	0	0	0	0	0	1	7	P/TOT	0	0	0	0	0	0	0	0

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 7 DATE: 11/12/2018

DAY: TUESDAY LOCATION: Angel Street /Danzic Street DAY: TUESDAY

A to A									B to A								B to D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
0	0	0	0	0	0	0	0	07:00	20	4	2	0	0	0	0	26	206	29	3	2	1	1	0	242
0	0	0	0	0	0	0	0	07:15	22	2	0	0	0	0	0	24	238	32	8	0	1	1	1	281
0	0	0	0	0	0	0	0	07:30	20	0	0	0	0	0	1	21	187	34	4	1	1	4	0	231
0	0	0	0	0	0	0	0	07:45	24	0	0	0	0	0	0	24	183	20	1	4	1	2	6	217
0	0	0	0	0	0	0	0	H/TOT	86	6	2	0	0	0	1	95	814	115	16	7	4	8	7	971
0	0	0	0	0	0	0	0	08:00	15	0	0	0	0	0	1	16	184	19	6	3	1	1	1	215
0	0	0	0	0	0	0	0	08:15	16	3	1	0	0	1	0	21	206	12	12	1	2	0	0	233
0	0	0	0	0	0	0	0	08:30	19	3	0	0	0	0	1	23	159	12	7	2	1	7	2	190
0	0	0	0	0	0	0	0	08:45	12	2	1	0	0	0	1	16	196	18	6	4	0	2	0	226
0	0	0	0	0	0	0	0	H/TOT	62	8	2	0	0	1	3	76	745	61	31	10	4	10	3	864
0	0	0	0	0	0	0	0	09:00	14	0	0	2	0	0	1	17	193	29	10	4	1	1	3	241
0	0	0	0	0	0	0	0	09:15	17	1	0	0	0	0	0	18	178	25	11	2	3	1	1	221
0	0	0	0	0	0	0	0	09:30	11	1	1	1	0	0	0	14	207	27	11	5	0	1	0	251
0	0	0	0	0	0	0	0	09:45	8	0	2	1	0	0	0	11	188	28	11	1	1	0	1	230
0	0	0	0	0	0	0	0	H/TOT	50	2	3	4	0	0	1	60	766	109	43	12	5	3	5	943
0	0	0	0	0	0	0	0	P/TOT	198	16	7	4	0	1	5	231	2325	285	90	29	13	21	15	2778

A to A									B to A								B to D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
0	0	0	0	0	0	0	0	16:00	45	9	2	0	0	0	0	56	242	35	6	1	1	2	1	288
0	0	0	0	0	0	0	0	16:15	43	3	0	0	0	0	0	46	234	30	10	3	1	1	1	280
0	0	0	0	0	0	0	0	16:30	59	7	0	0	0	0	0	66	262	19	3	3	1	4	2	294
0	0	0	0	0	0	0	0	16:45	44	2	0	0	0	0	0	46	261	18	7	2	1	3	2	294
0	0	0	0	0	0	0	0	H/TOT	191	21	2	0	0	0	0	214	999	102	26	9	4	10	6	1156
0	0	0	0	0	0	0	0	17:00	41	0	0	0	0	1	0	42	250	26	1	2	1	1	1	282
0	0	0	0	0	0	0	0	17:15	64	5	0	0	0	0	1	70	310	11	2	2	1	2	2	330
0	0	0	0	0	0	0	0	17:30	59	3	0	0	0	1	0	63	270	16	4	3	1	3	1	298
0	0	0	0	0	0	0	0	17:45	49	1	0	0	0	1	0	51	261	12	4	0	1	1	3	282
0	0	0	0	0	0	0	0	H/TOT	213	9	0	0	0	3	1	226	1091	65	11	7	4	7	7	1192
0	0	0	0	0	0	0	0	18:00	39	1	0	0	0	0	0	40	235	17	3	2	0	1	2	260
0	0	0	0	0	0	0	0	18:15	25	2	1	0	0	0	0	28	294	20	5	0	0	0	2	321
0	0	0	0	0	0	0	0	18:30	27	1	0	0	0	0	0	28	246	13	1	1	0	1	3	265
0	0	0	0	0	0	0	0	18:45	29	1	0	0	0	0	0	30	250	14	0	0	1	2	1	268
0	0	0	0	0	0	0	0	H/TOT	120	5	1	0	0	0	0	126	1025	64	9	3	1	4	8	1114
0	0	0	0	0	0	0	0	P/TOT	524	35	3	0	0	3	1	566	3115	231	46	19	9	21	21	3462

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 7 DATE: 11/12/2018 SITE: 7

LOCATION: Angel Street /Danzic Street DAY: TUESDAY LOCATION: Angel Street /Danzic Street

	B to C								B to B								C to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	5	1	0	0	0	0	2	8	0	0	0	0	0	0	0	0	07:00								0
07:15	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	07:15								0
07:30	9	1	2	0	0	0	0	12	0	0	0	0	0	0	0	0	07:30								0
07:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	07:45								0
H/TOT	20	3	2	0	0	0	2	27	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
08:00	8	1	1	0	0	0	2	12	0	0	0	0	0	0	0	0	08:00								0
08:15	5	1	0	0	0	1	2	9	0	0	0	0	0	0	0	0	08:15								0
08:30	2	1	0	0	0	2	0	5	0	0	0	0	0	0	0	0	08:30								0
08:45	2	0	0	0	0	1	1	4	0	0	0	0	0	0	0	0	08:45								0
H/TOT	17	3	1	0	0	4	5	30	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
09:00	3	1	1	0	0	0	0	5	0	0	0	0	0	0	0	0	09:00								0
09:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	09:15								0
09:30	2	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	09:30								0
09:45	3	0	2	0	0	0	0	5	0	0	0	0	0	0	0	0	09:45								0
H/TOT	9	3	3	0	0	0	0	15	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
P/TOT	46	9	6	0	0	4	7	72	0	0	0	0	0	0	0	0	P/TOT	0	0	0	0	0	0	0	0

	B to C								B to B								C to B							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16:00								0
16:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	16:15								0
16:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	16:30								0
16:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	16:45								0
H/TOT	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
17:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	17:00								0
17:15	5	1	1	0	0	0	0	7	0	0	0	0	0	0	0	0	17:15								0
17:30	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	17:30								0
17:45	2	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	17:45								0
H/TOT	11	2	1	0	0	0	1	15	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
18:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	18:00								0
18:15	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	18:15								0
18:30	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	18:30								0
18:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	18:45								0
H/TOT	9	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
P/TOT	26	3	1	0	0	0	1	31	0	0	0	0	0	0	0	0	P/TOT	0	0	0	0	0	0	0	0

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 7 DATE: 11/12/2018

DAY: TUESDAY LOCATION: Angel Street /Danzic Street DAY: TUESDAY

C to A									C to D								C to C							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
3	0	0	0	0	0	0	3	07:00	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	07:15	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0
2	1	0	0	0	0	1	4	07:30	2	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	2	07:45	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
7	1	0	0	0	0	1	9	H/TOT	4	3	3	0	0	0	0	10	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	1	08:00	1	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0
3	0	0	0	0	0	1	4	08:15	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	1	08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	08:45	1	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0
4	1	0	0	0	0	1	6	H/TOT	5	1	3	0	0	0	0	9	0	0	0	0	0	0	0	0
2	0	0	0	0	0	1	3	09:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0	2	0	0	0	0	0	2	09:15	2	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	1	09:45	1	1	2	0	0	0	0	4	0	0	0	0	0	0	0	0
2	3	0	0	0	0	1	6	H/TOT	4	1	3	0	0	0	0	8	0	0	0	0	0	0	0	0
13	5	0	0	0	0	3	21	P/TOT	13	5	9	0	0	0	0	27	0	0	0	0	0	0	0	0

C to A									C to D								C to C							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
9	0	0	0	0	0	1	10	16:00	7	2	0	0	0	0	0	9	0	0	0	0	0	0	0	0
2	1	0	0	0	0	0	3	16:15	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	6	16:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	5	16:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
22	1	0	0	0	0	1	24	H/TOT	15	2	0	0	0	0	0	17	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	3	17:00	5	0	0	0	0	1	1	7	0	0	0	0	0	0	0	0
4	0	0	0	0	0	1	5	17:15	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
2	0	0	0	0	0	1	3	17:30	5	2	0	0	0	1	0	8	0	0	0	0	0	0	0	0
1	1	0	0	0	0	0	2	17:45	6	0	1	0	0	0	0	7	0	0	0	0	0	0	0	0
10	1	0	0	0	0	2	13	H/TOT	18	2	1	0	0	2	1	24	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	7	18:00	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
2	0	0	0	0	0	2	4	18:15	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	1	18:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	4	18:45	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0
14	0	0	0	0	0	2	16	H/TOT	15	2	0	0	0	0	0	17	0	0	0	0	0	0	0	0
46	2	0	0	0	0	5	53	P/TOT	48	6	1	0	0	2	1	58	0	0	0	0	0	0	0	0

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 7 DATE: 11/12/2018 SITE: 7

LOCATION: Angel Street /Danzic Street DAY: TUESDAY LOCATION: Angel Street /Danzic Street

	D to C								D to B								D to A							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00								0								0	07:00								0
07:15								0								0	07:15								0
07:30								0								0	07:30								0
07:45								0								0	07:45								0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
08:00								0								0	08:00								0
08:15								0								0	08:15								0
08:30								0								0	08:30								0
08:45								0								0	08:45								0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
09:00								0								0	09:00								0
09:15								0								0	09:15								0
09:30								0								0	09:30								0
09:45								0								0	09:45								0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	P/TOT	0	0	0	0	0	0	0	0

	D to C								D to B								D to A							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00								0								0	16:00								0
16:15								0								0	16:15								0
16:30								0								0	16:30								0
16:45								0								0	16:45								0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
17:00								0								0	17:00								0
17:15								0								0	17:15								0
17:30								0								0	17:30								0
17:45								0								0	17:45								0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
18:00								0								0	18:00								0
18:15								0								0	18:15								0
18:30								0								0	18:30								0
18:45								0								0	18:45								0
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	H/TOT	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	P/TOT	0	0	0	0	0	0	0	0

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 7 DATE: 11/12/2018

DAY: DAY: TUESDAY LOCATION: Angel Street /Danzic Street DAY: TUESDA 0

D to D								TO ARM A								FROM ARM A							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
							0	07:00	23	4	2	0	0	0	0	29	58	4	2	0	0	0	1	65
							0	07:15	22	2	0	0	0	0	0	24	62	7	4	0	0	0	0	73
							0	07:30	22	1	0	0	0	0	2	25	111	8	1	0	0	0	0	120
							0	07:45	26	0	0	0	0	0	0	26	115	3	1	1	0	0	2	122
0	0	0	0	0	0	0	0	H/TOT	93	7	2	0	0	0	2	104	346	22	8	1	0	0	3	380
							0	08:00	16	0	0	0	0	0	1	17	86	6	0	0	0	0	3	95
							0	08:15	19	3	1	0	0	1	1	25	95	3	1	0	0	0	0	99
							0	08:30	19	4	0	0	0	0	1	24	92	5	0	0	0	1	0	98
							0	08:45	12	2	1	0	0	0	1	16	78	3	3	1	0	0	0	85
0	0	0	0	0	0	0	0	H/TOT	66	9	2	0	0	1	4	82	351	17	4	1	0	1	3	377
							0	09:00	16	0	0	2	0	0	2	20	54	7	1	0	0	0	2	64
							0	09:15	17	3	0	0	0	0	0	20	50	2	0	0	0	0	0	52
							0	09:30	11	1	1	1	0	0	0	14	29	3	1	0	0	0	1	34
							0	09:45	8	1	2	1	0	0	0	12	36	4	2	0	0	0	2	44
0	0	0	0	0	0	0	0	H/TOT	52	5	3	4	0	0	2	66	169	16	4	0	0	0	5	194
0	0	0	0	0	0	0	0	P/TOT	211	21	7	4	0	1	8	252	866	55	16	2	0	1	11	951

D to D								TO ARM A								FROM ARM A							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
							0	16:00	54	9	2	0	0	0	1	66	34	3	0	0	0	0	0	37
							0	16:15	45	4	0	0	0	0	0	49	33	3	0	0	0	0	0	36
							0	16:30	65	7	0	0	0	0	0	72	46	5	1	0	0	0	0	52
							0	16:45	49	2	0	0	0	0	0	51	37	2	1	0	0	0	0	40
0	0	0	0	0	0	0	0	H/TOT	213	22	2	0	0	0	1	238	150	13	2	0	0	0	0	165
							0	17:00	44	0	0	0	0	1	0	45	41	4	0	0	0	0	0	45
							0	17:15	68	5	0	0	0	0	2	75	32	2	1	0	0	1	0	36
							0	17:30	61	3	0	0	0	1	1	66	41	2	0	0	0	0	1	44
							0	17:45	50	2	0	0	0	1	0	53	36	2	0	0	0	0	0	38
0	0	0	0	0	0	0	0	H/TOT	223	10	0	0	0	3	3	239	150	10	1	0	0	1	1	163
							0	18:00	46	1	0	0	0	0	0	47	31	1	0	0	0	0	0	32
							0	18:15	27	2	1	0	0	0	2	32	40	1	1	0	0	0	0	42
							0	18:30	28	1	0	0	0	0	0	29	33	2	0	0	0	0	1	36
							0	18:45	33	1	0	0	0	0	0	34	33	0	0	0	0	0	0	33
0	0	0	0	0	0	0	0	H/TOT	134	5	1	0	0	0	2	142	137	4	1	0	0	0	1	143
0	0	0	0	0	0	0	0	P/TOT	570	37	3	0	0	3	6	619	437	27	4	0	0	1	2	471

9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

SITE: 7 DATE: 11/12/2018 SITE: 7

LOCATION: Angel Street /Danzic Street DAY: TUESDAY LOCATION: Angel Street /Danzic Street

	TO ARM B								FROM ARM B								TO ARM C							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	0	0	0	0	0	0	0	0	231	34	5	2	1	1	2	276	07:00	9	1	1	0	0	0	3	14
07:15	0	0	0	0	0	0	0	0	264	35	8	0	1	1	1	310	07:15	6	2	0	0	0	0	0	8
07:30	0	0	0	0	0	0	0	0	216	35	6	1	1	4	1	264	07:30	17	1	2	0	0	0	0	20
07:45	0	0	0	0	0	0	0	0	209	20	1	4	1	2	6	243	07:45	10	0	0	0	0	0	2	12
H/TOT	0	0	0	0	0	0	0	0	920	124	20	7	4	8	10	1093	H/TOT	42	4	3	0	0	0	5	54
08:00	0	0	0	0	0	0	0	0	207	20	7	3	1	1	4	243	08:00	15	1	1	0	0	0	3	20
08:15	0	0	0	0	0	0	0	0	227	16	13	1	2	2	2	263	08:15	12	1	0	0	0	1	2	16
08:30	0	0	0	0	0	0	0	0	180	16	7	2	1	9	3	218	08:30	4	1	0	0	0	2	0	7
08:45	0	0	0	0	0	0	0	0	210	20	7	4	0	3	2	246	08:45	4	0	0	0	0	1	1	6
H/TOT	0	0	0	0	0	0	0	0	824	72	34	10	4	15	11	970	H/TOT	35	3	1	0	0	4	6	49
09:00	0	0	0	0	0	0	0	0	210	30	11	6	1	1	4	263	09:00	5	2	1	0	0	0	0	8
09:15	0	0	0	0	0	0	0	0	196	26	11	2	3	1	1	240	09:15	1	0	0	0	0	0	0	1
09:30	0	0	0	0	0	0	0	0	220	30	12	6	0	1	0	269	09:30	2	2	0	0	0	0	1	5
09:45	0	0	0	0	0	0	0	0	199	28	15	2	1	0	1	246	09:45	3	0	3	0	0	0	2	8
H/TOT	0	0	0	0	0	0	0	0	825	114	49	16	5	3	6	1018	H/TOT	11	4	4	0	0	0	3	22
P/TOT	0	0	0	0	0	0	0	0	2569	310	103	33	13	26	27	3081	P/TOT	88	11	8	0	0	4	14	125

	TO ARM B								FROM ARM B								TO ARM C							
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	0	0	0	0	0	0	0	0	287	44	8	1	1	2	1	344	16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	280	33	10	3	1	1	1	329	16:15	3	0	0	0	0	0	0	3
16:30	0	0	0	0	0	0	0	0	323	26	3	3	1	4	2	362	16:30	2	0	0	0	0	0	0	2
16:45	0	0	0	0	0	0	0	0	306	20	7	2	1	3	2	341	16:45	1	0	0	0	0	0	0	1
H/TOT	0	0	0	0	0	0	0	0	1196	123	28	9	4	10	6	1376	H/TOT	6	0	0	0	0	0	0	6
17:00	0	0	0	0	0	0	0	0	292	26	1	2	1	2	1	325	17:00	5	0	0	0	0	0	0	5
17:15	0	0	0	0	0	0	0	0	379	17	3	2	1	2	3	407	17:15	5	1	1	0	0	0	0	7
17:30	0	0	0	0	0	0	0	0	332	20	4	3	1	4	1	365	17:30	3	1	0	0	0	0	0	4
17:45	0	0	0	0	0	0	0	0	312	13	4	0	1	2	4	336	17:45	2	0	0	0	0	0	1	3
H/TOT	0	0	0	0	0	0	0	0	1315	76	12	7	4	10	9	1433	H/TOT	15	2	1	0	0	0	1	19
18:00	0	0	0	0	0	0	0	0	275	18	3	2	0	1	2	301	18:00	1	0	0	0	0	0	0	1
18:15	0	0	0	0	0	0	0	0	322	23	6	0	0	0	2	353	18:15	3	1	0	0	0	0	0	4
18:30	0	0	0	0	0	0	0	0	277	14	1	1	0	1	3	297	18:30	4	0	0	0	0	0	1	5
18:45	0	0	0	0	0	0	0	0	280	15	0	0	1	2	1	299	18:45	3	0	0	0	0	0	0	3
H/TOT	0	0	0	0	0	0	0	0	1154	70	10	3	1	4	8	1250	H/TOT	11	1	0	0	0	0	1	13
P/TOT	0	0	0	0	0	0	0	0	3665	269	50	19	9	24	23	4059	P/TOT	32	3	1	0	0	0	2	38



9535 / MANCHESTER
DEC 2018
MANUAL CLASSIFIED COUNT

DATE: 11/12/2018 SITE: 7 DATE: 11/12/2018

DAY: TUESDAY LOCATION: Angel Street /Danzic Street DAY: TUESDAY

FROM ARM C									TO ARM D								FROM ARM D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
3	0	2	0	0	0	0	5	07:00	260	33	6	2	1	1	0	303	0	0	0	0	0	0	0	0
2	1	0	0	0	0	0	3	07:15	300	39	12	0	1	1	1	354	0	0	0	0	0	0	0	0
4	3	0	0	0	0	1	8	07:30	292	44	5	1	1	4	0	347	0	0	0	0	0	0	0	0
2	0	1	0	0	0	0	3	07:45	290	23	3	5	1	2	6	330	0	0	0	0	0	0	0	0
11	4	3	0	0	0	1	19	H/TOT	1142	139	26	8	4	8	7	1334	0	0	0	0	0	0	0	0
2	0	2	0	0	0	0	4	08:00	264	25	8	3	1	1	3	305	0	0	0	0	0	0	0	0
6	1	0	0	0	0	1	8	08:15	297	16	13	1	2	0	0	329	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	1	08:30	249	17	7	2	1	8	2	286	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	2	08:45	273	21	10	5	0	2	0	311	0	0	0	0	0	0	0	0
9	2	3	0	0	0	1	15	H/TOT	1083	79	38	11	4	11	5	1231	0	0	0	0	0	0	0	0
3	0	0	0	0	0	1	4	09:00	246	35	11	4	1	1	5	303	0	0	0	0	0	0	0	0
2	2	1	0	0	0	0	5	09:15	230	27	12	2	3	1	1	276	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	09:30	236	30	12	5	0	1	0	284	0	0	0	0	0	0	0	0
1	2	2	0	0	0	0	5	09:45	225	33	14	1	1	0	1	275	0	0	0	0	0	0	0	0
6	4	3	0	0	0	1	14	H/TOT	937	125	49	12	5	3	7	1138	0	0	0	0	0	0	0	0
26	10	9	0	0	0	3	48	P/TOT	3162	343	113	31	13	22	19	3703	0	0	0	0	0	0	0	0

FROM ARM C									TO ARM D								FROM ARM D							
CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16	2	0	0	0	0	1	19	16:00	283	40	6	1	1	2	1	334	0	0	0	0	0	0	0	0
6	1	0	0	0	0	0	7	16:15	271	33	10	3	1	1	1	320	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	8	16:30	310	24	4	3	1	4	2	348	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	7	16:45	300	20	8	2	1	3	2	336	0	0	0	0	0	0	0	0
37	3	0	0	0	0	1	41	H/TOT	1164	117	28	9	4	10	6	1338	0	0	0	0	0	0	0	0
8	0	0	0	0	1	1	10	17:00	292	30	1	2	1	2	2	330	0	0	0	0	0	0	0	0
6	0	0	0	0	0	1	7	17:15	344	13	3	2	1	3	2	368	0	0	0	0	0	0	0	0
7	2	0	0	0	1	1	11	17:30	316	20	4	3	1	4	2	350	0	0	0	0	0	0	0	0
7	1	1	0	0	0	0	9	17:45	303	14	5	0	1	1	3	327	0	0	0	0	0	0	0	0
28	3	1	0	0	2	3	37	H/TOT	1255	77	13	7	4	10	9	1375	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	12	18:00	271	18	3	2	0	1	2	297	0	0	0	0	0	0	0	0
8	1	0	0	0	0	2	11	18:15	340	22	6	0	0	0	2	370	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	2	18:30	280	15	1	1	0	1	3	301	0	0	0	0	0	0	0	0
7	1	0	0	0	0	0	8	18:45	284	15	0	0	1	2	1	303	0	0	0	0	0	0	0	0
29	2	0	0	0	0	2	33	H/TOT	1175	70	10	3	1	4	8	1271	0	0	0	0	0	0	0	0
94	8	1	0	0	2	6	111	P/TOT	3594	264	51	19	9	24	23	3984	0	0	0	0	0	0	0	0

Appendix I

TRACKING DRAWINGS

PUBLIC

DO NOT SCALE



Aerial Platform/ Turntable Ladder/ Special Appliance @ 5mp/h

Overall Length	12.000m
Overall Width	2.550m
Overall Body Height	4.500m
Min Body Ground Clearance	0.130m
Track Width	2.550m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	13.750m

REV	DATE	BY	DESCRIPTION	CHK	APP
P03	29/03/2023	DR	AMENDED ARCHITECTS BASE	JO	JO
P02	22/03/2023	DR	AMENDED ARCITECTS BASE	JO	JO
P01	10/03/2023	DR	FIRST ISSUE	JO	JO

DRAWING STATUS:
S0 - WORK IN PROGRESS

wsp
8 First Street, Manchester, M15 4GU, UK
T+ 44 (0) 161 200 5000
wsp.com

CLIENT:
FAR EAST CONSORTIUM

ARCHITECT:
MACCREANOR LAVINGTON

SITE/PROJECT:
REDBANK AND DANTZIC STREET

TITLE:
12m FIRE TENDER
SWEPT PATH ANALYSIS

SCALE @ A1:	CHECKED:		APPROVED:
NTS	JO		JO
PROJECT NO:	DESIGNED:	DRAWN:	DATE:
70079268	DR	DR	March 23

DRAWING No: 70079268-WSP-XX-XX-DR-TP-021 REV: P03

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File name \\UK-WSPGROUP.COM\CENTRAL DATA\PROJECTS\70079\XXX\70079268 - REDBANK & DANTZIC STREET MASTERPLAN\03 WIP\TP TRANSPORT PLANNING\03 DRAWINGS\70079268-WSP-XX-XX-DR-TP-021_P03.DWG, printed on 31 March 2023 08:40:58, by Ramm, Declan

DO NOT SCALE



Phoenix 2 Duo Recycler (P2-15W with Elite 6x4 chassis)

Overall Length	11.220m
Overall Width	2.530m
Overall Body Height	3.756m
Min Body Ground Clearance	0.309m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.550m

REV	DATE	BY	DESCRIPTION	CHK	APP
P03	29/03/2023	DR	AMENDED ARCHITECTS BASE	JO	JO
P02	22/03/2023	DR	AMENDED ARCITECTS BASE	JO	JO
P01	10/03/2023	DR	FIRST ISSUE	JO	JO

DRAWING STATUS:
S0 - WORK IN PROGRESS

wsp
8 First Street, Manchester, M15 4GU, UK
T+ 44 (0) 161 200 5000
wsp.com

CLIENT:
FAR EAST CONSORTIUM

ARCHITECT:
MACCREANOR LAVINGTON

SITE/PROJECT:
REDBANK AND DANTZIC STREET

TITLE:
11.22m REFUSE VEHICLE
SWEPT PATH ANALYSIS

SCALE @ A1:	CHECKED:	APPROVED:
NTS	JO	JO

PROJECT NO:	DESIGNED:	DRAWN:	DATE:
70079268	DR	DR	March 23

DRAWING No: 70079268-WSP-XX-XX-DR-TP-023
REV: P03

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File name \\UK-WSPGROUP.COM\CENTRAL DATA\PROJECTS\70079XXX\70079268 - REDBANK & DANTZIC STREET MASTERPLAN\03 WIP\TP TRANSPORT PLANNING\03 DRAWINGS\70079268-WSP-XX-XX-DR-TP-023_P03.DWG, printed on 31 March 2023 08:40:01, by Ramm, Declan

Appendix J

JUNCTION CAPACITY ASSESSMENTS

PUBLIC

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.1.1519
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+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

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Filename: Red Bank - Honey St - TA Scenarios.j10
Path: \\uk.wspgroup.com\Central Data\Projects\70079xxx\70079268 - Redbank & Dantzic Street Masterplan\03 WIP\TP Transport Planning\01 Analysis & Calcs\Local Junction Modelling
Report generation date: 31/03/2023 15:03:46

»Base 2018, AM
»Base 2018, PM
»Do-Min 2034 , AM
»Do-Min 2034 , PM
»Do-Sth (Detailed) 2034 , AM
»Do-Sth (Detailed) 2034 , PM
»Do-Min 2037, AM
»Do-Min 2037, PM
»Do-Sth (Outline) 2037, AM
»Do-Sth (Outline) 2037, PM
»Do-Sth (Detail+Out) 2037, AM
»Do-Sth (Detail+Out) 2037, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Base 2018									
Stream B-AC	D1	0.0	0.00	0.00	A	D2	0.0	8.53	0.04	A
Stream C-AB		0.0	6.44	0.01	A		0.0	5.05	0.01	A
	Do-Min 2034									
Stream B-AC	D17	0.0	0.00	0.00	A	D18	0.1	9.06	0.05	A
Stream C-AB		0.0	6.42	0.01	A		0.0	4.91	0.01	A
	Do-Sth (Detailed) 2034									
Stream B-AC	D19	0.0	0.00	0.00	A	D20	0.1	9.13	0.05	A
Stream C-AB		0.0	6.26	0.01	A		0.0	4.88	0.01	A
	Do-Min 2037									
Stream B-AC	D27	0.0	0.00	0.00	A	D28	0.1	9.09	0.06	A
Stream C-AB		0.0	6.43	0.01	A		0.0	4.90	0.01	A
	Do-Sth (Outline) 2037									
Stream B-AC	D29	0.0	0.00	0.00	A	D30	0.1	9.49	0.06	A
Stream C-AB		0.0	6.00	0.01	A		0.0	4.82	0.01	A
	Do-Sth (Detail+Out) 2037									
Stream B-AC	D31	0.0	0.00	0.00	A	D32	0.1	9.57	0.06	A
Stream C-AB		0.0	5.88	0.01	A		0.0	4.79	0.01	A

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

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

File summary

File Description

Title	Red Bank_Honey Street
Location	
Site number	
Date	18/01/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	
Description	

Units

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base 2018	AM	ONE HOUR	07:30	09:00	15
D2	Base 2018	PM	ONE HOUR	16:30	18:00	15
D17	Do-Min 2034	AM	ONE HOUR	07:30	09:00	15
D18	Do-Min 2034	PM	ONE HOUR	16:30	18:00	15
D19	Do-Sth (Detailed) 2034	AM	ONE HOUR	07:30	09:00	15
D20	Do-Sth (Detailed) 2034	PM	ONE HOUR	16:30	18:00	15
D27	Do-Min 2037	AM	ONE HOUR	07:30	09:00	15
D28	Do-Min 2037	PM	ONE HOUR	16:30	18:00	15
D29	Do-Sth (Outline) 2037	AM	ONE HOUR	07:30	09:00	15
D30	Do-Sth (Outline) 2037	PM	ONE HOUR	16:30	18:00	15
D31	Do-Sth (Detail+Out) 2037	AM	ONE HOUR	07:30	09:00	15
D32	Do-Sth (Detail+Out) 2037	PM	ONE HOUR	16:30	18:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Base 2018, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.04	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.04	A

Arms

Arms

Arm	Name	Description	Arm type
A	Red Bank (N)	Red Bank (N)	Major
B	Honey Street	Honey Street	Minor
C	Red Bank (S)	Red Bank (S)	Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.50			75.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.20	180	100

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	541	0.088	0.222	0.140	0.317
B-C	632	0.086	0.218	-	-
C-B	617	0.213	0.213	-	-

The slopes and intercepts shown above include custom intercept adjustments only.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base 2018	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	538	100.000
B		✓	3	100.000
C		✓	93	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	17	521
	B	1	0	2
	C	90	3	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.00	0.00	0.0	A
C-AB	0.01	6.44	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	489	0.000	0	0.0	0.000	A
C-AB	3	579	0.004	3	0.0	6.246	A
C-A	67			67			
A-B	13			13			
A-C	392			392			

07:45 - 08:00

Stream	Total Demand	Capacity	RFC	Throughput	End queue	Delay (s)	Unsignalised

	(PCU/hr)	(PCU/hr)		(PCU/hr)	(PCU)		level of service
B-AC	0	470	0.000	0	0.0	0.000	A
C-AB	3	572	0.006	3	0.0	6.326	A
C-A	80			80			
A-B	15			15			
A-C	468			468			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	445	0.000	0	0.0	0.000	A
C-AB	4	563	0.007	4	0.0	6.437	A
C-A	98			98			
A-B	19			19			
A-C	574			574			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	445	0.000	0	0.0	0.000	A
C-AB	4	563	0.007	4	0.0	6.440	A
C-A	98			98			
A-B	19			19			
A-C	574			574			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	470	0.000	0	0.0	0.000	A
C-AB	3	572	0.006	3	0.0	6.329	A
C-A	80			80			
A-B	15			15			
A-C	468			468			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	489	0.000	0	0.0	0.000	A
C-AB	3	579	0.004	3	0.0	6.249	A
C-A	67			67			
A-B	13			13			
A-C	392			392			

Base 2018, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.30	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.30	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Base 2018	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	298	100.000
B		✓	18	100.000
C		✓	292	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	8	290
	B	15	0	3
	C	288	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	8.53	0.0	A
C-AB	0.01	5.05	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	14	478	0.028	13	0.0	7.750	A
C-AB	4	718	0.006	4	0.0	5.045	A
C-A	216			216			
A-B	6			6			
A-C	218			218			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	16	463	0.035	16	0.0	8.060	A
C-AB	6	739	0.008	6	0.0	4.910	A
C-A	257			257			
A-B	7			7			
A-C	261			261			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	442	0.045	20	0.0	8.525	A
C-AB	8	768	0.010	8	0.0	4.732	A
C-A	314			314			
A-B	9			9			
A-C	319			319			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	442	0.045	20	0.0	8.527	A
C-AB	8	768	0.010	8	0.0	4.734	A
C-A	314			314			
A-B	9			9			
A-C	319			319			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	16	463	0.035	16	0.0	8.061	A
C-AB	6	739	0.008	6	0.0	4.912	A
C-A	257			257			
A-B	7			7			
A-C	261			261			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	14	478	0.028	14	0.0	7.756	A
C-AB	4	718	0.006	4	0.0	5.047	A
C-A	216			216			
A-B	6			6			
A-C	218			218			

Do-Min 2034 , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.04	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.04	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D17	Do-Min 2034	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	633	100.000
B		✓	3	100.000
C		✓	124	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	20	613
	B	1	0	2
	C	120	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.00	0.00	0.0	A
C-AB	0.01	6.42	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	471	0.000	0	0.0	0.000	A
C-AB	4	580	0.006	4	0.0	6.241	A
C-A	90			90			
A-B	15			15			
A-C	461			461			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	449	0.000	0	0.0	0.000	A
C-AB	4	574	0.008	4	0.0	6.317	A
C-A	107			107			
A-B	18			18			
A-C	551			551			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	419	0.000	0	0.0	0.000	A
C-AB	6	567	0.010	6	0.0	6.418	A
C-A	131			131			
A-B	22			22			
A-C	675			675			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	419	0.000	0	0.0	0.000	A
C-AB	6	567	0.010	6	0.0	6.418	A
C-A	131			131			
A-B	22			22			
A-C	675			675			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	449	0.000	0	0.0	0.000	A
C-AB	4	574	0.008	4	0.0	6.320	A
C-A	107			107			
A-B	18			18			
A-C	551			551			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	471	0.000	0	0.0	0.000	A
C-AB	4	580	0.006	4	0.0	6.242	A
C-A	90			90			
A-B	15			15			
A-C	461			461			

Do-Min 2034 , PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.31	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.31	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D18	Do-Min 2034	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	350	100.000
B		✓	20	100.000
C		✓	347	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	9	341
	B	17	0	3
	C	342	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.05	9.06	0.1	A
C-AB	0.01	4.91	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	462	0.033	15	0.0	8.048	A
C-AB	6	738	0.008	6	0.0	4.913	A
C-A	255			255			
A-B	7			7			
A-C	257			257			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	18	444	0.040	18	0.0	8.445	A
C-AB	8	764	0.010	8	0.0	4.759	A
C-A	304			304			
A-B	8			8			
A-C	307			307			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	419	0.052	22	0.1	9.055	A
C-AB	10	800	0.013	10	0.0	4.559	A
C-A	372			372			
A-B	10			10			
A-C	375			375			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	419	0.052	22	0.1	9.056	A
C-AB	10	800	0.013	10	0.0	4.561	A
C-A	372			372			
A-B	10			10			
A-C	375			375			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	18	444	0.040	18	0.0	8.449	A
C-AB	8	764	0.010	8	0.0	4.762	A
C-A	304			304			
A-B	8			8			
A-C	307			307			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	462	0.033	15	0.0	8.054	A
C-AB	6	738	0.008	6	0.0	4.915	A
C-A	255			255			
A-B	7			7			
A-C	257			257			

Do-Sth (Detailed) 2034 , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.04	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.04	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D19	Do-Sth (Detailed) 2034	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	635	100.000
B		✓	3	100.000
C		✓	142	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	20	615
	B	1	0	2
	C	138	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.00	0.00	0.0	A
C-AB	0.01	6.26	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	470	0.000	0	0.0	0.000	A
C-AB	4	590	0.006	4	0.0	6.143	A
C-A	103			103			
A-B	15			15			
A-C	463			463			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	447	0.000	0	0.0	0.000	A
C-AB	5	586	0.008	5	0.0	6.195	A
C-A	123			123			
A-B	18			18			
A-C	553			553			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	416	0.000	0	0.0	0.000	A
C-AB	6	581	0.010	6	0.0	6.262	A
C-A	150			150			
A-B	22			22			
A-C	677			677			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	416	0.000	0	0.0	0.000	A
C-AB	6	581	0.010	6	0.0	6.265	A
C-A	150			150			
A-B	22			22			
A-C	677			677			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	447	0.000	0	0.0	0.000	A
C-AB	5	586	0.008	5	0.0	6.195	A
C-A	123			123			
A-B	18			18			
A-C	553			553			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	470	0.000	0	0.0	0.000	A
C-AB	4	590	0.006	4	0.0	6.145	A
C-A	103			103			
A-B	15			15			
A-C	463			463			

Do-Sth (Detailed) 2034 , PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.31	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.31	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D20	Do-Sth (Detailed) 2034	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	357	100.000
B		✓	20	100.000
C		✓	358	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	9	348
	B	17	0	3
	C	353	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.05	9.13	0.1	A
C-AB	0.01	4.88	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	460	0.033	15	0.0	8.088	A
C-AB	6	743	0.008	6	0.0	4.882	A
C-A	264			264			
A-B	7			7			
A-C	262			262			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	18	442	0.041	18	0.0	8.498	A
C-AB	8	770	0.010	8	0.0	4.724	A
C-A	314			314			
A-B	8			8			
A-C	313			313			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	416	0.053	22	0.1	9.130	A
C-AB	11	807	0.013	11	0.0	4.519	A
C-A	384			384			
A-B	10			10			
A-C	383			383			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	416	0.053	22	0.1	9.132	A
C-AB	11	807	0.013	11	0.0	4.521	A
C-A	384			384			
A-B	10			10			
A-C	383			383			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	18	442	0.041	18	0.0	8.502	A
C-AB	8	770	0.010	8	0.0	4.724	A
C-A	314			314			
A-B	8			8			
A-C	313			313			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	460	0.033	15	0.0	8.096	A
C-AB	6	743	0.008	6	0.0	4.884	A
C-A	264			264			
A-B	7			7			
A-C	262			262			

Do-Min 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.04	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.04	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D27	Do-Min 2037	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	648	100.000
B		✓	3	100.000
C		✓	127	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	20	628
	B	1	0	2
	C	123	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.00	0.00	0.0	A
C-AB	0.01	6.43	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	468	0.000	0	0.0	0.000	A
C-AB	4	580	0.006	4	0.0	6.249	A
C-A	92			92			
A-B	15			15			
A-C	473			473			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	446	0.000	0	0.0	0.000	A
C-AB	4	573	0.008	4	0.0	6.325	A
C-A	110			110			
A-B	18			18			
A-C	565			565			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	415	0.000	0	0.0	0.000	A
C-AB	6	566	0.010	6	0.0	6.428	A
C-A	134			134			
A-B	22			22			
A-C	691			691			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	415	0.000	0	0.0	0.000	A
C-AB	6	566	0.010	6	0.0	6.431	A
C-A	134			134			
A-B	22			22			
A-C	691			691			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	446	0.000	0	0.0	0.000	A
C-AB	4	573	0.008	4	0.0	6.326	A
C-A	110			110			
A-B	18			18			
A-C	565			565			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	468	0.000	0	0.0	0.000	A
C-AB	4	580	0.006	4	0.0	6.249	A
C-A	92			92			
A-B	15			15			
A-C	473			473			

Do-Min 2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.33	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.33	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D28	Do-Min 2037	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	359	100.000
B		✓	22	100.000
C		✓	354	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	10	349
	B	18	0	4
	C	349	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	9.09	0.1	A
C-AB	0.01	4.90	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	463	0.036	16	0.0	8.050	A
C-AB	6	741	0.008	6	0.0	4.897	A
C-A	261			261			
A-B	8			8			
A-C	263			263			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	445	0.044	20	0.0	8.459	A
C-AB	8	767	0.010	8	0.0	4.742	A
C-A	311			311			
A-B	9			9			
A-C	314			314			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	420	0.058	24	0.1	9.089	A
C-AB	11	804	0.013	11	0.0	4.539	A
C-A	379			379			
A-B	11			11			
A-C	384			384			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	420	0.058	24	0.1	9.091	A
C-AB	11	804	0.013	11	0.0	4.539	A
C-A	379			379			
A-B	11			11			
A-C	384			384			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	445	0.044	20	0.0	8.461	A
C-AB	8	767	0.010	8	0.0	4.742	A
C-A	311			311			
A-B	9			9			
A-C	314			314			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	463	0.036	17	0.0	8.057	A
C-AB	6	741	0.008	6	0.0	4.897	A
C-A	261			261			
A-B	8			8			
A-C	263			263			

Do-Sth (Outline) 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.04	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.04	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D29	Do-Sth (Outline) 2037	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	688	100.000
B		✓	3	100.000
C		✓	187	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	20	668
	B	1	0	2
	C	183	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.00	0.00	0.0	A
C-AB	0.01	6.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	458	0.000	0	0.0	0.000	A
C-AB	4	606	0.006	4	0.0	5.978	A
C-A	137			137			
A-B	15			15			
A-C	503			503			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	433	0.000	0	0.0	0.000	A
C-AB	5	606	0.008	5	0.0	5.992	A
C-A	163			163			
A-B	18			18			
A-C	601			601			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	399	0.000	0	0.0	0.000	A
C-AB	7	606	0.011	7	0.0	6.001	A
C-A	199			199			
A-B	22			22			
A-C	735			735			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	399	0.000	0	0.0	0.000	A
C-AB	7	606	0.011	7	0.0	6.001	A
C-A	199			199			
A-B	22			22			
A-C	735			735			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	433	0.000	0	0.0	0.000	A
C-AB	5	606	0.008	5	0.0	5.992	A
C-A	163			163			
A-B	18			18			
A-C	601			601			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	458	0.000	0	0.0	0.000	A
C-AB	4	606	0.006	4	0.0	5.979	A
C-A	137			137			
A-B	15			15			
A-C	503			503			

Do-Sth (Outline) 2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.31	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.31	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D30	Do-Sth (Outline) 2037	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	406	100.000
B		✓	22	100.000
C		✓	389	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	10	396
	B	18	0	4
	C	384	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	9.49	0.1	A
C-AB	0.01	4.82	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	452	0.037	16	0.0	8.257	A
C-AB	6	753	0.008	6	0.0	4.821	A
C-A	287			287			
A-B	8			8			
A-C	298			298			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	432	0.046	20	0.0	8.732	A
C-AB	8	781	0.010	8	0.0	4.655	A
C-A	342			342			
A-B	9			9			
A-C	356			356			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	404	0.060	24	0.1	9.484	A
C-AB	11	822	0.014	11	0.0	4.439	A
C-A	417			417			
A-B	11			11			
A-C	436			436			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	404	0.060	24	0.1	9.486	A
C-AB	11	822	0.014	11	0.0	4.440	A
C-A	417			417			
A-B	11			11			
A-C	436			436			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	432	0.046	20	0.0	8.737	A
C-AB	8	781	0.010	8	0.0	4.655	A
C-A	342			342			
A-B	9			9			
A-C	356			356			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	452	0.037	17	0.0	8.265	A
C-AB	6	753	0.008	6	0.0	4.822	A
C-A	287			287			
A-B	8			8			
A-C	298			298			

Do-Sth (Detail+Out) 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.04	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.04	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D31	Do-Sth (Detail+Out) 2037	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	689	100.000
B		✓	3	100.000
C		✓	206	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	20	669
	B	1	0	2
	C	202	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.00	0.00	0.0	A
C-AB	0.01	5.88	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	456	0.000	0	0.0	0.000	A
C-AB	4	616	0.006	4	0.0	5.881	A
C-A	151			151			
A-B	15			15			
A-C	504			504			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	431	0.000	0	0.0	0.000	A
C-AB	5	618	0.008	5	0.0	5.873	A
C-A	180			180			
A-B	18			18			
A-C	601			601			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	397	0.000	0	0.0	0.000	A
C-AB	7	622	0.011	7	0.0	5.853	A
C-A	220			220			
A-B	22			22			
A-C	737			737			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	397	0.000	0	0.0	0.000	A
C-AB	7	622	0.011	7	0.0	5.856	A
C-A	220			220			
A-B	22			22			
A-C	737			737			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	431	0.000	0	0.0	0.000	A
C-AB	5	618	0.008	5	0.0	5.873	A
C-A	180			180			
A-B	18			18			
A-C	601			601			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	456	0.000	0	0.0	0.000	A
C-AB	4	616	0.007	4	0.0	5.881	A
C-A	151			151			
A-B	15			15			
A-C	504			504			

Do-Sth (Detail+Out) 2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.31	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.31	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D32	Do-Sth (Detail+Out) 2037	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	413	100.000
B		✓	22	100.000
C		✓	401	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	10	403
	B	18	0	4
	C	396	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	9.57	0.1	A
C-AB	0.01	4.79	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	450	0.037	16	0.0	8.301	A
C-AB	6	758	0.008	6	0.0	4.788	A
C-A	296			296			
A-B	8			8			
A-C	303			303			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	429	0.046	20	0.0	8.791	A
C-AB	8	788	0.010	8	0.0	4.617	A
C-A	352			352			
A-B	9			9			
A-C	362			362			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	400	0.061	24	0.1	9.571	A
C-AB	12	830	0.014	12	0.0	4.396	A
C-A	430			430			
A-B	11			11			
A-C	444			444			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	400	0.061	24	0.1	9.572	A
C-AB	12	830	0.014	12	0.0	4.396	A
C-A	430			430			
A-B	11			11			
A-C	444			444			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	429	0.046	20	0.0	8.798	A
C-AB	8	788	0.010	8	0.0	4.619	A
C-A	352			352			
A-B	9			9			
A-C	362			362			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	450	0.037	17	0.0	8.308	A
C-AB	6	758	0.008	6	0.0	4.790	A
C-A	296			296			
A-B	8			8			
A-C	303			303			

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.1.1519
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+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

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Filename: Red Bank - Roger St - Lord St - TA Scenarios.j10
Path: \\uk.wspgroup.com\Central Data\Projects\70079xxx\70079268 - Redbank & Dantzic Street Masterplan\03 WIP\TP Transport Planning\01 Analysis & Calcs\Local Junction Modelling
Report generation date: 31/03/2023 15:11:06

»Base 2018 , AM
»Base 2018, PM
»Do-Min 2034, AM
»Do-Min 2034, PM
»Do-Sth (Detailed) 2034, AM
»Do-Sth (Detailed) 2034, PM
»Do-Min 2037, AM
»Do-Min 2037, PM
»Do-Sth (Outline) 2037, AM
»Do-Sth (Outline) 2037, PM
»Do-Sth (Detail+Out) 2037, AM
»Do-Sth (Detail+Out) 2037, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Base 2018									
Stream B-ACD	D1	0.0	8.76	0.02	A	D2	0.4	10.16	0.30	B
Stream A-BCD		0.0	4.33	0.03	A		0.0	4.97	0.02	A
Stream D-ABC		0.5	11.58	0.34	B		1.6	21.09	0.62	C
Stream C-ABD		0.4	5.47	0.16	A		0.0	4.54	0.01	A
	Do-Min 2034									
Stream B-ACD	D17	0.0	9.69	0.03	A	D18	0.6	11.69	0.36	B
Stream A-BCD		0.1	4.19	0.04	A		0.0	4.89	0.02	A
Stream D-ABC		0.7	14.11	0.43	B		3.2	36.61	0.77	E
Stream C-ABD		0.5	5.51	0.21	A		0.0	4.37	0.02	A
	Do-Sth (Detailed) 2034									
Stream B-ACD	D19	0.0	9.95	0.03	A	D20	0.6	11.85	0.37	B
Stream A-BCD		0.1	4.22	0.04	A		0.0	4.91	0.02	A
Stream D-ABC		0.8	14.70	0.44	B		3.4	39.46	0.79	E
Stream C-ABD		0.6	5.26	0.23	A		0.0	4.26	0.02	A
	Do-Min 2037									
Stream B-ACD	D27	0.0	9.84	0.03	A	D28	0.6	11.99	0.38	B
Stream A-BCD		0.1	4.16	0.04	A		0.0	4.87	0.02	A
Stream D-ABC		0.8	14.67	0.44	B		3.6	40.86	0.80	E
Stream C-ABD		0.6	5.55	0.22	A		0.0	4.35	0.02	A
	Do-Sth (Outline) 2037									
Stream B-ACD	D29	0.4	15.03	0.31	C	D30	1.3	19.30	0.56	C
Stream A-BCD		1.1	5.19	0.33	A		0.3	5.16	0.14	A
Stream D-ABC		2.1	27.37	0.68	D		31.3	248.09	1.12	F
Stream C-ABD		0.9	5.85	0.29	A		0.3	4.52	0.12	A

	Do-Sth (Detail+Out) 2037									
Stream B-ACD	D31	0.5	15.57	0.31	C	D32	1.3	19.86	0.57	C
Stream A-BCD		1.2	5.33	0.34	A		0.3	5.18	0.15	A
Stream D-ABC		2.2	29.80	0.70	D		34.8	275.69	1.14	F
Stream C-ABD		1.0	5.65	0.31	A		0.3	4.41	0.12	A

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

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

File summary

File Description

Title	Red Bank_Roger St_Lord St
Location	
Site number	
Date	18/01/2019
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	
Description	

Units

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base 2018	AM	ONE HOUR	07:30	09:00	15
D2	Base 2018	PM	ONE HOUR	16:30	18:00	15
D17	Do-Min 2034	AM	ONE HOUR	07:30	09:00	15
D18	Do-Min 2034	PM	ONE HOUR	16:30	18:00	15
D19	Do-Sth (Detailed) 2034	AM	ONE HOUR	07:30	09:00	15
D20	Do-Sth (Detailed) 2034	PM	ONE HOUR	16:30	18:00	15
D27	Do-Min 2037	AM	ONE HOUR	07:30	09:00	15
D28	Do-Min 2037	PM	ONE HOUR	16:30	18:00	15
D29	Do-Sth (Outline) 2037	AM	ONE HOUR	07:30	09:00	15
D30	Do-Sth (Outline) 2037	PM	ONE HOUR	16:30	18:00	15
D31	Do-Sth (Detail+Out) 2037	AM	ONE HOUR	07:30	09:00	15
D32	Do-Sth (Detail+Out) 2037	PM	ONE HOUR	16:30	18:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Base 2018 , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		2.25	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.25	A

Arms

Arms

Arm	Name	Description	Arm type
A	Red Bank (N)		Major
B	Roger Street	Roger Street	Minor
C	Red Bank (S)	Red Bank (S)	Major
D	Lord Street	Lord Street	Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	9.00	✓	1.80		150.0	✓	0.00
C	9.00	✓	1.80		95.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.10	170	40
D	One lane	3.70	80	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.223	0.318	0.223	-	-	-
B-A	581	0.088	0.224	0.224	-	-	-	0.141	0.319	-	0.224	0.224	0.112
B-C	656	0.087	0.221	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	581	0.088	0.224	0.224	-	-	-	0.141	0.319	0.141	-	-	-
B-D, offside lane	581	0.088	0.224	0.224	-	-	-	0.141	0.319	0.141	-	-	-
C-B	629	0.212	0.212	0.303	-	-	-	-	-	-	-	-	-
D-A	722	-	-	-	-	-	-	0.243	-	0.096	-	-	-
D-B, nearside lane	605	0.147	0.147	0.333	-	-	-	0.233	0.233	0.092	-	-	-

D-B, offside lane	605	0.147	0.147	0.333	-	-	-	0.233	0.233	0.092	-	-	-
D-C	605	-	0.147	0.333	0.116	0.233	0.233	0.233	0.233	0.092	-	-	-

The slopes and intercepts shown above include custom intercept adjustments only.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base 2018	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	518	100.000
B		✓	8	100.000
C		✓	414	100.000
D		✓	147	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	67	441	10
	B	1	0	2	5
	C	82	59	0	273
	D	10	23	114	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.02	8.76	0.0	A
A-BCD	0.03	4.33	0.0	A
A-B				
A-C				
D-ABC	0.34	11.58	0.5	B
C-ABD	0.16	5.47	0.4	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	6	477	0.013	6	0.0	7.640	A
A-BCD	14	845	0.016	14	0.0	4.331	A
A-B	50			50			
A-C	327			327			
D-ABC	111	517	0.214	110	0.3	8.810	A
C-ABD	70	732	0.096	69	0.2	5.431	A
C-D	186			186			
C-A	56			56			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	453	0.016	7	0.0	8.072	A
A-BCD	19	884	0.021	19	0.0	4.159	A
A-B	59			59			
A-C	388			388			
D-ABC	132	499	0.265	132	0.4	9.809	A
C-ABD	92	755	0.122	92	0.2	5.434	A
C-D	215			215			
C-A	65			65			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9	420	0.021	9	0.0	8.757	A
A-BCD	27	940	0.029	27	0.0	3.941	A
A-B	72			72			
A-C	471			471			
D-ABC	162	473	0.342	161	0.5	11.530	B
C-ABD	129	788	0.164	129	0.4	5.467	A
C-D	251			251			
C-A	75			75			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	9	420	0.021	9	0.0	8.759	A
A-BCD	27	940	0.029	27	0.0	3.944	A
A-B	72			72			
A-C	471			471			
D-ABC	162	473	0.342	162	0.5	11.577	B
C-ABD	130	788	0.164	130	0.4	5.475	A
C-D	251			251			
C-A	75			75			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	453	0.016	7	0.0	8.075	A
A-BCD	19	884	0.021	19	0.0	4.160	A
A-B	59			59			
A-C	388			388			
D-ABC	132	498	0.265	133	0.4	9.864	A
C-ABD	92	755	0.122	93	0.2	5.447	A
C-D	215			215			

C-A	65			65			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	6	477	0.013	6	0.0	7.644	A
A-BCD	14	845	0.016	14	0.0	4.334	A
A-B	50			50			
A-C	327			327			
D-ABC	111	517	0.214	111	0.3	8.878	A
C-ABD	70	732	0.096	71	0.2	5.449	A
C-D	186			186			
C-A	56			56			

Base 2018, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		6.17	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.17	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Base 2018	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	290	100.000
B		✓	137	100.000
C		✓	431	100.000
D		✓	255	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	3	280	7
	B	47	0	71	19
	C	238	5	0	188
	D	7	5	243	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
	A	0	0	0	0

From	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.30	10.16	0.4	B
A-BCD	0.02	4.97	0.0	A
A-B				
A-C				
D-ABC	0.62	21.09	1.6	C
C-ABD	0.01	4.54	0.0	A
C-D				
C-A				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	103	542	0.190	102	0.2	8.174	A
A-BCD	7	732	0.010	7	0.0	4.970	A
A-B	2			2			
A-C	209			209			
D-ABC	192	501	0.383	190	0.6	11.482	B
C-ABD	6	799	0.008	6	0.0	4.539	A
C-D	140			140			
C-A	178			178			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	123	526	0.234	123	0.3	8.914	A
A-BCD	10	747	0.013	10	0.0	4.878	A
A-B	3			3			
A-C	248			248			
D-ABC	229	480	0.478	228	0.9	14.237	B
C-ABD	8	834	0.010	8	0.0	4.358	A
C-D	167			167			
C-A	212			212			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	151	505	0.299	150	0.4	10.132	B
A-BCD	13	770	0.017	13	0.0	4.753	A
A-B	3			3			
A-C	303			303			
D-ABC	281	451	0.623	278	1.6	20.501	C
C-ABD	12	884	0.013	12	0.0	4.129	A
C-D	204			204			
C-A	259			259			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	151	505	0.299	151	0.4	10.162	B
A-BCD	13	770	0.017	13	0.0	4.755	A
A-B	3			3			
A-C	303			303			
D-ABC	281	451	0.623	281	1.6	21.087	C
C-ABD	12	884	0.013	12	0.0	4.129	A
C-D	204			204			
C-A	259			259			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	123	526	0.234	124	0.3	8.953	A
A-BCD	10	747	0.013	10	0.0	4.880	A
A-B	3			3			
A-C	248			248			
D-ABC	229	480	0.478	232	0.9	14.682	B
C-ABD	8	834	0.010	8	0.0	4.360	A
C-D	167			167			
C-A	212			212			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	103	541	0.190	103	0.2	8.224	A
A-BCD	7	732	0.010	7	0.0	4.970	A
A-B	2			2			
A-C	209			209			
D-ABC	192	501	0.384	193	0.6	11.759	B
C-ABD	6	799	0.008	6	0.0	4.541	A
C-D	140			140			
C-A	178			178			

Do-Min 2034, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		2.65	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.65	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D17	Do-Min 2034	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	610	100.000
B		✓	9	100.000
C		✓	501	100.000
D		✓	172	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	79	519	12
	B	1	0	2	6
	C	111	69	0	321
	D	12	27	133	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
	A	0	0	0	0

From	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.03	9.69	0.0	A
A-BCD	0.04	4.19	0.1	A
A-B				
A-C				
D-ABC	0.43	14.11	0.7	B
C-ABD	0.21	5.51	0.5	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	451	0.015	7	0.0	8.108	A
A-BCD	19	879	0.021	18	0.0	4.183	A
A-B	58			58			
A-C	382			382			
D-ABC	129	498	0.260	128	0.3	9.696	A
C-ABD	91	760	0.119	90	0.2	5.369	A
C-D	213			213			
C-A	74			74			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	422	0.019	8	0.0	8.704	A
A-BCD	26	926	0.028	26	0.0	3.996	A
A-B	69			69			
A-C	454			454			
D-ABC	155	476	0.325	154	0.5	11.180	B
C-ABD	123	790	0.155	122	0.3	5.398	A
C-D	244			244			
C-A	84			84			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	381	0.026	10	0.0	9.690	A
A-BCD	39	995	0.039	39	0.1	3.765	A
A-B	84			84			
A-C	549			549			
D-ABC	189	445	0.426	188	0.7	13.994	B
C-ABD	178	833	0.214	177	0.5	5.498	A
C-D	278			278			
C-A	96			96			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	381	0.026	10	0.0	9.694	A
A-BCD	39	995	0.039	39	0.1	3.769	A
A-B	84			84			
A-C	549			549			
D-ABC	189	444	0.426	189	0.7	14.107	B
C-ABD	178	834	0.214	178	0.5	5.512	A
C-D	277			277			
C-A	96			96			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	421	0.019	8	0.0	8.712	A
A-BCD	26	926	0.028	26	0.0	4.000	A
A-B	69			69			
A-C	454			454			
D-ABC	155	475	0.325	156	0.5	11.291	B
C-ABD	123	791	0.156	124	0.3	5.414	A
C-D	243			243			
C-A	84			84			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	450	0.015	7	0.0	8.118	A
A-BCD	19	879	0.021	19	0.0	4.186	A
A-B	58			58			
A-C	382			382			
D-ABC	129	498	0.260	130	0.4	9.803	A
C-ABD	91	761	0.120	92	0.2	5.393	A
C-D	212			212			
C-A	73			73			

Do-Min 2034, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		9.85	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.85	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D18	Do-Min 2034	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	341	100.000
B		✓	160	100.000
C		✓	508	100.000
D		✓	297	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	3	330	8
	B	55	0	83	22
	C	283	6	0	219
	D	8	6	283	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
	A	0	0	0	0

From	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.36	11.69	0.6	B
A-BCD	0.02	4.89	0.0	A
A-B				
A-C				
D-ABC	0.77	36.61	3.2	E
C-ABD	0.02	4.37	0.0	A
C-D				
C-A				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	120	528	0.228	119	0.3	8.786	A
A-BCD	9	746	0.012	9	0.0	4.885	A
A-B	2			2			
A-C	245			245			
D-ABC	224	482	0.464	220	0.8	13.606	B
C-ABD	8	831	0.010	8	0.0	4.373	A
C-D	163			163			
C-A	211			211			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	144	510	0.282	143	0.4	9.818	A
A-BCD	12	765	0.015	12	0.0	4.778	A
A-B	3			3			
A-C	292			292			
D-ABC	267	457	0.584	265	1.3	18.565	C
C-ABD	11	873	0.013	11	0.0	4.174	A
C-D	194			194			
C-A	251			251			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	176	484	0.364	175	0.6	11.628	B
A-BCD	16	793	0.021	16	0.0	4.633	A
A-B	3			3			
A-C	356			356			
D-ABC	327	423	0.774	321	3.0	33.260	D
C-ABD	16	933	0.017	16	0.0	3.927	A
C-D	237			237			
C-A	306			306			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	176	484	0.364	176	0.6	11.692	B
A-BCD	16	793	0.021	16	0.0	4.634	A
A-B	3			3			
A-C	356			356			
D-ABC	327	423	0.774	326	3.2	36.609	E
C-ABD	16	933	0.017	16	0.0	3.927	A
C-D	237			237			
C-A	306			306			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	144	509	0.282	145	0.4	9.888	A
A-BCD	12	765	0.015	12	0.0	4.779	A
A-B	3			3			
A-C	292			292			
D-ABC	267	457	0.585	274	1.5	20.340	C
C-ABD	11	873	0.013	11	0.0	4.175	A
C-D	194			194			
C-A	251			251			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	120	528	0.228	121	0.3	8.861	A
A-BCD	9	746	0.012	9	0.0	4.886	A
A-B	2			2			
A-C	245			245			
D-ABC	224	481	0.465	226	0.9	14.226	B
C-ABD	8	831	0.010	8	0.0	4.373	A
C-D	163			163			
C-A	211			211			

Do-Sth (Detailed) 2034, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		2.63	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.63	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D19	Do-Sth (Detailed) 2034	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	612	100.000
B		✓	9	100.000
C		✓	571	100.000
D		✓	172	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	79	521	12
	B	1	0	2	6
	C	129	69	0	373
	D	12	27	133	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
	A	0	0	0	0

From	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.03	9.95	0.0	A
A-BCD	0.04	4.22	0.1	A
A-B				
A-C				
D-ABC	0.44	14.70	0.8	B
C-ABD	0.23	5.26	0.6	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	444	0.015	7	0.0	8.222	A
A-BCD	19	871	0.022	19	0.0	4.222	A
A-B	58			58			
A-C	384			384			
D-ABC	129	491	0.264	128	0.4	9.880	A
C-ABD	99	797	0.124	98	0.3	5.146	A
C-D	246			246			
C-A	85			85			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	414	0.020	8	0.0	8.865	A
A-BCD	26	918	0.029	26	0.0	4.037	A
A-B	69			69			
A-C	455			455			
D-ABC	155	467	0.331	154	0.5	11.479	B
C-ABD	136	835	0.163	135	0.4	5.153	A
C-D	281			281			
C-A	97			97			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	372	0.027	10	0.0	9.943	A
A-BCD	40	986	0.041	40	0.1	3.807	A
A-B	83			83			
A-C	550			550			
D-ABC	189	434	0.436	188	0.8	14.570	B
C-ABD	202	889	0.227	201	0.6	5.243	A
C-D	317			317			
C-A	110			110			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	372	0.027	10	0.0	9.948	A
A-BCD	40	985	0.041	40	0.1	3.811	A
A-B	83			83			
A-C	550			550			
D-ABC	189	434	0.436	189	0.8	14.700	B
C-ABD	203	890	0.228	203	0.6	5.256	A
C-D	317			317			
C-A	109			109			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	414	0.020	8	0.0	8.874	A
A-BCD	26	918	0.029	26	0.0	4.039	A
A-B	69			69			
A-C	455			455			
D-ABC	155	467	0.331	156	0.5	11.605	B
C-ABD	136	836	0.163	137	0.4	5.172	A
C-D	280			280			
C-A	97			97			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	444	0.015	7	0.0	8.231	A
A-BCD	19	871	0.022	19	0.0	4.224	A
A-B	58			58			
A-C	384			384			
D-ABC	129	491	0.264	130	0.4	9.996	A
C-ABD	99	798	0.125	100	0.3	5.170	A
C-D	246			246			
C-A	85			85			

Do-Sth (Detailed) 2034, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		10.12	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.12	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D20	Do-Sth (Detailed) 2034	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	348	100.000
B		✓	160	100.000
C		✓	553	100.000
D		✓	297	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	3	337	8
	B	55	0	83	22
	C	295	6	0	252
	D	8	6	283	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
	A	0	0	0	0

From	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.37	11.85	0.6	B
A-BCD	0.02	4.91	0.0	A
A-B				
A-C				
D-ABC	0.79	39.46	3.4	E
C-ABD	0.02	4.26	0.0	A
C-D				
C-A				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	120	525	0.229	119	0.3	8.840	A
A-BCD	9	743	0.012	9	0.0	4.905	A
A-B	2			2			
A-C	251			251			
D-ABC	224	476	0.469	220	0.9	13.873	B
C-ABD	9	854	0.010	9	0.0	4.260	A
C-D	188			188			
C-A	220			220			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	144	507	0.284	143	0.4	9.902	A
A-BCD	12	762	0.016	12	0.0	4.800	A
A-B	3			3			
A-C	298			298			
D-ABC	267	451	0.592	265	1.4	19.155	C
C-ABD	12	900	0.013	12	0.0	4.052	A
C-D	224			224			
C-A	262			262			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	176	480	0.367	175	0.6	11.777	B
A-BCD	17	790	0.021	17	0.0	4.656	A
A-B	3			3			
A-C	363			363			
D-ABC	327	415	0.788	320	3.2	35.387	E
C-ABD	18	966	0.018	18	0.0	3.793	A
C-D	272			272			
C-A	319			319			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	176	480	0.367	176	0.6	11.846	B
A-BCD	17	790	0.021	17	0.0	4.656	A
A-B	3			3			
A-C	363			363			
D-ABC	327	415	0.788	326	3.4	39.461	E
C-ABD	18	966	0.018	18	0.0	3.796	A
C-D	272			272			
C-A	319			319			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	144	506	0.284	145	0.4	9.978	A
A-BCD	12	762	0.016	12	0.0	4.802	A
A-B	3			3			
A-C	298			298			
D-ABC	267	450	0.593	274	1.5	21.231	C
C-ABD	12	900	0.013	12	0.0	4.054	A
C-D	224			224			
C-A	262			262			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	120	525	0.229	121	0.3	8.918	A
A-BCD	9	743	0.012	9	0.0	4.908	A
A-B	2			2			
A-C	251			251			
D-ABC	224	476	0.470	226	0.9	14.535	B
C-ABD	9	854	0.010	9	0.0	4.260	A
C-D	188			188			
C-A	220			220			

Do-Min 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		2.75	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.75	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D27	Do-Min 2037	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	625	100.000
B		✓	9	100.000
C		✓	513	100.000
D		✓	177	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	81	532	12
	B	1	0	2	6
	C	113	71	0	329
	D	12	28	137	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
	A	0	0	0	0

From	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.03	9.84	0.0	A
A-BCD	0.04	4.16	0.1	A
A-B				
A-C				
D-ABC	0.44	14.67	0.8	B
C-ABD	0.22	5.55	0.6	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	447	0.015	7	0.0	8.175	A
A-BCD	19	885	0.021	19	0.0	4.155	A
A-B	60			60			
A-C	392			392			
D-ABC	133	495	0.269	132	0.4	9.870	A
C-ABD	95	764	0.124	94	0.2	5.373	A
C-D	217			217			
C-A	75			75			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	417	0.019	8	0.0	8.798	A
A-BCD	26	934	0.028	26	0.0	3.966	A
A-B	71			71			
A-C	465			465			
D-ABC	159	472	0.337	159	0.5	11.462	B
C-ABD	128	794	0.162	128	0.4	5.411	A
C-D	248			248			
C-A	85			85			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	376	0.026	10	0.0	9.834	A
A-BCD	40	1005	0.040	40	0.1	3.732	A
A-B	86			86			
A-C	562			562			
D-ABC	195	440	0.443	194	0.8	14.534	B
C-ABD	187	839	0.223	187	0.6	5.530	A
C-D	281			281			
C-A	96			96			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	376	0.026	10	0.0	9.839	A
A-BCD	40	1004	0.040	40	0.1	3.736	A
A-B	86			86			
A-C	562			562			
D-ABC	195	440	0.443	195	0.8	14.667	B
C-ABD	188	839	0.224	188	0.6	5.546	A
C-D	281			281			
C-A	96			96			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	417	0.019	8	0.0	8.806	A
A-BCD	26	934	0.028	27	0.0	3.969	A
A-B	71			71			
A-C	465			465			
D-ABC	159	472	0.337	160	0.5	11.589	B
C-ABD	129	795	0.162	130	0.4	5.430	A
C-D	247			247			
C-A	85			85			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	447	0.015	7	0.0	8.186	A
A-BCD	19	885	0.021	19	0.0	4.157	A
A-B	60			60			
A-C	392			392			
D-ABC	133	495	0.269	134	0.4	9.990	A
C-ABD	95	764	0.125	96	0.3	5.397	A
C-D	217			217			
C-A	74			74			

Do-Min 2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		10.83	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.83	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D28	Do-Min 2037	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	349	100.000
B		✓	164	100.000
C		✓	520	100.000
D		✓	303	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	4	337	8
	B	56	0	85	23
	C	290	6	0	224
	D	8	6	289	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
	A	0	0	0	0

From	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.38	11.99	0.6	B
A-BCD	0.02	4.87	0.0	A
A-B				
A-C				
D-ABC	0.80	40.86	3.6	E
C-ABD	0.02	4.35	0.0	A
C-D				
C-A				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	123	526	0.235	122	0.3	8.894	A
A-BCD	9	748	0.012	9	0.0	4.870	A
A-B	3			3			
A-C	251			251			
D-ABC	228	479	0.477	225	0.9	13.990	B
C-ABD	8	837	0.010	8	0.0	4.346	A
C-D	167			167			
C-A	216			216			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	147	507	0.291	147	0.4	9.983	A
A-BCD	12	768	0.016	12	0.0	4.761	A
A-B	4			4			
A-C	298			298			
D-ABC	272	453	0.601	270	1.4	19.427	C
C-ABD	11	880	0.013	11	0.0	4.145	A
C-D	199			199			
C-A	257			257			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	181	481	0.375	180	0.6	11.916	B
A-BCD	17	797	0.021	17	0.0	4.612	A
A-B	4			4			
A-C	363			363			
D-ABC	334	418	0.797	326	3.3	36.346	E
C-ABD	17	941	0.018	17	0.0	3.895	A
C-D	242			242			
C-A	314			314			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	181	481	0.376	181	0.6	11.989	B
A-BCD	17	797	0.021	17	0.0	4.612	A
A-B	4			4			
A-C	363			363			
D-ABC	334	418	0.798	333	3.6	40.862	E
C-ABD	17	941	0.018	17	0.0	3.896	A
C-D	242			242			
C-A	314			314			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	147	507	0.291	148	0.4	10.061	B
A-BCD	12	768	0.016	12	0.0	4.763	A
A-B	4			4			
A-C	298			298			
D-ABC	272	453	0.601	280	1.6	21.705	C
C-ABD	11	880	0.013	11	0.0	4.145	A
C-D	199			199			
C-A	257			257			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	123	525	0.235	124	0.3	8.973	A
A-BCD	9	748	0.012	9	0.0	4.873	A
A-B	3			3			
A-C	251			251			
D-ABC	228	478	0.477	231	0.9	14.690	B
C-ABD	8	837	0.010	8	0.0	4.346	A
C-D	167			167			
C-A	216			216			

Do-Sth (Outline) 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		6.39	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.39	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D29	Do-Sth (Outline) 2037	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	767	100.000
B		✓	96	100.000
C		✓	599	100.000
D		✓	257	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	85	594	88
	B	19	0	33	44
	C	176	79	0	344
	D	82	38	137	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
	A	0	0	0	0

From	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.31	15.03	0.4	C
A-BCD	0.33	5.19	1.1	A
A-B				
A-C				
D-ABC	0.68	27.37	2.1	D
C-ABD	0.29	5.85	0.9	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	72	432	0.167	71	0.2	9.969	A
A-BCD	152	908	0.167	150	0.4	4.746	A
A-B	53			53			
A-C	373			373			
D-ABC	193	489	0.396	191	0.6	11.981	B
C-ABD	119	783	0.152	118	0.3	5.408	A
C-D	220			220			
C-A	112			112			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	86	396	0.218	86	0.3	11.599	B
A-BCD	217	964	0.225	216	0.6	4.829	A
A-B	59			59			
A-C	413			413			
D-ABC	231	458	0.505	230	1.0	15.688	C
C-ABD	166	820	0.203	166	0.5	5.515	A
C-D	246			246			
C-A	126			126			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	106	346	0.306	105	0.4	14.907	B
A-BCD	345	1044	0.330	343	1.1	5.155	A
A-B	63			63			
A-C	437			437			
D-ABC	283	414	0.684	279	2.0	25.922	D
C-ABD	254	874	0.291	253	0.9	5.818	A
C-D	268			268			
C-A	137			137			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	106	345	0.306	106	0.4	15.031	C
A-BCD	346	1045	0.331	346	1.1	5.187	A
A-B	62			62			
A-C	436			436			
D-ABC	283	413	0.685	283	2.1	27.374	D
C-ABD	255	874	0.292	255	0.9	5.851	A
C-D	267			267			
C-A	137			137			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	86	395	0.219	87	0.3	11.710	B
A-BCD	219	965	0.227	221	0.6	4.866	A
A-B	59			59			
A-C	412			412			
D-ABC	231	457	0.506	235	1.1	16.521	C
C-ABD	167	821	0.204	169	0.5	5.552	A
C-D	246			246			
C-A	126			126			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	72	431	0.168	73	0.2	10.059	B
A-BCD	153	909	0.168	154	0.4	4.783	A
A-B	53			53			
A-C	371			371			
D-ABC	193	488	0.396	195	0.7	12.354	B
C-ABD	120	784	0.153	121	0.3	5.448	A
C-D	219			219			
C-A	112			112			

Do-Sth (Outline) 2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		62.01	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	62.01	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D30	Do-Sth (Outline) 2037	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	444	100.000
B		✓	219	100.000
C		✓	608	100.000
D		✓	396	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	21	373	50
	B	68	0	104	47
	C	339	36	0	233
	D	65	42	289	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
	A	0	0	0	0

From	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.56	19.30	1.3	C
A-BCD	0.14	5.16	0.3	A
A-B				
A-C				
D-ABC	1.12	248.09	31.3	F
C-ABD	0.12	4.52	0.3	A
C-D				
C-A				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	165	493	0.334	163	0.5	10.837	B
A-BCD	62	761	0.081	61	0.2	5.141	A
A-B	15			15			
A-C	258			258			
D-ABC	298	465	0.642	291	1.7	20.075	C
C-ABD	55	853	0.064	54	0.1	4.509	A
C-D	164			164			
C-A	239			239			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	197	468	0.421	196	0.7	13.209	B
A-BCD	82	785	0.105	82	0.2	5.127	A
A-B	17			17			
A-C	300			300			
D-ABC	356	433	0.822	348	3.8	38.767	E
C-ABD	76	900	0.084	76	0.2	4.366	A
C-D	192			192			
C-A	279			279			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	241	431	0.559	239	1.2	18.527	C
A-BCD	118	820	0.143	117	0.3	5.132	A
A-B	20			20			
A-C	352			352			
D-ABC	436	389	1.120	377	18.6	130.146	F
C-ABD	114	968	0.118	114	0.3	4.216	A
C-D	226			226			
C-A	329			329			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	241	427	0.565	241	1.3	19.300	C
A-BCD	118	820	0.144	118	0.3	5.139	A
A-B	20			20			
A-C	351			351			
D-ABC	436	389	1.122	385	31.3	248.092	F
C-ABD	114	968	0.118	114	0.3	4.221	A
C-D	226			226			
C-A	329			329			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	197	460	0.428	199	0.8	13.903	B
A-BCD	82	785	0.105	83	0.2	5.137	A
A-B	17			17			
A-C	300			300			
D-ABC	356	432	0.824	419	15.6	206.737	F
C-ABD	76	900	0.084	76	0.2	4.374	A
C-D	192			192			
C-A	279			279			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	165	489	0.337	166	0.5	11.172	B
A-BCD	62	761	0.081	62	0.2	5.156	A
A-B	15			15			
A-C	258			258			
D-ABC	298	464	0.643	353	2.0	45.164	E
C-ABD	55	853	0.065	55	0.1	4.517	A
C-D	164			164			
C-A	239			239			

Do-Sth (Detail+Out) 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		6.60	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.60	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D31	Do-Sth (Detail+Out) 2037	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	769	100.000
B		✓	96	100.000
C		✓	669	100.000
D		✓	257	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	85	596	88
	B	19	0	33	44
	C	194	79	0	396
	D	82	38	137	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
	A	0	0	0	0

From	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.31	15.57	0.5	C
A-BCD	0.34	5.33	1.2	A
A-B				
A-C				
D-ABC	0.70	29.80	2.2	D
C-ABD	0.31	5.65	1.0	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	72	427	0.169	71	0.2	10.112	B
A-BCD	154	901	0.171	152	0.4	4.807	A
A-B	53			53			
A-C	372			372			
D-ABC	193	482	0.402	191	0.7	12.271	B
C-ABD	130	821	0.158	128	0.4	5.195	A
C-D	251			251			
C-A	123			123			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	86	390	0.221	86	0.3	11.840	B
A-BCD	222	956	0.232	221	0.6	4.910	A
A-B	59			59			
A-C	411			411			
D-ABC	231	449	0.515	230	1.0	16.296	C
C-ABD	185	866	0.213	184	0.6	5.291	A
C-D	280			280			
C-A	137			137			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	106	338	0.313	105	0.4	15.426	C
A-BCD	355	1036	0.343	353	1.2	5.296	A
A-B	61			61			
A-C	430			430			
D-ABC	283	403	0.702	278	2.1	27.937	D
C-ABD	290	932	0.311	288	1.0	5.616	A
C-D	300			300			
C-A	147			147			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	106	337	0.314	106	0.5	15.568	C
A-BCD	357	1037	0.344	356	1.2	5.333	A
A-B	61			61			
A-C	429			429			
D-ABC	283	402	0.703	283	2.2	29.801	D
C-ABD	291	933	0.312	291	1.0	5.653	A
C-D	299			299			
C-A	146			146			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	86	388	0.222	87	0.3	11.966	B
A-BCD	223	957	0.233	225	0.7	4.951	A
A-B	58			58			
A-C	410			410			
D-ABC	231	448	0.516	236	1.1	17.301	C
C-ABD	186	867	0.214	188	0.6	5.334	A
C-D	279			279			
C-A	137			137			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	72	426	0.170	73	0.2	10.206	B
A-BCD	155	902	0.172	156	0.4	4.844	A
A-B	53			53			
A-C	371			371			
D-ABC	193	481	0.403	195	0.7	12.681	B
C-ABD	131	822	0.159	132	0.4	5.235	A
C-D	250			250			
C-A	123			123			

Do-Sth (Detail+Out) 2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		66.54	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	66.54	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D32	Do-Sth (Detail+Out) 2037	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	451	100.000
B		✓	219	100.000
C		✓	654	100.000
D		✓	396	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	21	380	50
	B	68	0	104	47
	C	351	36	0	267
	D	65	42	289	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
	A	0	0	0	0

From	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.57	19.86	1.3	C
A-BCD	0.15	5.18	0.3	A
A-B				
A-C				
D-ABC	1.14	275.69	34.8	F
C-ABD	0.12	4.41	0.3	A
C-D				
C-A				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	165	490	0.336	163	0.5	10.937	B
A-BCD	63	759	0.082	62	0.2	5.168	A
A-B	15			15			
A-C	262			262			
D-ABC	298	459	0.649	291	1.7	20.644	C
C-ABD	58	876	0.066	57	0.1	4.399	A
C-D	188			188			
C-A	247			247			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	197	464	0.424	196	0.7	13.393	B
A-BCD	84	782	0.107	83	0.2	5.159	A
A-B	17			17			
A-C	305			305			
D-ABC	356	427	0.834	347	4.0	41.029	E
C-ABD	81	928	0.087	81	0.2	4.250	A
C-D	219			219			
C-A	288			288			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	241	426	0.565	239	1.2	18.987	C
A-BCD	120	817	0.148	120	0.3	5.174	A
A-B	20			20			
A-C	356			356			
D-ABC	436	381	1.143	371	20.3	141.598	F
C-ABD	124	1003	0.123	123	0.3	4.094	A
C-D	258			258			
C-A	339			339			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	241	422	0.572	241	1.3	19.856	C
A-BCD	121	817	0.148	121	0.3	5.183	A
A-B	20			20			
A-C	356			356			
D-ABC	436	381	1.145	378	34.8	275.687	F
C-ABD	124	1003	0.124	124	0.3	4.099	A
C-D	257			257			
C-A	338			338			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	197	455	0.433	199	0.8	14.169	B
A-BCD	84	782	0.107	84	0.2	5.171	A
A-B	17			17			
A-C	305			305			
D-ABC	356	426	0.836	414	20.3	242.692	F
C-ABD	81	929	0.088	82	0.2	4.256	A
C-D	219			219			
C-A	288			288			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	165	485	0.340	166	0.5	11.321	B
A-BCD	63	759	0.083	63	0.2	5.181	A
A-B	14			14			
A-C	262			262			
D-ABC	298	459	0.650	371	2.1	64.440	F
C-ABD	58	876	0.066	58	0.1	4.408	A
C-D	188			188			
C-A	247			247			

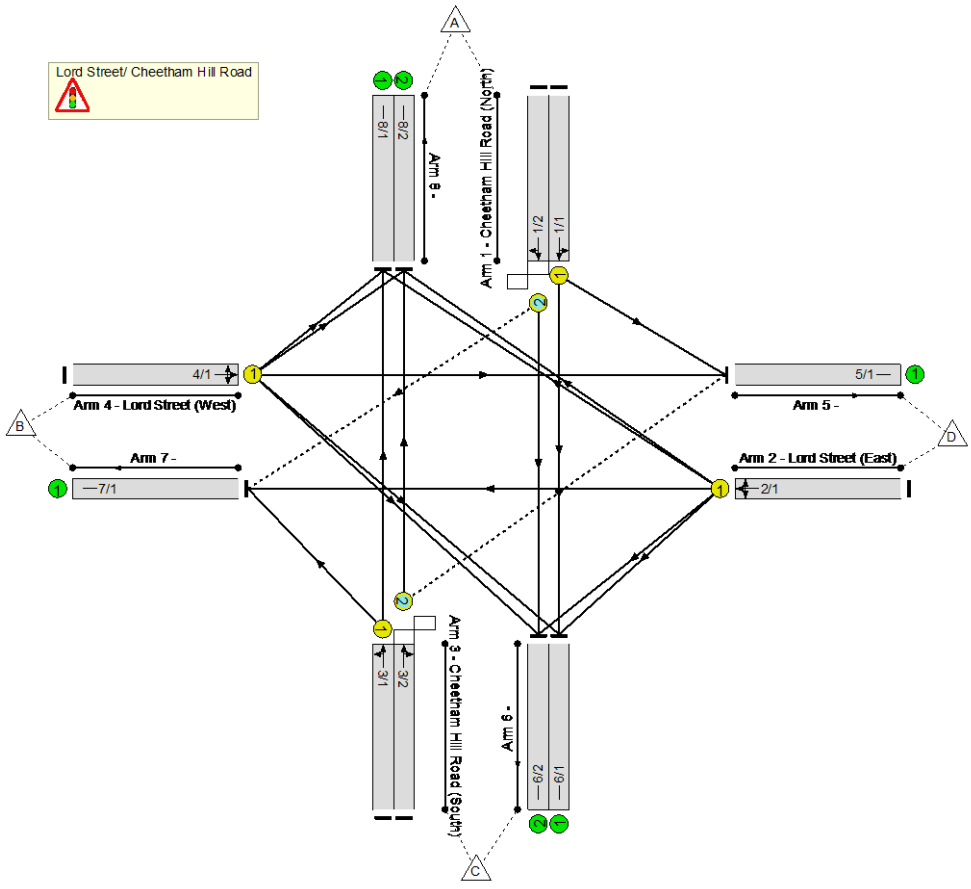
Full Input Data And Results

User and Project Details

Project:	**Northern Gateway**
Title:	**Phase 1**
Location:	
Client:	FEC
Site Ref(s):	Lord Street/ Cheetham Hill Road
Additional detail:	
File name:	Lord Street_Cheetham Hill Road - TA Scenarios.lsg3x
Author:	
Company:	
Address:	

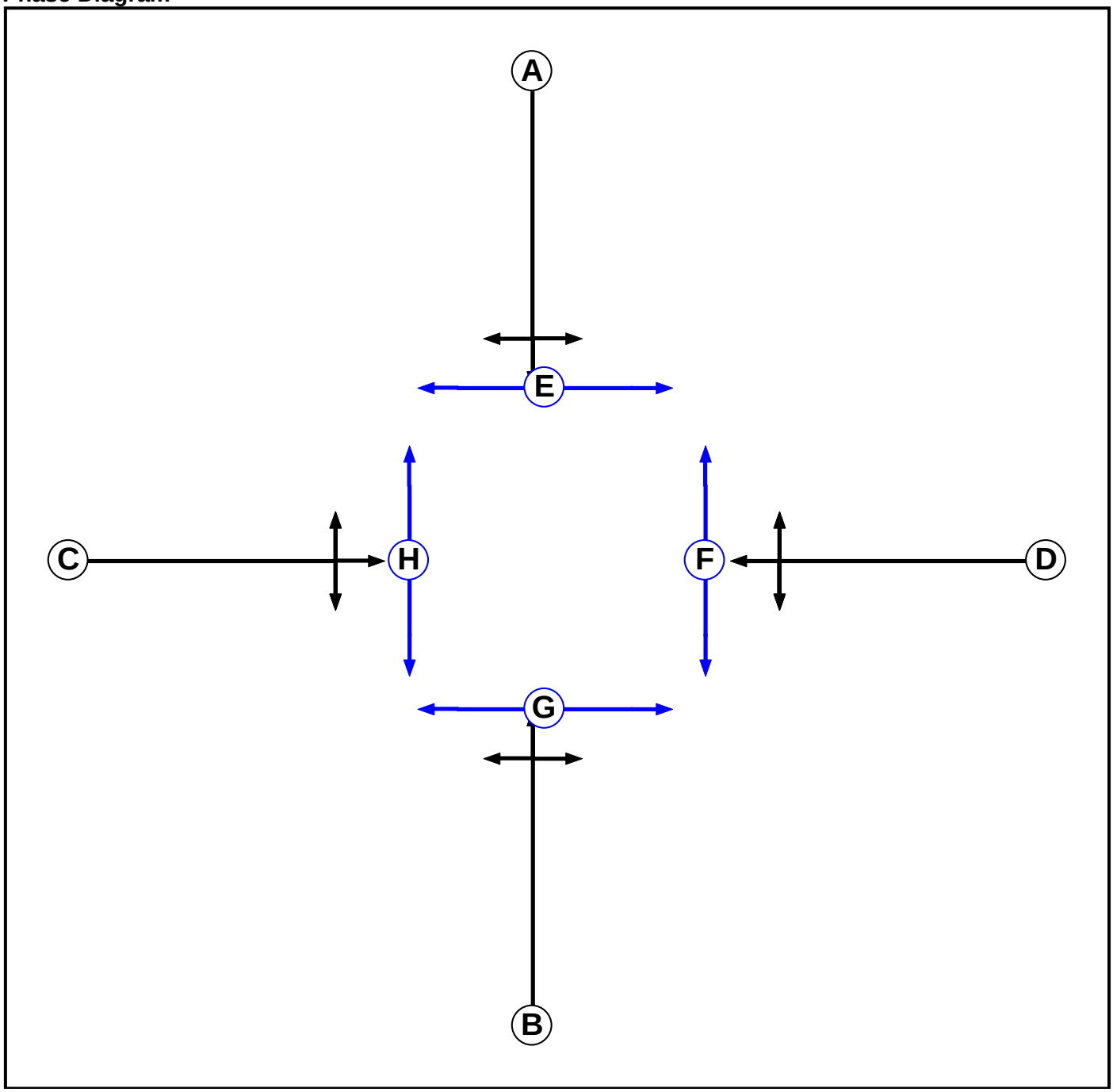
Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		5	5
F	Pedestrian		5	5
G	Pedestrian		5	5
H	Pedestrian		5	5

Full Input Data And Results

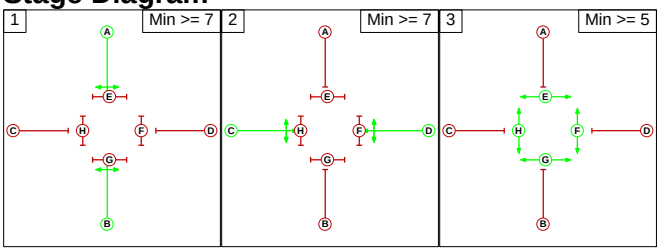
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H
A		-	6	6	5	7	7	8
B	-		6	6	7	7	5	7
C	6	6		-	7	7	8	5
D	6	6	-		8	5	7	7
E	6	6	6	6		-	-	-
F	6	6	6	6	-		-	-
G	6	6	6	6	-	-		-
H	5	5	5	5	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	C D
3	E F G H

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

From Stage \ To Stage	1	2	3
1		6	8
2	6		8
3	6	6	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Lord Street/ Cheetham Hill Road											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
1/2 (Cheetham Hill Road (North))	7/1 (Right)	1439	0	3/1	1.09	All	2.00	1.00	0.50	2	2.00
				3/2	1.09	To 8/2 (Ahead)					
3/2 (Cheetham Hill Road (South))	5/1 (Right)	1439	0	1/1	1.09	All	2.00	1.00	0.50	2	2.00
				1/2	1.09	To 6/2 (Ahead)					

Full Input Data And Results

Lane Input Data

Junction: Lord Street/ Cheetham Hill Road

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Cheetham Hill Road (North))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Left	5.00
											Arm 6 Ahead	Inf
1/2 (Cheetham Hill Road (North))	O	A	2	3	60.0	Geom	-	3.00	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	12.00
2/1 (Lord Street (East))	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 6 Left	5.00
											Arm 7 Ahead	Inf
											Arm 8 Right	12.00
3/1 (Cheetham Hill Road (South))	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 7 Left	5.00
											Arm 8 Ahead	Inf
3/2 (Cheetham Hill Road (South))	O	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 5 Right	Inf
											Arm 8 Ahead	12.00
4/1 (Lord Street (West))	U	C	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Right	12.00
											Arm 8 Left	5.00
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/2	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base AM 2018'	08:00	09:00	01:00	
2: 'Base PM 2018'	17:00	18:00	01:00	
3: 'Do-Min 2029 AM'	08:00	09:00	01:00	
4: 'Do-Min 2029 PM'	17:00	18:00	01:00	
5: 'Do-Sth (Detailed) 2029 AM'	08:00	09:00	01:00	
6: 'Do-Sth (Detailed) 2029 PM'	17:00	18:00	01:00	
7: 'Do-Min 2032 AM'	08:00	09:00	01:00	
8: 'Do-Min 2032 PM'	17:00	18:00	01:00	
9: 'Do-Sth (Outline) 2032 AM'	08:00	09:00	01:00	
10: 'Do-Sth (Outline) 2032 PM'	17:00	18:00	01:00	
11: 'Do-Sth (Detailed+Out) 2032 AM'	08:00	09:00	01:00	
12: 'Do-Sth (Detailed+Out) 2032 PM'	17:00	18:00	01:00	
13: 'Do-Min 2034 AM'	08:00	09:00	01:00	
14: 'Do-Min 2034 PM'	17:00	18:00	01:00	
15: 'Do-Sth (Detailed) 2034 AM'	08:00	09:00	01:00	
16: 'Do-Sth (Detailed) 2034 PM'	17:00	18:00	01:00	
17: 'Do-Min (Com) 2034 AM'	08:00	09:00	01:00	
18: 'Do-Min (Com) 2034 PM'	17:00	18:00	01:00	
19: 'Do-Sth (Detailed+Com) 2034 AM'	08:00	09:00	01:00	
20: 'Do-Sth (Detailed+Com) 2034 PM'	17:00	18:00	01:00	
21: 'Do-Min 2037 AM'	08:00	09:00	01:00	
22: 'Do-Min 2037 PM'	17:00	18:00	01:00	
23: 'Do-Sth (Outline) 2037 AM'	08:00	09:00	01:00	
24: 'Do-Sth (Outline) 2037 PM'	17:00	18:00	01:00	
25: 'Do-Sth (Detail+Out) 2037 AM'	08:00	09:00	01:00	
26: 'Do-Sth (Detail+Out) 2037 PM'	17:00	18:00	01:00	
27: 'Do-Min (Com) 2037 AM'	08:00	09:00	01:00	
28: 'Do-Min (Com) 2037 PM'	17:00	18:00	01:00	
29: 'Do-Sth (Outline+Com) 2037 AM'	08:00	09:00	01:00	
30: 'Do-Sth (Outline+Com) 2037 PM'	17:00	18:00	01:00	
31: 'Do-Sth (Detail+Out+Com) 2037 AM'	08:00	09:00	01:00	
32: 'Do-Sth (Detail+Out+Com) 2037 PM'	17:00	18:00	01:00	

Full Input Data And Results

Scenario 1: 'Base AM 2018' (FG1: 'Base AM 2018', Plan 1: 'AM SSGM')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	4	1056	29	1089
	B	0	0	14	40	54
	C	405	4	0	90	499
	D	17	85	192	0	294
	Tot.	422	93	1262	159	1936

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: Base AM 2018
Junction: Lord Street/ Cheetham Hill Road	
1/1	512
1/2	577
2/1	294
3/1	409
3/2	90
4/1	54
5/1	159
6/1	586
6/2	676
7/1	93
8/1	413
8/2	9

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	5.7 %	1883	1883
				Arm 6 Ahead	Inf	94.3 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	99.3 %	2053	2053
				Arm 7 Right	12.00	0.7 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	65.3 %	1633	1633
				Arm 7 Ahead	Inf	28.9 %		
				Arm 8 Right	12.00	5.8 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.0 %	1909	1909
				Arm 8 Ahead	Inf	99.0 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	100.0 %	2055	2055
				Arm 8 Ahead	12.00	0.0 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	74.1 %	1879	1879
				Arm 6 Right	12.00	25.9 %		
				Arm 8 Left	5.00	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 2: 'Base PM 2018' (FG2: 'Base PM 2018', Plan 2: 'PM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	8	598	28	634
	B	24	0	27	85	136
	C	1048	11	0	142	1201
	D	35	88	91	0	214
	Tot.	1107	107	716	255	2185

Traffic Lane Flows

Lane	Scenario 2: Base PM 2018
Junction: Lord Street/ Cheetham Hill Road	
1/1	290
1/2	344
2/1	214
3/1	642
3/2	559
4/1	136
5/1	255
6/1	320
6/2	396
7/1	107
8/1	660
8/2	447

Full Input Data And Results

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	9.7 %	1861	1861
				Arm 6 Ahead	Inf	90.3 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	97.7 %	2049	2049
				Arm 7 Right	12.00	2.3 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	42.5 %	1712	1712
				Arm 7 Ahead	Inf	41.1 %		
				Arm 8 Right	12.00	16.4 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.7 %	1905	1905
				Arm 8 Ahead	Inf	98.3 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	25.4 %	1880	1880
				Arm 8 Ahead	12.00	74.6 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	62.5 %	1800	1800
				Arm 6 Right	12.00	19.9 %		
				Arm 8 Left	5.00	17.6 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'Do-Min 2034 AM' (FG17: 'Do-Min (Com) 2034 AM', Plan 1: 'AM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	5	1267	34	1306
	B	0	0	17	47	64
	C	495	5	0	106	606
	D	20	100	226	0	346
	Tot.	515	110	1510	187	2322

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: Do-Min 2034 AM
Junction: Lord Street/ Cheetham Hill Road	
1/1	614
1/2	692
2/1	346
3/1	500
3/2	106
4/1	64
5/1	187
6/1	701
6/2	809
7/1	110
8/1	505
8/2	10

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	5.5 %	1884	1884
				Arm 6 Ahead	Inf	94.5 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	99.3 %	2053	2053
				Arm 7 Right	12.00	0.7 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	65.3 %	1633	1633
				Arm 7 Ahead	Inf	28.9 %		
				Arm 8 Right	12.00	5.8 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.0 %	1909	1909
				Arm 8 Ahead	Inf	99.0 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	100.0 %	2055	2055
				Arm 8 Ahead	12.00	0.0 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	73.4 %	1878	1878
				Arm 6 Right	12.00	26.6 %		
				Arm 8 Left	5.00	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 4: 'Do-Min 2034 PM' (FG18: 'Do-Min (Com) 2034 PM', Plan 2: 'PM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	9	708	33	750
	B	28	0	31	99	158
	C	1237	13	0	165	1415
	D	41	102	106	0	249
	Tot.	1306	124	845	297	2572

Traffic Lane Flows

Lane	Scenario 4: Do-Min 2034 PM
Junction: Lord Street/ Cheetham Hill Road	
1/1	345
1/2	405
2/1	249
3/1	766
3/2	649
4/1	158
5/1	297
6/1	380
6/2	465
7/1	124
8/1	787
8/2	519

Full Input Data And Results

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	9.6 %	1862	1862
				Arm 6 Ahead	Inf	90.4 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	97.8 %	2049	2049
				Arm 7 Right	12.00	2.2 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	42.6 %	1711	1711
				Arm 7 Ahead	Inf	41.0 %		
				Arm 8 Right	12.00	16.5 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.7 %	1905	1905
				Arm 8 Ahead	Inf	98.3 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	25.4 %	1880	1880
				Arm 8 Ahead	12.00	74.6 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	62.7 %	1800	1800
				Arm 6 Right	12.00	19.6 %		
				Arm 8 Left	5.00	17.7 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'Do-Sth (Detailed) 2034 AM' (FG19: 'Do-Sth (Detailed+Com) 2034 AM', Plan 1: 'AM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	5	1267	34	1306
	B	0	0	17	47	64
	C	495	5	0	106	606
	D	20	100	278	0	398
	Tot.	515	110	1562	187	2374

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: Do-Sth (Detailed) 2034 AM
Junction: Lord Street/ Cheetham Hill Road	
1/1	615
1/2	691
2/1	398
3/1	500
3/2	106
4/1	64
5/1	187
6/1	728
6/2	834
7/1	110
8/1	505
8/2	10

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	5.5 %	1884	1884
				Arm 6 Ahead	Inf	94.5 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	99.3 %	2053	2053
				Arm 7 Right	12.00	0.7 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	69.8 %	1616	1616
				Arm 7 Ahead	Inf	25.1 %		
				Arm 8 Right	12.00	5.0 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.0 %	1909	1909
				Arm 8 Ahead	Inf	99.0 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	100.0 %	2055	2055
				Arm 8 Ahead	12.00	0.0 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	73.4 %	1878	1878
				Arm 6 Right	12.00	26.6 %		
				Arm 8 Left	5.00	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 6: 'Do-Sth (Detailed) 2034 PM' (FG20: 'Do-Sth (Detailed+Com) 2034 PM', Plan 2: 'PM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	9	708	33	750
	B	28	0	31	99	158
	C	1237	13	0	165	1415
	D	41	102	139	0	282
	Tot.	1306	124	878	297	2605

Traffic Lane Flows

Lane	Scenario 6: Do-Sth (Detailed) 2034 PM
Junction: Lord Street/ Cheetham Hill Road	
1/1	346
1/2	404
2/1	282
3/1	771
3/2	644
4/1	158
5/1	297
6/1	397
6/2	481
7/1	124
8/1	792
8/2	514

Full Input Data And Results

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	9.5 %	1862	1862
				Arm 6 Ahead	Inf	90.5 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	97.8 %	2049	2049
				Arm 7 Right	12.00	2.2 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	49.3 %	1685	1685
				Arm 7 Ahead	Inf	36.2 %		
				Arm 8 Right	12.00	14.5 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.7 %	1905	1905
				Arm 8 Ahead	Inf	98.3 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	25.6 %	1880	1880
				Arm 8 Ahead	12.00	74.4 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	62.7 %	1800	1800
				Arm 6 Right	12.00	19.6 %		
				Arm 8 Left	5.00	17.7 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Scenario 7: 'Do-Min (Com) 2037 AM' (FG27: 'Do-Min (Com) 2037 AM', Plan 1: 'AM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	5	1298	35	1338
	B	0	0	17	46	63
	C	507	5	0	108	620
	D	20	102	231	0	353
	Tot.	527	112	1546	189	2374

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 7: Do-Min (Com) 2037 AM
Junction: Lord Street/ Cheetham Hill Road	
1/1	632
1/2	706
2/1	353
3/1	512
3/2	108
4/1	63
5/1	189
6/1	720
6/2	826
7/1	112
8/1	517
8/2	10

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	5.5 %	1884	1884
				Arm 6 Ahead	Inf	94.5 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	99.3 %	2053	2053
				Arm 7 Right	12.00	0.7 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	65.4 %	1633	1633
				Arm 7 Ahead	Inf	28.9 %		
				Arm 8 Right	12.00	5.7 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.0 %	1909	1909
				Arm 8 Ahead	Inf	99.0 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	100.0 %	2055	2055
				Arm 8 Ahead	12.00	0.0 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	73.0 %	1877	1877
				Arm 6 Right	12.00	27.0 %		
				Arm 8 Left	5.00	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 8: 'Do-Min (Com) 2037 PM' (FG28: 'Do-Min (Com) 2037 PM', Plan 2: 'PM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	10	724	33	767
	B	28	0	32	102	162
	C	1265	13	0	169	1447
	D	42	105	108	0	255
	Tot.	1335	128	864	304	2631

Traffic Lane Flows

Lane	Scenario 8: Do-Min (Com) 2037 PM
Junction: Lord Street/ Cheetham Hill Road	
1/1	351
1/2	416
2/1	255
3/1	789
3/2	658
4/1	162
5/1	304
6/1	388
6/2	476
7/1	128
8/1	811
8/2	524

Full Input Data And Results

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	9.4 %	1862	1862
				Arm 6 Ahead	Inf	90.6 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	97.6 %	2049	2049
				Arm 7 Right	12.00	2.4 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	42.4 %	1712	1712
				Arm 7 Ahead	Inf	41.2 %		
				Arm 8 Right	12.00	16.5 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.6 %	1906	1906
				Arm 8 Ahead	Inf	98.4 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	25.7 %	1880	1880
				Arm 8 Ahead	12.00	74.3 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	63.0 %	1802	1802
				Arm 6 Right	12.00	19.8 %		
				Arm 8 Left	5.00	17.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Scenario 9: 'Do-Sth (Outline) 2037 AM' (FG29: 'Do-Sth (Outline+Com) 2037 AM', Plan 1: 'AM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	5	1298	35	1338
	B	0	0	17	48	65
	C	507	5	0	188	700
	D	20	102	360	0	482
	Tot.	527	112	1675	271	2585

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 9: Do-Sth (Outline) 2037 AM
Junction: Lord Street/ Cheetham Hill Road	
1/1	634
1/2	704
2/1	482
3/1	512
3/2	188
4/1	65
5/1	271
6/1	787
6/2	888
7/1	112
8/1	517
8/2	10

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	5.5 %	1884	1884
				Arm 6 Ahead	Inf	94.5 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	99.3 %	2053	2053
				Arm 7 Right	12.00	0.7 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	74.7 %	1599	1599
				Arm 7 Ahead	Inf	21.2 %		
				Arm 8 Right	12.00	4.1 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.0 %	1909	1909
				Arm 8 Ahead	Inf	99.0 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	100.0 %	2055	2055
				Arm 8 Ahead	12.00	0.0 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	73.8 %	1879	1879
				Arm 6 Right	12.00	26.2 %		
				Arm 8 Left	5.00	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 10: 'Do-Sth (Outline) 2037 PM' (FG30: 'Do-Sth (Outline+Com) 2037 PM', Plan 2: 'PM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	10	724	33	767
	B	28	0	32	102	162
	C	1265	13	0	261	1539
	D	42	105	183	0	330
	Tot.	1335	128	939	396	2798

Traffic Lane Flows

Lane	Scenario 10: Do-Sth (Outline) 2037 PM
Junction: Lord Street/ Cheetham Hill Road	
1/1	353
1/2	414
2/1	330
3/1	949
3/2	590
4/1	162
5/1	396
6/1	427
6/2	512
7/1	128
8/1	971
8/2	364

Full Input Data And Results

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	9.3 %	1863	1863
				Arm 6 Ahead	Inf	90.7 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	97.6 %	2049	2049
				Arm 7 Right	12.00	2.4 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	55.5 %	1662	1662
				Arm 7 Ahead	Inf	31.8 %		
				Arm 8 Right	12.00	12.7 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.4 %	1907	1907
				Arm 8 Ahead	Inf	98.6 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	44.2 %	1921	1921
				Arm 8 Ahead	12.00	55.8 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	63.0 %	1802	1802
				Arm 6 Right	12.00	19.8 %		
				Arm 8 Left	5.00	17.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Scenario 11: 'Do-Sth (Detail+Out) 2037 AM' (FG31: 'Do-Sth (Detail+Out+Com) 2037 AM', Plan 1: 'AM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	5	1298	35	1338
	B	0	0	17	48	65
	C	507	5	0	188	700
	D	20	102	413	0	535
	Tot.	527	112	1728	271	2638

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 11: Do-Sth (Detail+Out) 2037 AM
Junction: Lord Street/ Cheetham Hill Road	
1/1	634
1/2	704
2/1	535
3/1	512
3/2	188
4/1	65
5/1	271
6/1	813
6/2	915
7/1	112
8/1	517
8/2	10

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	5.5 %	1884	1884
				Arm 6 Ahead	Inf	94.5 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	99.3 %	2053	2053
				Arm 7 Right	12.00	0.7 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	77.2 %	1589	1589
				Arm 7 Ahead	Inf	19.1 %		
				Arm 8 Right	12.00	3.7 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.0 %	1909	1909
				Arm 8 Ahead	Inf	99.0 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	100.0 %	2055	2055
				Arm 8 Ahead	12.00	0.0 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	73.8 %	1879	1879
				Arm 6 Right	12.00	26.2 %		
				Arm 8 Left	5.00	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 12: 'Do-Sth (Detail+Out) 2037 PM' (FG32: 'Do-Sth (Detail+Out+Com) 2037 PM', Plan 2: 'PM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	10	724	33	767
	B	28	0	32	102	162
	C	1265	13	0	261	1539
	D	42	105	217	0	364
	Tot.	1335	128	973	396	2832

Traffic Lane Flows

Lane	Scenario 12: Do-Sth (Detail+Out) 2037 PM
Junction: Lord Street/ Cheetham Hill Road	
1/1	355
1/2	412
2/1	364
3/1	952
3/2	587
4/1	162
5/1	396
6/1	446
6/2	527
7/1	128
8/1	974
8/2	361

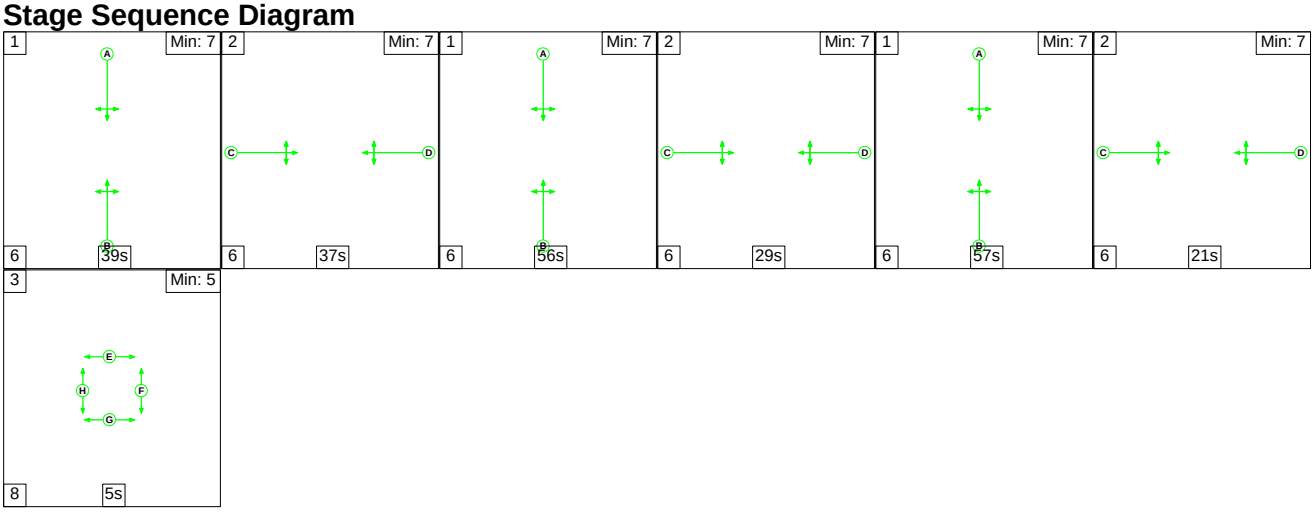
Full Input Data And Results

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	9.3 %	1863	1863
				Arm 6 Ahead	Inf	90.7 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	97.6 %	2049	2049
				Arm 7 Right	12.00	2.4 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	59.6 %	1647	1647
				Arm 7 Ahead	Inf	28.8 %		
				Arm 8 Right	12.00	11.5 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.4 %	1907	1907
				Arm 8 Ahead	Inf	98.6 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	44.5 %	1922	1922
				Arm 8 Ahead	12.00	55.5 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	63.0 %	1802	1802
				Arm 6 Right	12.00	19.8 %		
				Arm 8 Left	5.00	17.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'Base AM 2018' (FG1: 'Base AM 2018', Plan 1: 'AM SSGM')

Stage Sequence Diagram

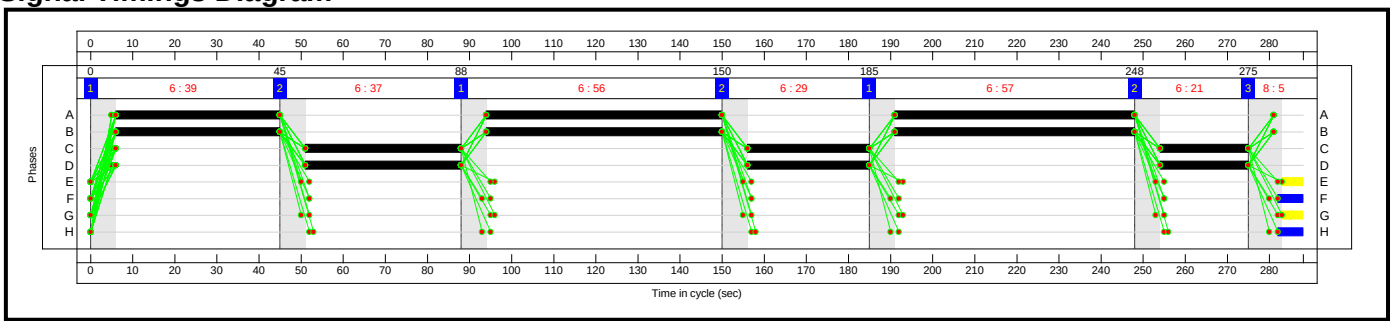


Full Input Data And Results

Stage Timings

Stage	1	2	1	2	1	2	3
Duration	39	37	56	29	57	21	5
Change Point	0	45	88	150	185	248	275

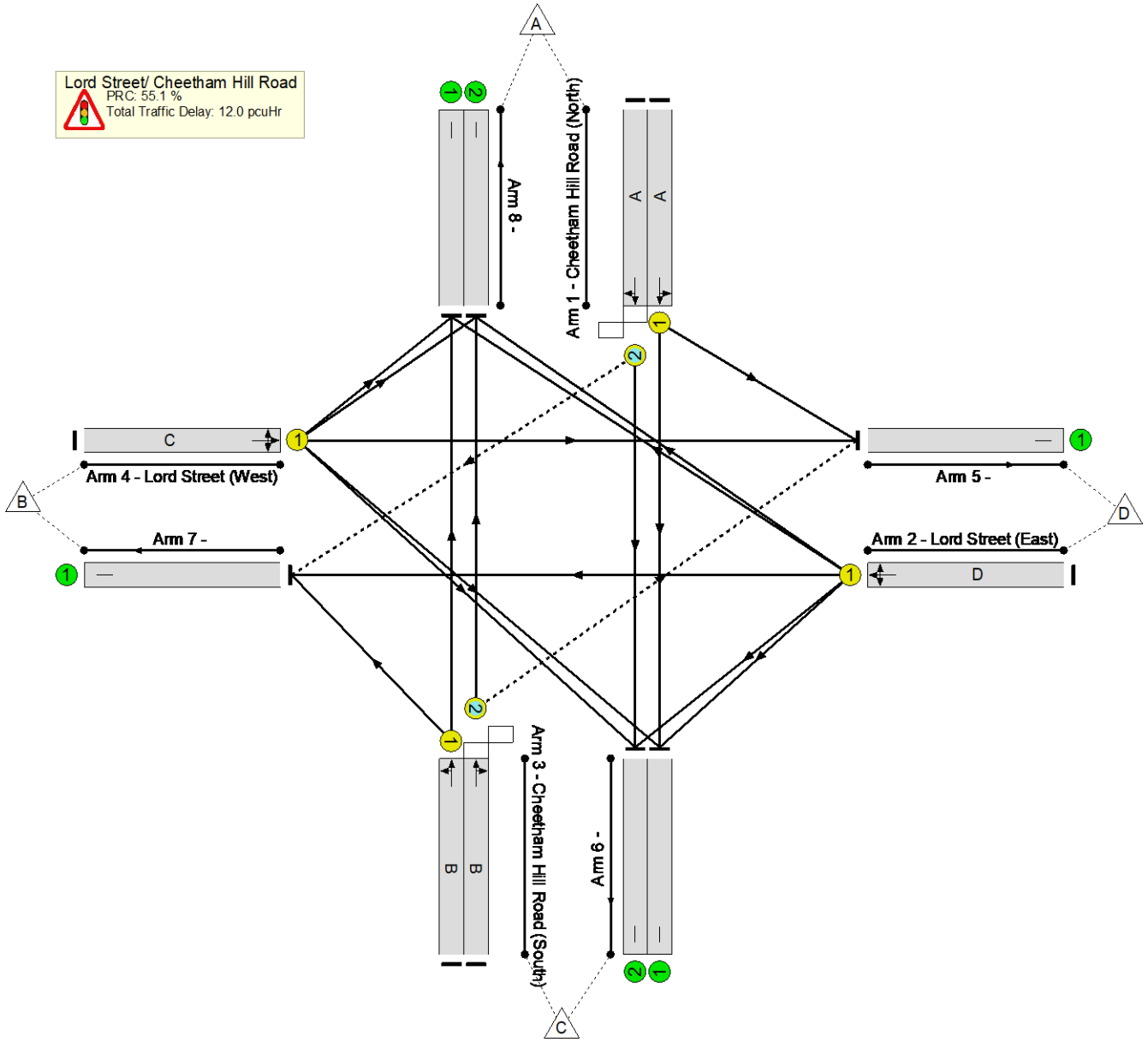
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.0%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.0%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	152	-	512	1883	1013	50.5%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	152	-	577	2053	1105	52.2%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	87	-	294	1633	510	57.6%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	152	-	409	1909	1027	39.8%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	152	-	90	2055	155	58.0%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	87	-	54	1879	587	9.2%
5/1		U	N/A	N/A	-		-	-	-	159	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	586	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	676	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	93	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	413	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	9	Inf	Inf	0.0%

Full Input Data And Results

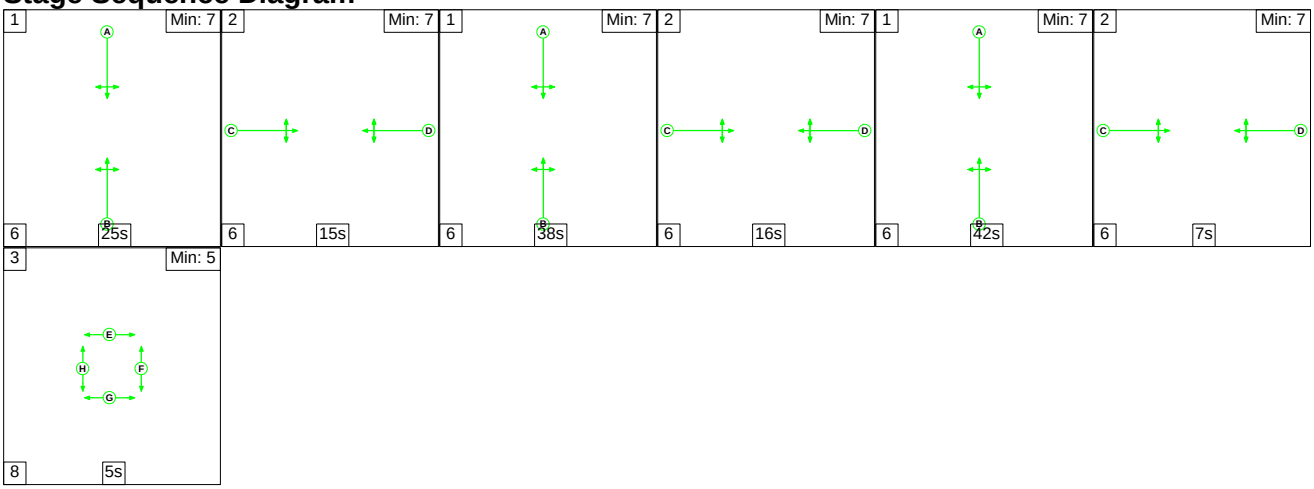
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**84**	**0**	**10**	**8.7**	**2.8**	**0.5**	**12.0**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**84**	**0**	**10**	**8.7**	**2.8**	**0.5**	**12.0**	**-**	**-**	**-**	**-**
1/1	512	512	-	-	-	2.0	0.5	-	2.5	17.7	9.2	0.5	9.8
1/2	577	577	4	0	0	2.3	0.5	0.0	2.8	17.8	10.6	0.5	11.1
2/1	294	294	-	-	-	2.3	0.7	-	2.9	36.0	6.7	0.7	7.4
3/1	409	409	-	-	-	1.5	0.3	-	1.8	16.0	6.9	0.3	7.3
3/2	90	90	80	0	10	0.3	0.7	0.5	1.5	59.5	1.3	0.7	1.9
4/1	54	54	-	-	-	0.4	0.1	-	0.4	26.8	1.1	0.1	1.1
5/1	159	159	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	586	586	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	676	676	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	93	93	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	413	413	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	9	9	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 55.1 Total Delay for Signalled Lanes (pcuHr): 12.01 Cycle Time (s): 288
PRC Over All Lanes (%): 55.1 Total Delay Over All Lanes(pcuHr): 12.01

Full Input Data And Results

Scenario 2: 'Base PM 2018' (FG2: 'Base PM 2018', Plan 2: 'PM SSGM')

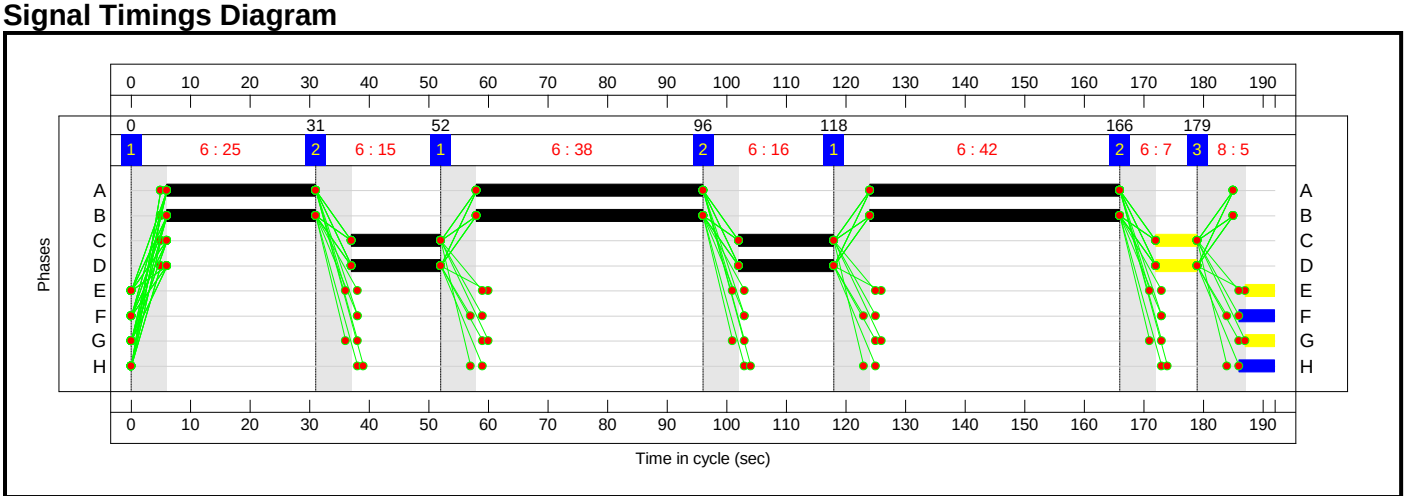
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	1	2	3
Duration	25	15	38	16	42	7	5
Change Point	0	31	52	96	118	166	179

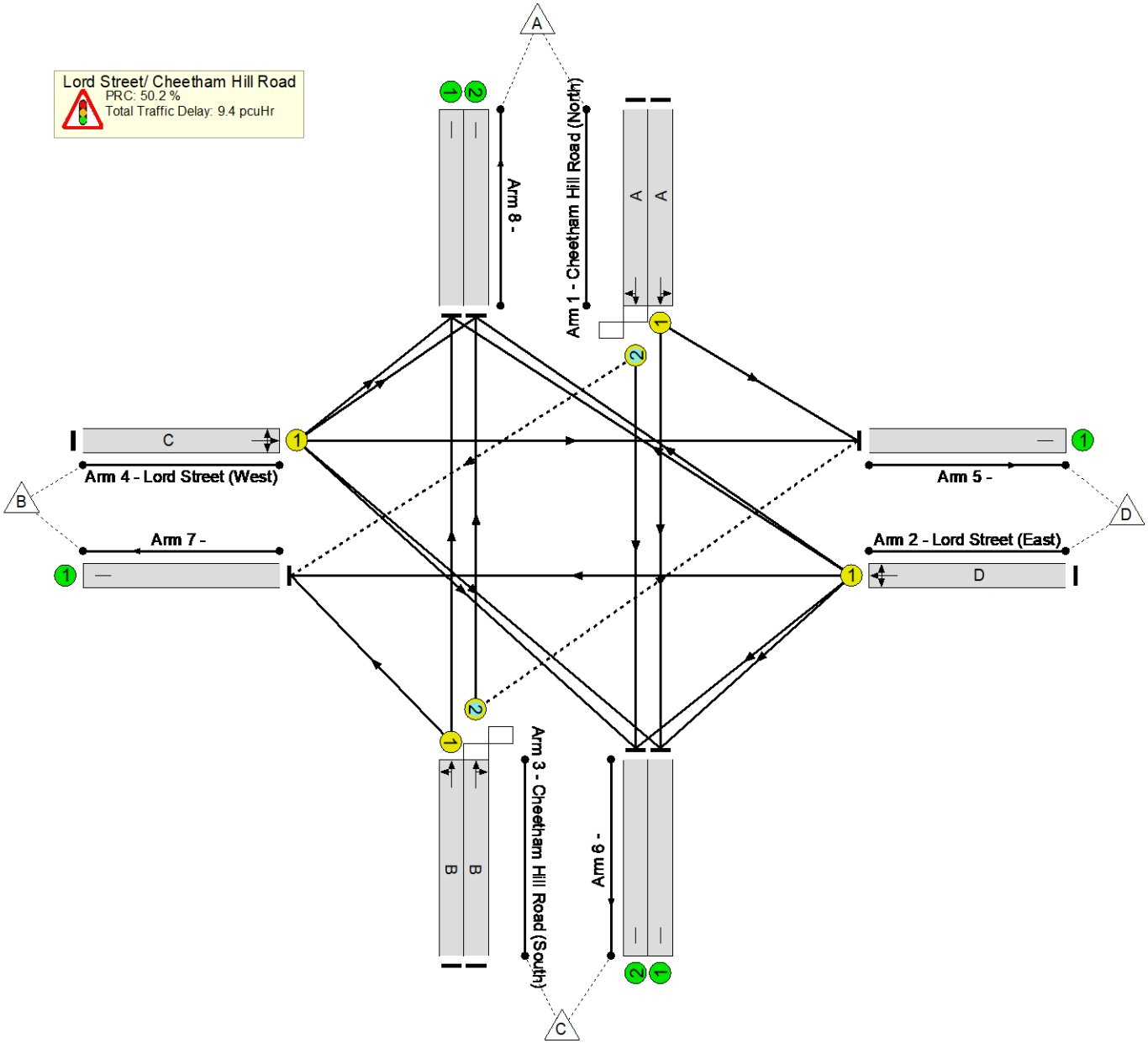
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**59.9%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**59.9%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	105	-	290	1861	1047	27.7%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	105	-	344	2049	1137	30.3%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	38	-	214	1712	366	58.5%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	105	-	642	1905	1072	59.9%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	105	-	559	1880	995	56.2%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	38	-	136	1800	384	35.4%
5/1		U	N/A	N/A	-		-	-	-	255	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	320	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	396	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	107	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	660	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	447	Inf	Inf	0.0%

Full Input Data And Results

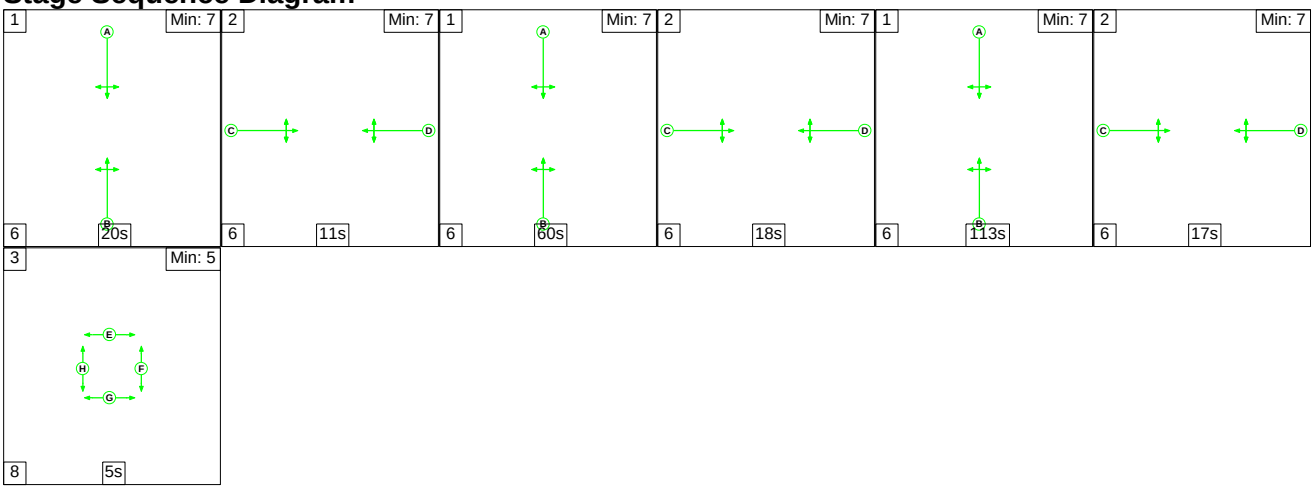
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**148**	**0**	**2**	**6.5**	**2.8**	**0.1**	**9.4**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**148**	**0**	**2**	**6.5**	**2.8**	**0.1**	**9.4**	**-**	**-**	**-**	**-**
1/1	290	290	-	-	-	0.6	0.2	-	0.8	9.7	2.9	0.2	3.1
1/2	344	344	8	0	0	0.7	0.2	0.0	0.9	9.9	3.5	0.2	3.8
2/1	214	214	-	-	-	1.3	0.7	-	2.0	34.4	3.6	0.7	4.3
3/1	642	642	-	-	-	1.7	0.7	-	2.4	13.5	8.2	0.7	8.9
3/2	559	559	140	0	2	1.4	0.6	0.1	2.2	14.1	7.3	0.6	7.9
4/1	136	136	-	-	-	0.8	0.3	-	1.1	28.7	2.2	0.3	2.4
5/1	255	255	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	320	320	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	396	396	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	107	107	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	660	660	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	447	447	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 50.2 Total Delay for Signalled Lanes (pcuHr): 9.44 Cycle Time (s): 192
PRC Over All Lanes (%): 50.2 Total Delay Over All Lanes(pcuHr): 9.44

Full Input Data And Results

Scenario 3: 'Do-Min 2034 AM' (FG17: 'Do-Min (Com) 2034 AM', Plan 1: 'AM SSGM')

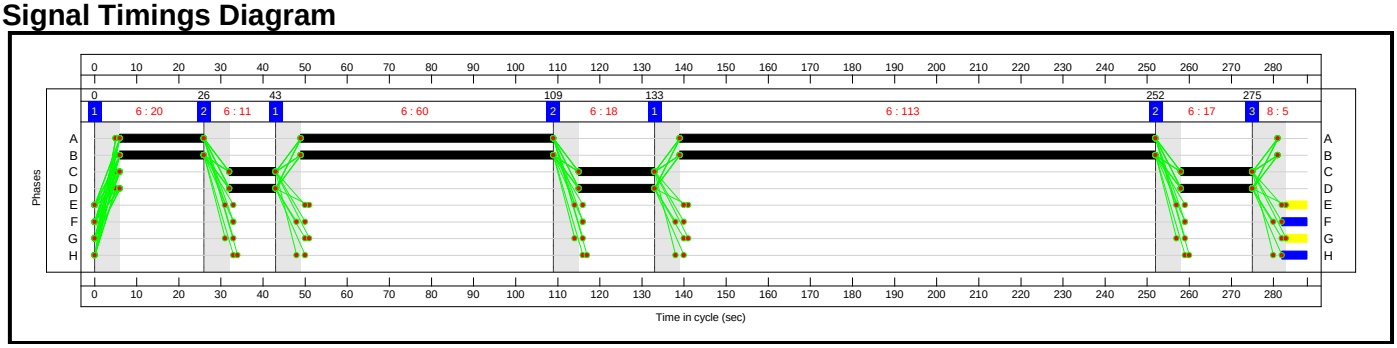
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	1	2	3
Duration	20	11	60	18	113	17	5
Change Point	0	26	43	109	133	252	275

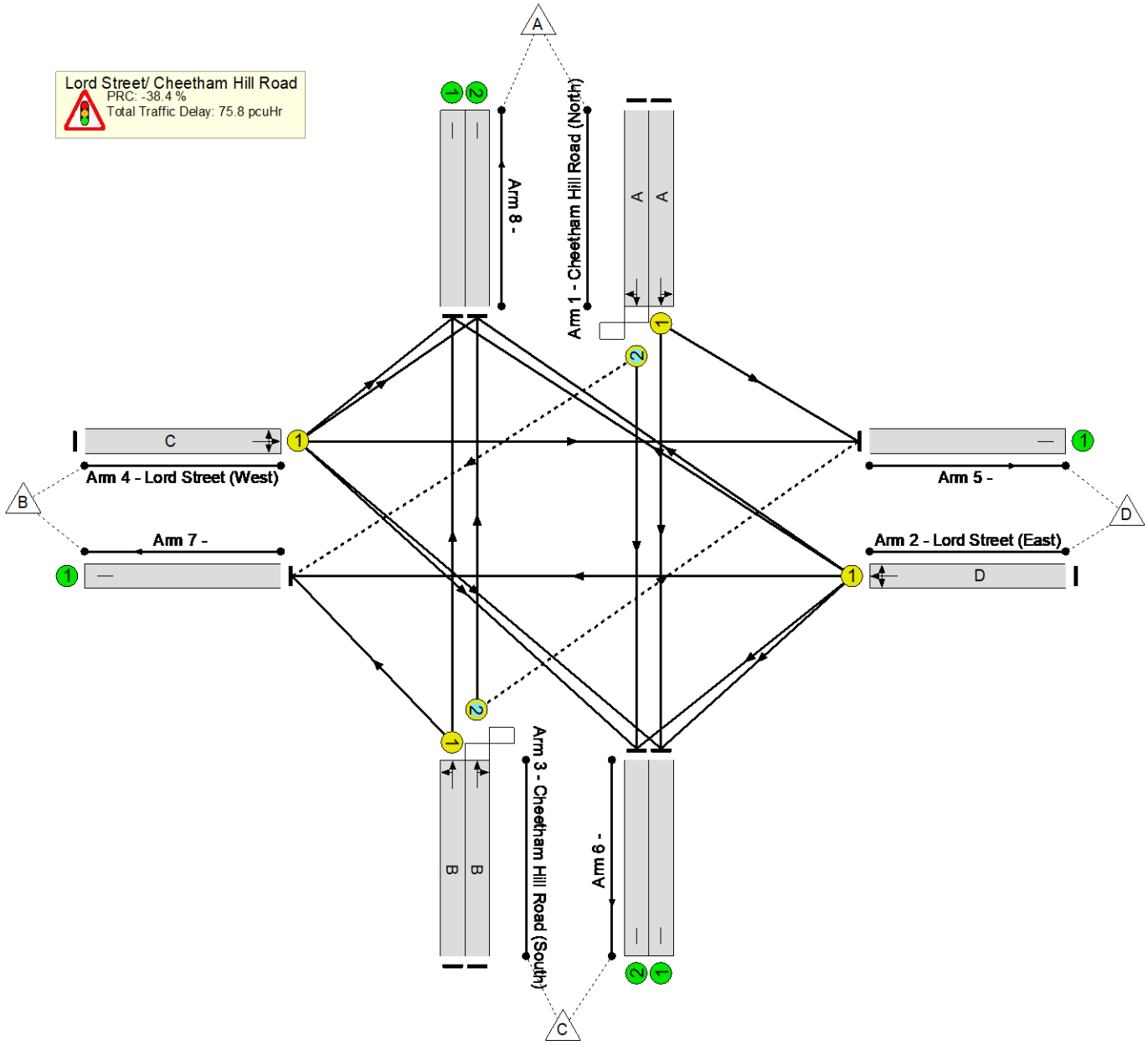
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**124.5%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**124.5%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	193	-	614	1884	1282	47.9%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	193	-	692	2053	1397	49.5%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	46	-	346	1633	278	124.5%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	193	-	500	1909	1299	38.5%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	193	-	106	2055	85	124.4%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	46	-	64	1878	320	20.0%
5/1		U	N/A	N/A	-		-	-	-	187	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	701	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	809	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	110	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	505	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**15**	**0**	**75**	**24.1**	**50.4**	**1.4**	**75.8**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**15**	**0**	**75**	**24.1**	**50.4**	**1.4**	**75.8**	**-**	**-**	**-**	**-**
1/1	614	614	-	-	-	1.3	0.5	-	1.8	10.4	10.2	0.5	10.7
1/2	692	692	5	0	0	1.5	0.5	0.0	2.0	10.5	11.7	0.5	12.2
2/1	346	278	-	-	-	15.7	36.5	-	52.2	542.8	24.6	36.5	61.0
3/1	500	500	-	-	-	1.0	0.3	-	1.3	9.3	7.6	0.3	8.0
3/2	106	85	10	0	75	3.8	12.5	1.4	17.7	600.4	7.7	12.5	20.2
4/1	64	64	-	-	-	0.7	0.1	-	0.8	47.3	2.3	0.1	2.4
5/1	166	166	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	679	679	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	787	787	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	90	90	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	503	503	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	8	8	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

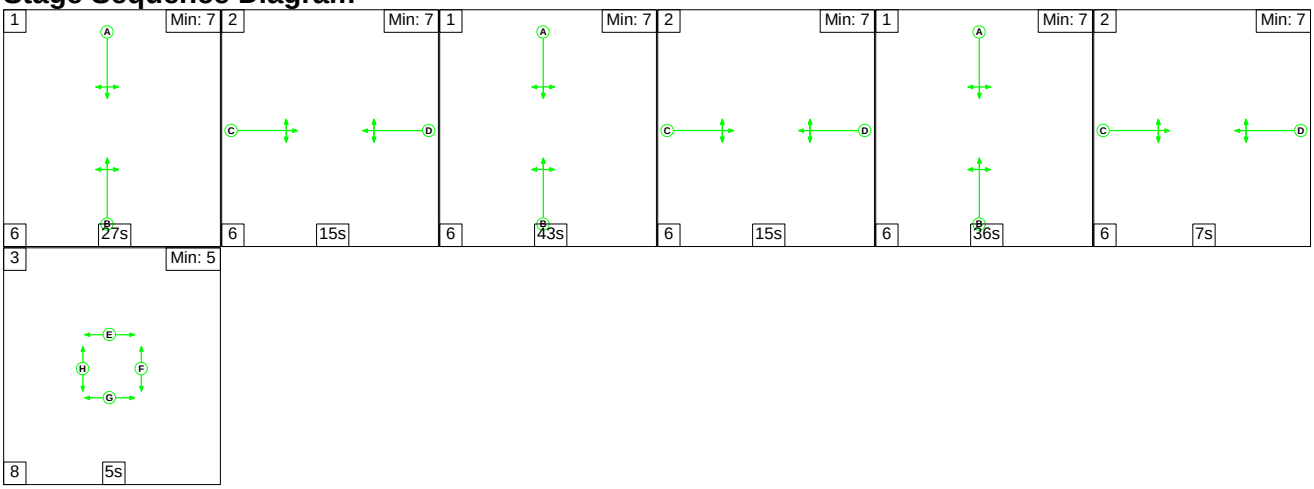
C1 PRC for Signalled Lanes (%): -38.4 Total Delay for Signalled Lanes (pcuHr): 75.78 Cycle Time (s): 288

PRC Over All Lanes (%): -38.4 Total Delay Over All Lanes(pcuHr): 75.78

Full Input Data And Results

Scenario 4: 'Do-Min 2034 PM' (FG18: 'Do-Min (Com) 2034 PM', Plan 2: 'PM SSGM')

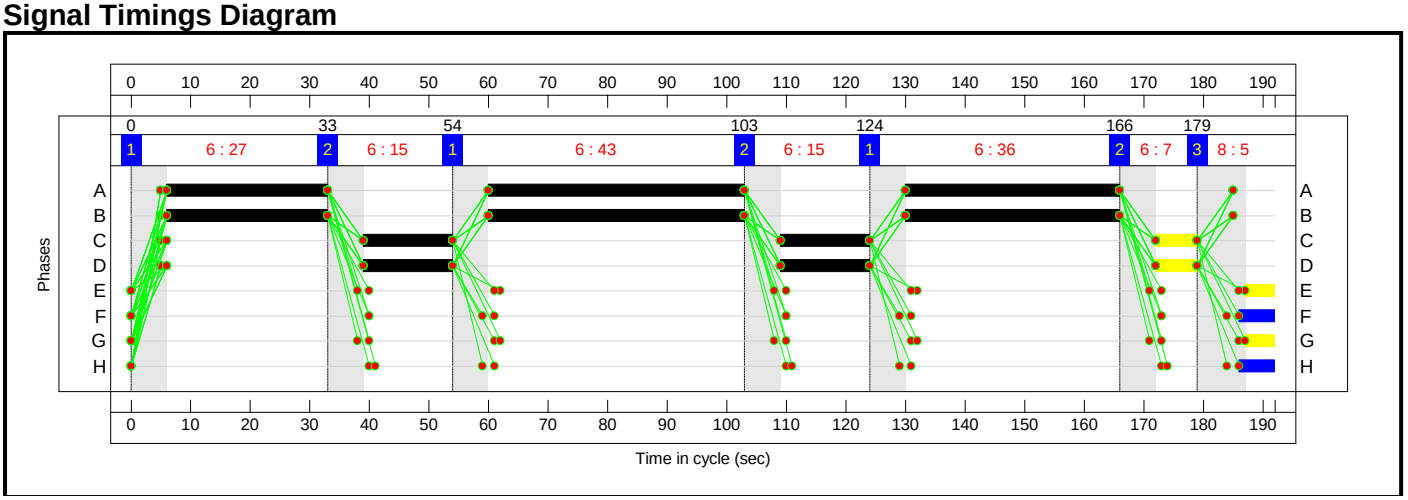
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	1	2	3
Duration	27	15	43	15	36	7	5
Change Point	0	33	54	103	124	166	179

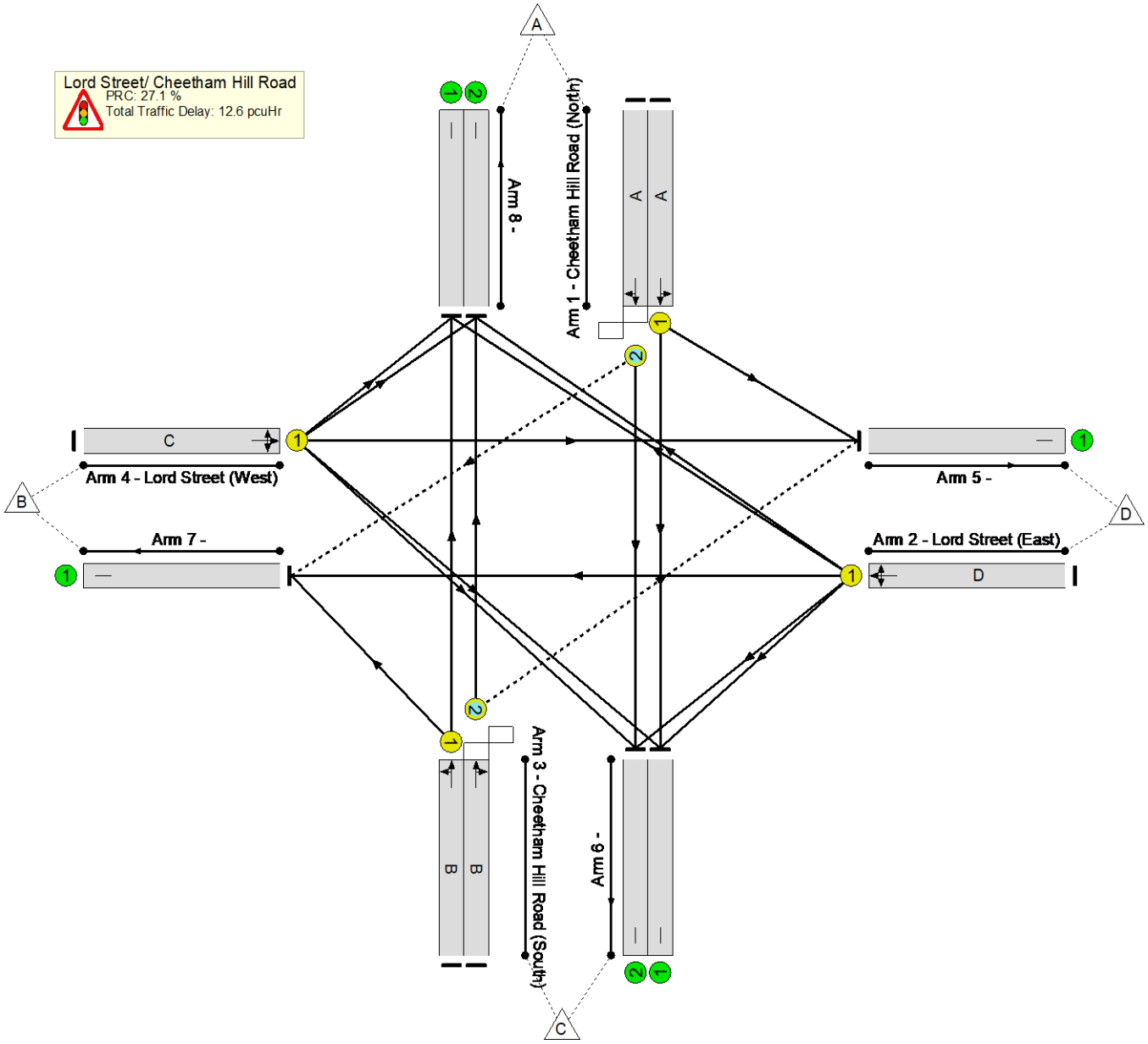
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**70.8%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**70.8%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	106	-	345	1862	1057	32.6%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	106	-	405	2049	1151	35.2%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	37	-	249	1711	356	69.9%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	106	-	766	1905	1081	70.8%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	106	-	649	1880	971	66.9%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	37	-	158	1800	375	42.1%
5/1		U	N/A	N/A	-		-	-	-	297	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	380	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	465	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	124	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	787	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	519	Inf	Inf	0.0%

Full Input Data And Results

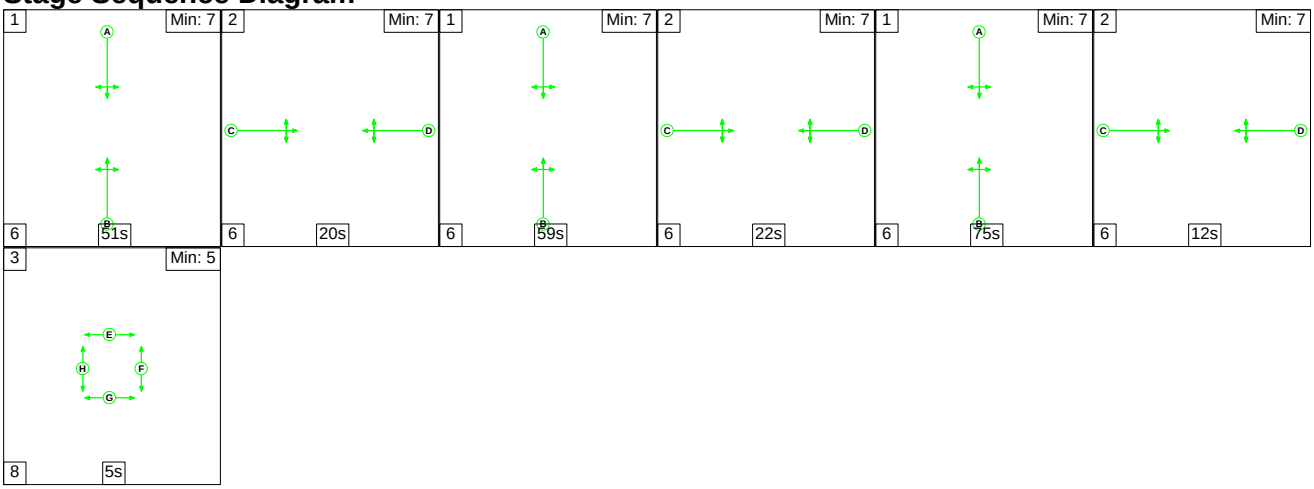
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**170**	**0**	**4**	**8.1**	**4.2**	**0.2**	**12.6**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**170**	**0**	**4**	**8.1**	**4.2**	**0.2**	**12.6**	**-**	**-**	**-**	**-**
1/1	345	345	-	-	-	0.7	0.2	-	1.0	9.9	3.6	0.2	3.9
1/2	405	405	7	0	2	0.8	0.3	0.0	1.2	10.2	4.3	0.3	4.5
2/1	249	249	-	-	-	1.6	1.1	-	2.8	40.0	4.4	1.1	5.5
3/1	766	766	-	-	-	2.1	1.2	-	3.3	15.7	10.9	1.2	12.1
3/2	649	649	162	0	3	1.8	1.0	0.2	3.0	16.8	9.7	1.0	10.7
4/1	158	158	-	-	-	1.0	0.4	-	1.3	30.3	2.6	0.4	3.0
5/1	297	297	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	380	380	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	465	465	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	124	124	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	787	787	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	519	519	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 27.1 Total Delay for Signalled Lanes (pcuHr): 12.58 Cycle Time (s): 192
PRC Over All Lanes (%): 27.1 Total Delay Over All Lanes(pcuHr): 12.58

Full Input Data And Results

Scenario 5: 'Do-Sth (Detailed) 2034 AM' (FG19: 'Do-Sth (Detailed+Com) 2034 AM', Plan 1: 'AM SSGM')

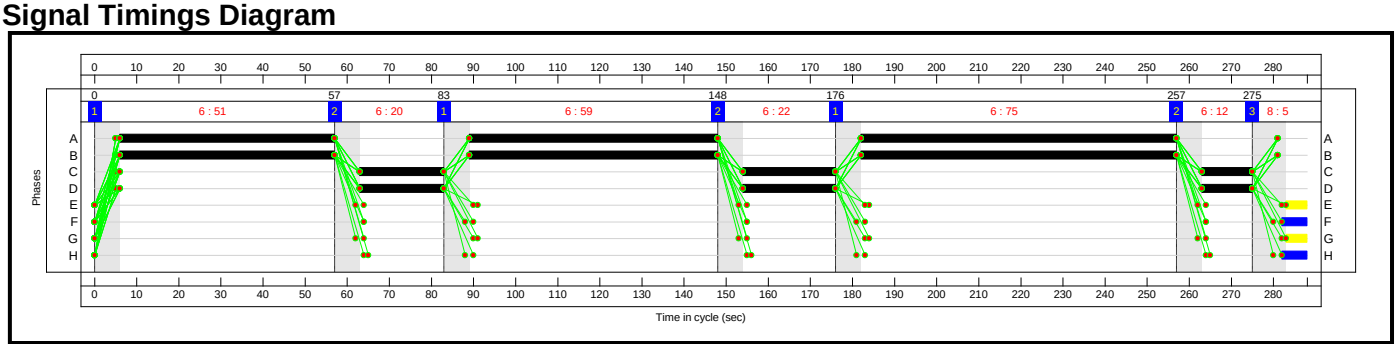
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	1	2	3
Duration	51	20	59	22	75	12	5
Change Point	0	57	83	148	176	257	275

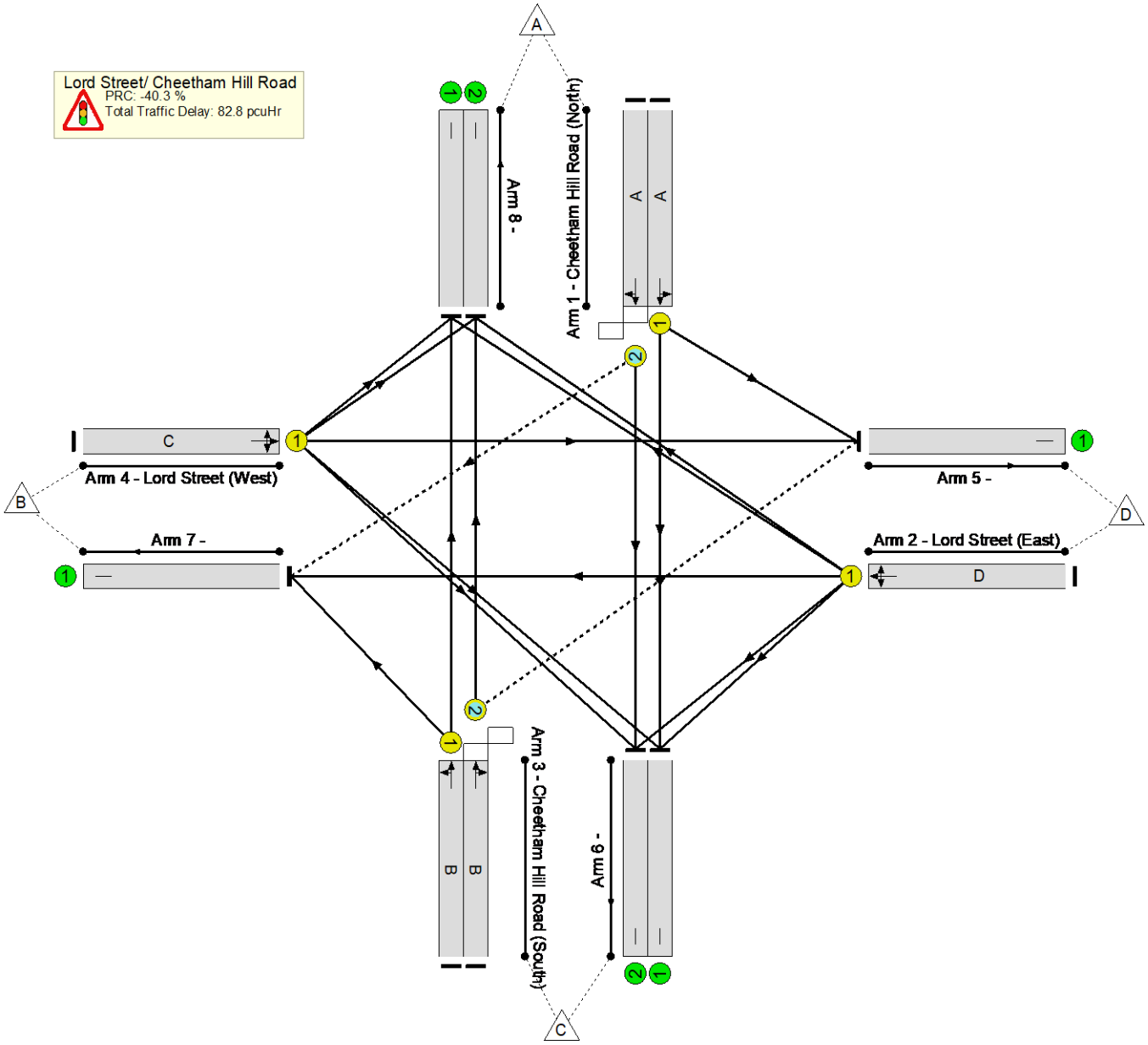
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**126.2%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**126.2%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	185	-	615	1884	1230	50.0%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	185	-	691	2053	1340	51.6%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	54	-	398	1616	320	124.4%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	185	-	500	1909	1246	40.1%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	185	-	106	2055	84	126.2%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	54	-	64	1878	372	17.2%
5/1		U	N/A	N/A	-		-	-	-	187	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	728	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	834	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	110	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	505	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**14**	**0**	**75**	**25.5**	**56.0**	**1.3**	**82.8**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**14**	**0**	**75**	**25.5**	**56.0**	**1.3**	**82.8**	**-**	**-**	**-**	**-**
1/1	615	615	-	-	-	1.5	0.5	-	2.0	11.5	9.1	0.5	9.6
1/2	691	691	5	0	0	1.7	0.5	0.0	2.2	11.6	10.4	0.5	10.9
2/1	398	320	-	-	-	16.8	41.5	-	58.3	527.4	23.5	41.5	65.0
3/1	500	500	-	-	-	1.1	0.3	-	1.4	10.3	6.7	0.3	7.0
3/2	106	84	9	0	75	3.8	13.0	1.3	18.2	617.8	7.2	13.0	20.2
4/1	64	64	-	-	-	0.6	0.1	-	0.7	38.1	1.6	0.1	1.7
5/1	165	165	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	701	701	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	807	807	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	90	90	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	503	503	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	8	8	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

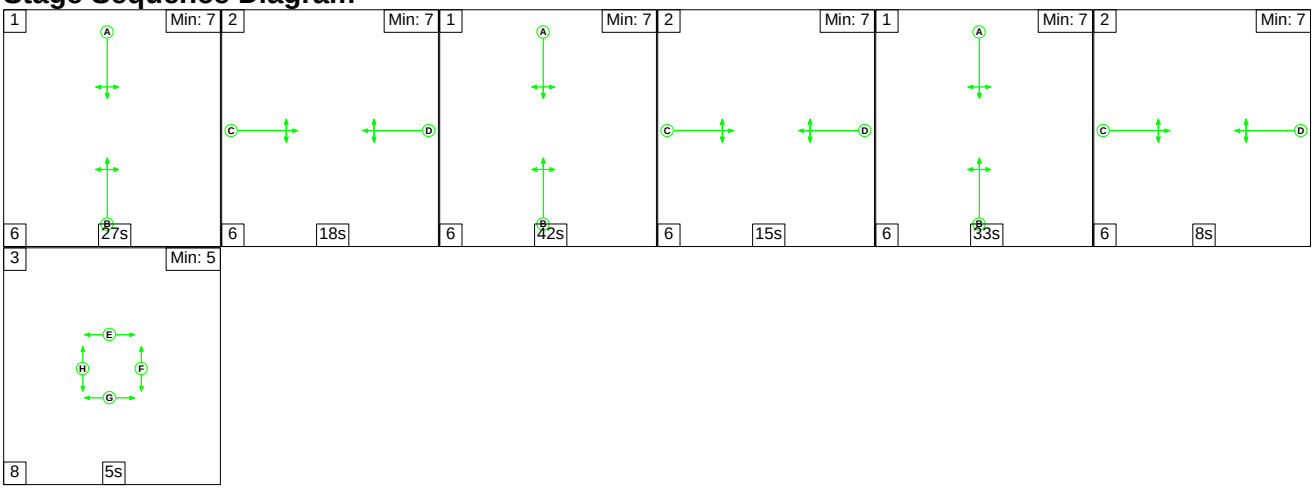
C1 PRC for Signalled Lanes (%): -40.3 Total Delay for Signalled Lanes (pcuHr): 82.80 Cycle Time (s): 288

PRC Over All Lanes (%): -40.3 Total Delay Over All Lanes(pcuHr): 82.80

Full Input Data And Results

Scenario 6: 'Do-Sth (Detailed) 2034 PM' (FG20: 'Do-Sth (Detailed+Com) 2034 PM', Plan 2: 'PM SSGM')

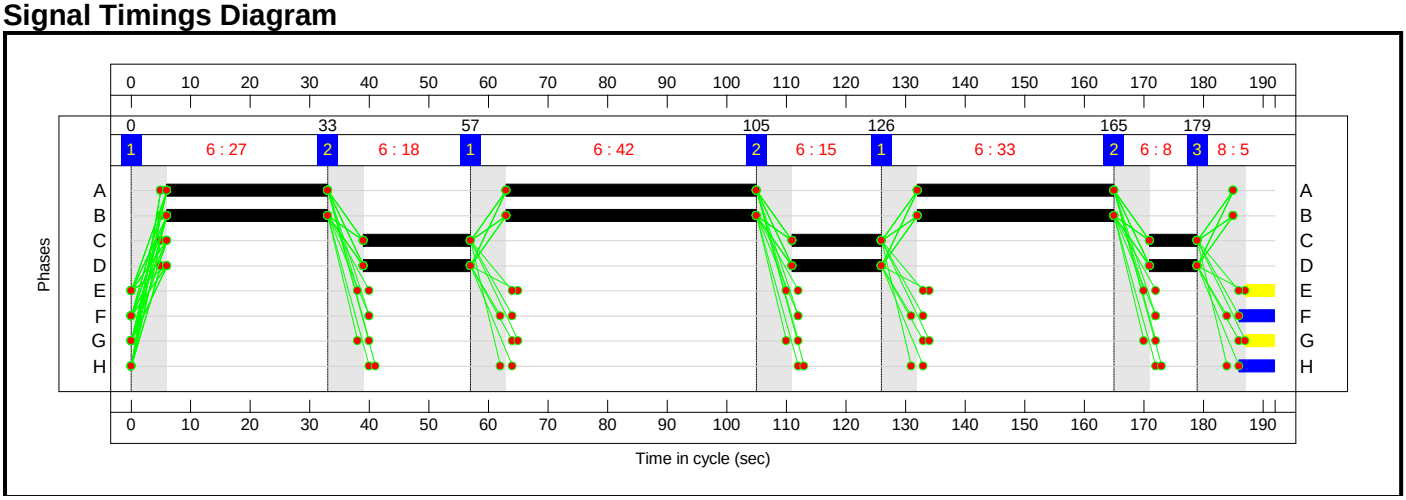
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	1	2	3
Duration	27	18	42	15	33	8	5
Change Point	0	33	57	105	126	165	179

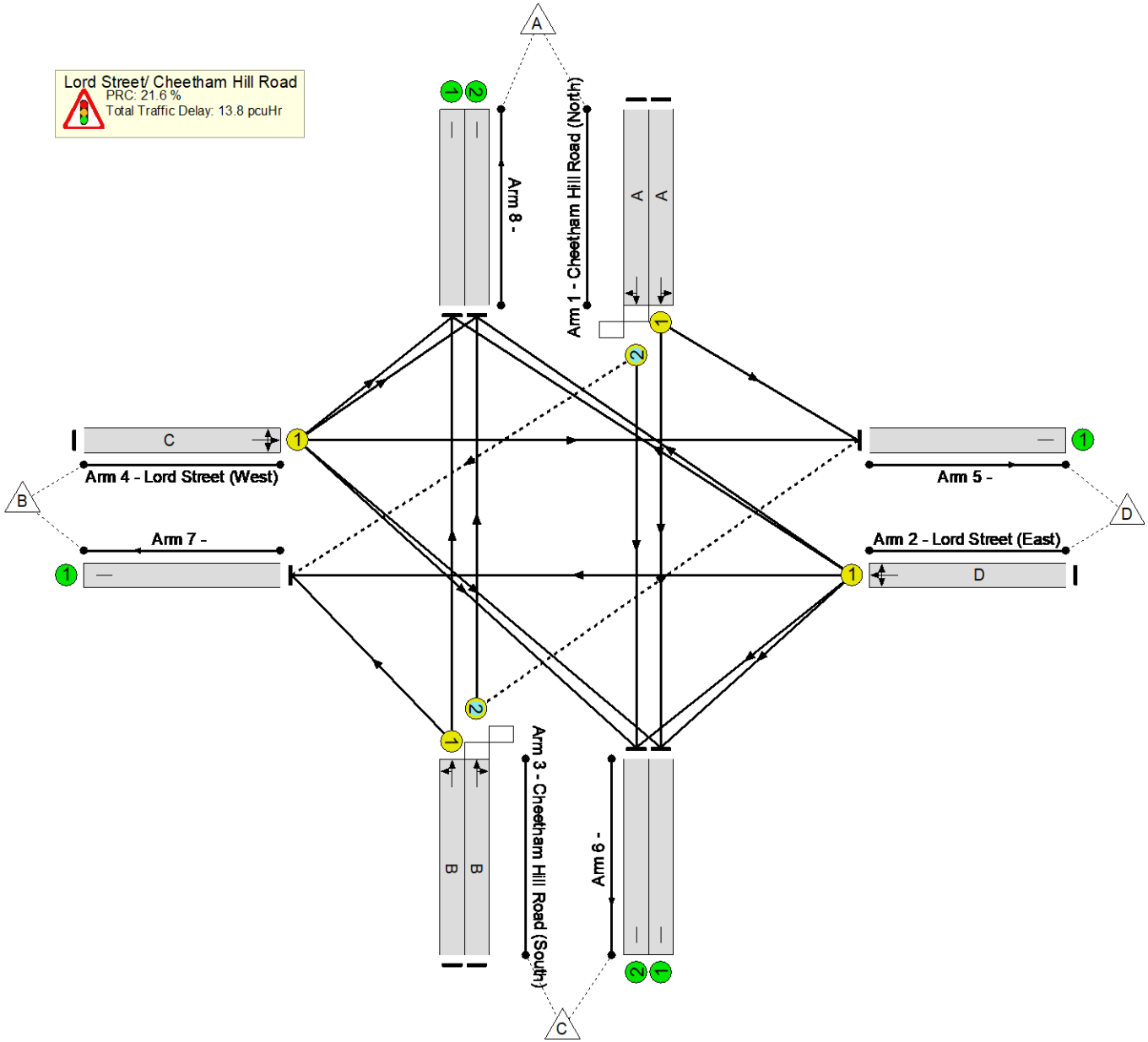
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.0%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.0%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	102	-	346	1862	1018	34.0%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	102	-	404	2049	1107	36.5%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	41	-	282	1685	386	73.0%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	102	-	771	1905	1042	74.0%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	102	-	644	1880	921	69.9%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	41	-	158	1800	412	38.3%
5/1		U	N/A	N/A	-		-	-	-	297	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	397	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	481	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	124	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	792	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	514	Inf	Inf	0.0%

Full Input Data And Results

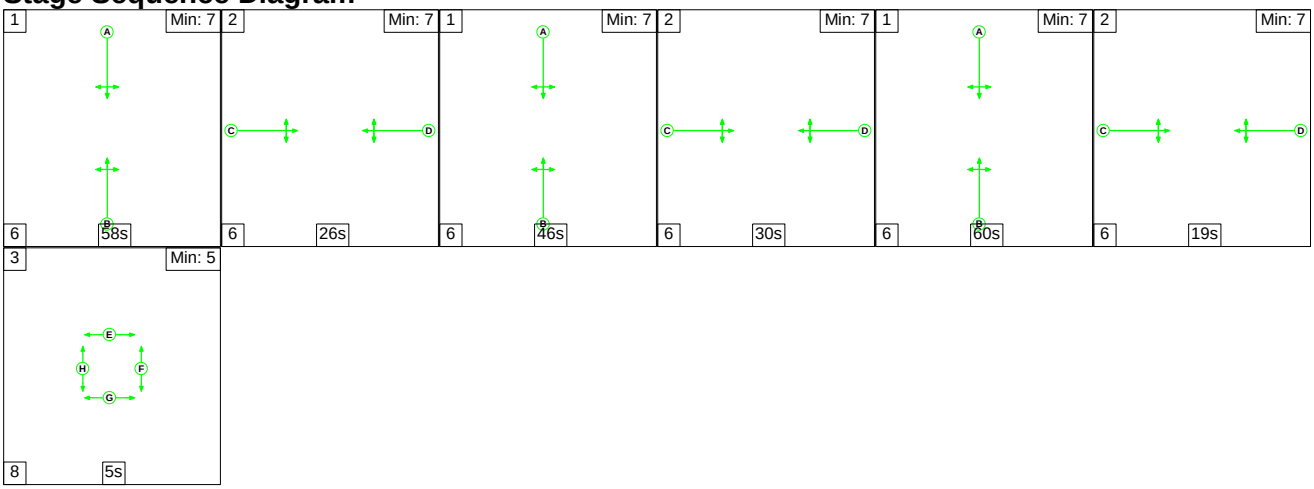
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**170**	**0**	**4**	**8.8**	**4.7**	**0.2**	**13.8**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**170**	**0**	**4**	**8.8**	**4.7**	**0.2**	**13.8**	**-**	**-**	**-**	**-**
1/1	346	346	-	-	-	0.8	0.3	-	1.0	10.8	3.7	0.3	4.0
1/2	404	404	7	0	2	0.9	0.3	0.0	1.3	11.1	4.4	0.3	4.7
2/1	282	282	-	-	-	1.8	1.3	-	3.1	39.8	4.9	1.3	6.3
3/1	771	771	-	-	-	2.4	1.4	-	3.8	17.7	11.4	1.4	12.8
3/2	644	644	162	0	3	2.0	1.2	0.2	3.4	18.8	9.8	1.2	11.0
4/1	158	158	-	-	-	0.9	0.3	-	1.2	28.0	2.5	0.3	2.9
5/1	297	297	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	397	397	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	481	481	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	124	124	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	792	792	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	514	514	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 21.6 Total Delay for Signalled Lanes (pcuHr): 13.79 Cycle Time (s): 192
PRC Over All Lanes (%): 21.6 Total Delay Over All Lanes(pcuHr): 13.79

Full Input Data And Results

Scenario 7: 'Do-Min (Com) 2037 AM' (FG27: 'Do-Min (Com) 2037 AM', Plan 1: 'AM SSGM')

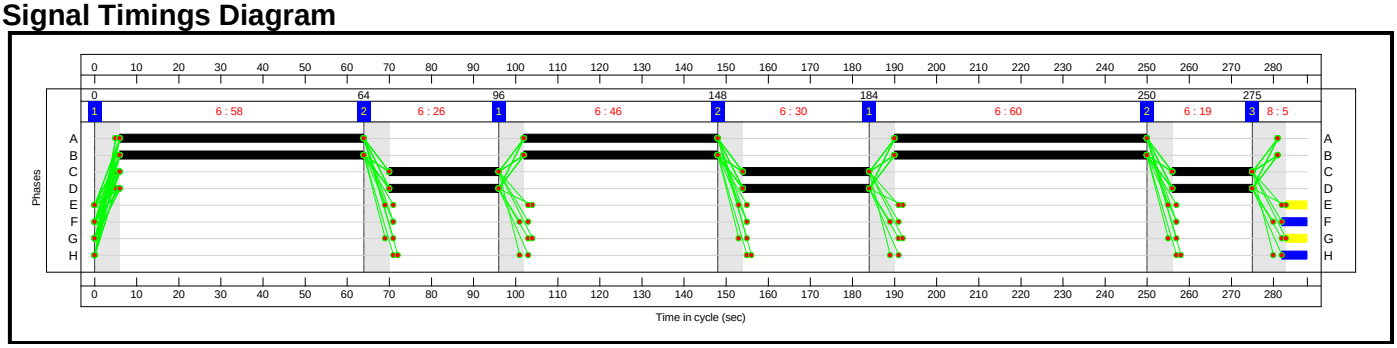
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	1	2	3
Duration	58	26	46	30	60	19	5
Change Point	0	64	96	148	184	250	275

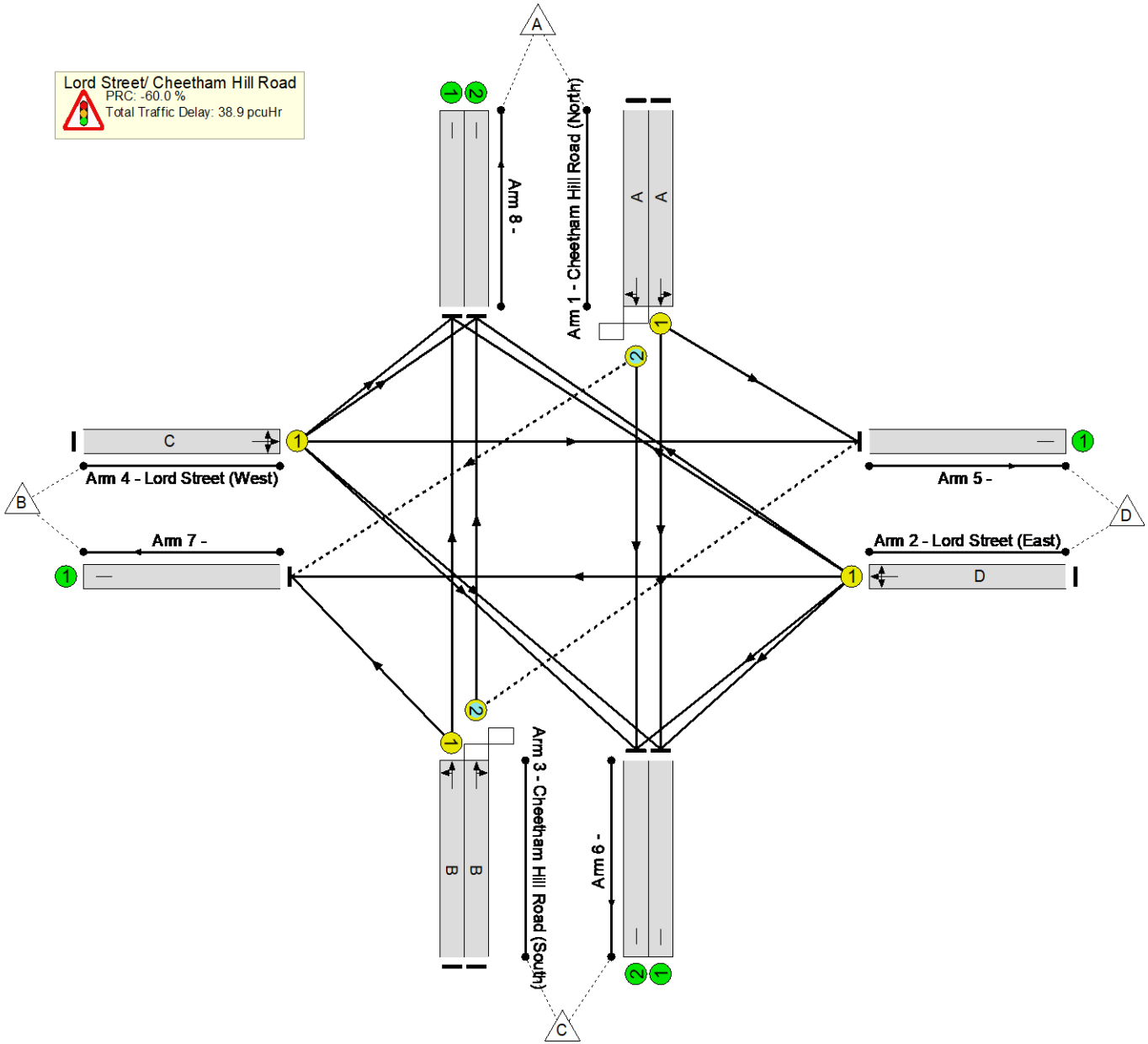
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**144.0%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**144.0%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	164	-	632	1884	1092	57.9%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	164	-	706	2053	1190	59.3%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	75	-	353	1633	442	79.8%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	164	-	512	1909	1107	46.3%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	164	-	108	2055	75	144.0%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	75	-	63	1877	508	12.4%
5/1		U	N/A	N/A	-		-	-	-	189	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	720	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	826	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	112	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	517	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%

Full Input Data And Results

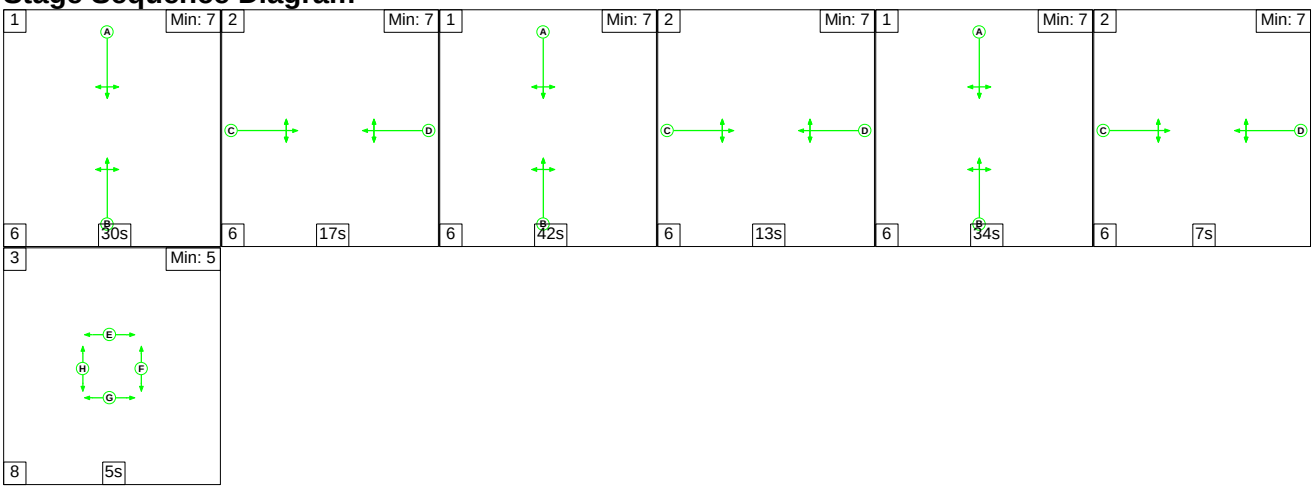
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**5**	**0**	**75**	**15.9**	**21.8**	**1.2**	**38.9**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**5**	**0**	**75**	**15.9**	**21.8**	**1.2**	**38.9**	**-**	**-**	**-**	**-**
1/1	632	632	-	-	-	2.2	0.7	-	2.9	16.7	11.2	0.7	11.9
1/2	706	706	5	0	0	2.6	0.7	0.0	3.3	16.7	12.7	0.7	13.5
2/1	353	353	-	-	-	3.3	1.9	-	5.2	52.6	10.2	1.9	12.1
3/1	512	512	-	-	-	1.7	0.4	-	2.1	14.6	8.2	0.4	8.7
3/2	108	75	0	0	75	5.8	18.0	1.2	24.9	830.4	8.9	18.0	26.9
4/1	63	63	-	-	-	0.5	0.1	-	0.5	31.0	1.5	0.1	1.5
5/1	156	156	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	720	720	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	826	826	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	112	112	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	517	517	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	10	10	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -60.0 Total Delay for Signalled Lanes (pcuHr): 38.91 Cycle Time (s): 288
PRC Over All Lanes (%): -60.0 Total Delay Over All Lanes(pcuHr): 38.91

Full Input Data And Results

Scenario 8: 'Do-Min (Com) 2037 PM' (FG28: 'Do-Min (Com) 2037 PM', Plan 2: 'PM SSGM')

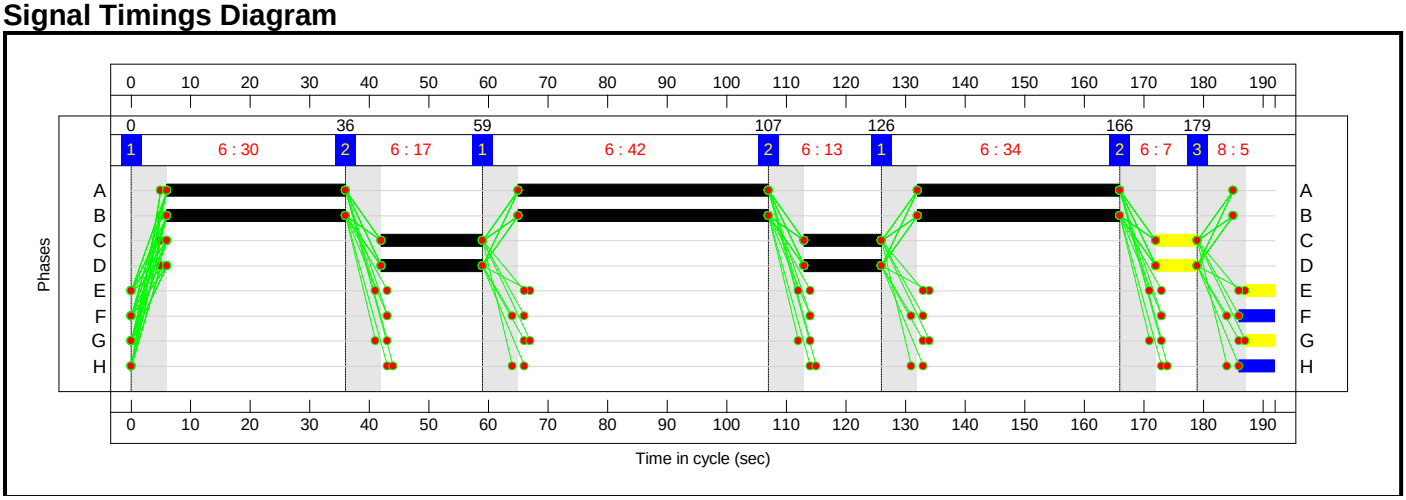
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	1	2	3
Duration	30	17	42	13	34	7	5
Change Point	0	36	59	107	126	166	179

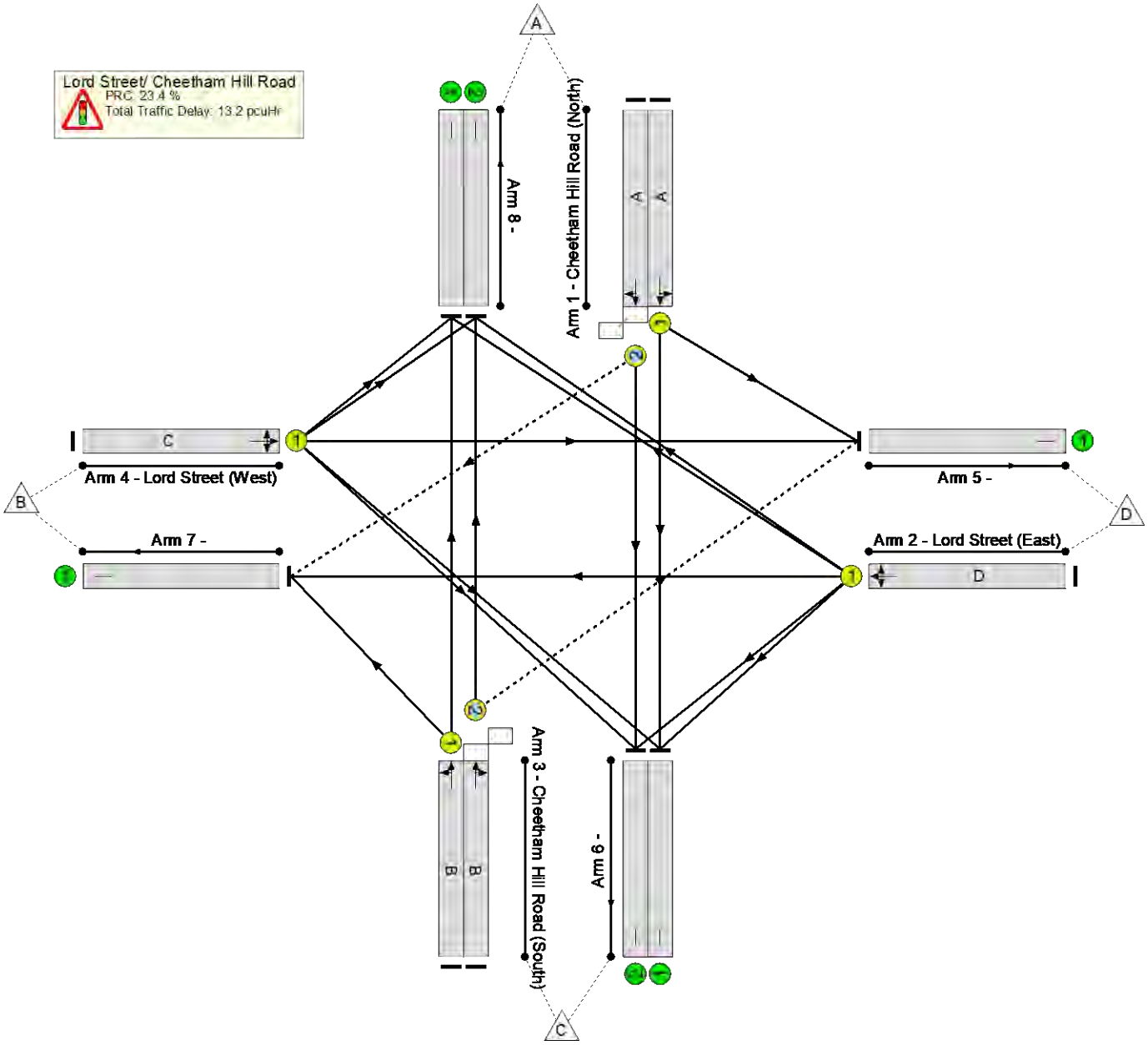
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.9%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.9%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	106	-	351	1862	1057	33.2%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	106	-	416	2049	1163	35.8%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	37	-	255	1712	357	71.5%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	106	-	789	1906	1082	72.9%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	106	-	658	1880	960	68.6%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	37	-	162	1802	375	43.2%
5/1		U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	388	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	476	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	128	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	811	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	524	Inf	Inf	0.0%

Full Input Data And Results

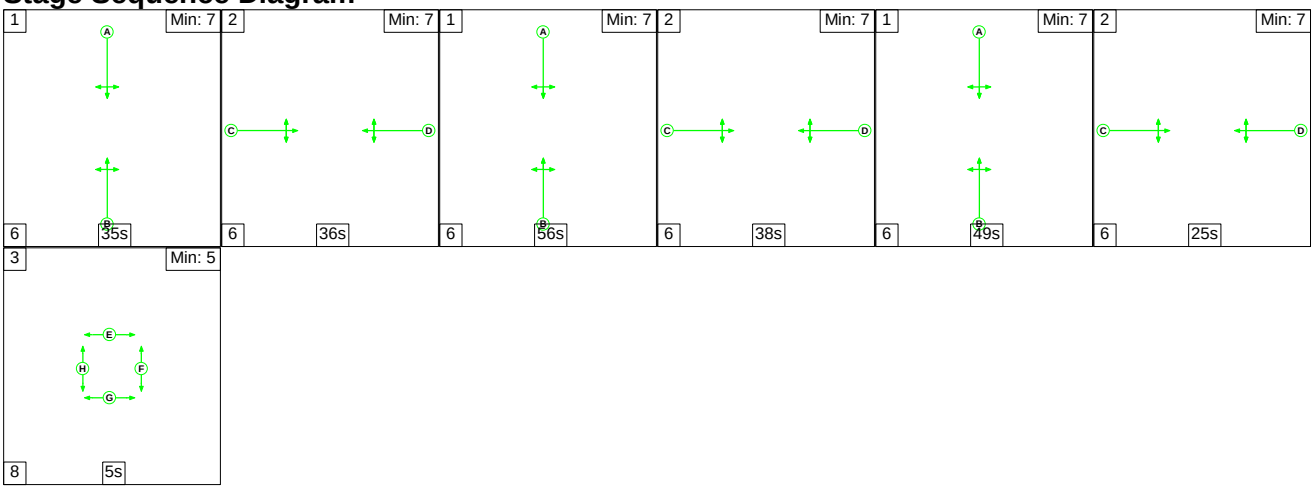
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**174**	**0**	**5**	**8.5**	**4.5**	**0.2**	**13.2**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**174**	**0**	**5**	**8.5**	**4.5**	**0.2**	**13.2**	**-**	**-**	**-**	**-**
1/1	351	351	-	-	-	0.7	0.2	-	1.0	10.0	3.7	0.2	4.0
1/2	416	416	8	0	2	0.9	0.3	0.0	1.2	10.4	4.4	0.3	4.7
2/1	255	255	-	-	-	1.7	1.2	-	2.9	41.0	4.5	1.2	5.7
3/1	789	789	-	-	-	2.3	1.3	-	3.6	16.4	11.4	1.3	12.7
3/2	658	658	166	0	3	1.9	1.1	0.2	3.2	17.5	9.9	1.1	11.0
4/1	162	162	-	-	-	1.0	0.4	-	1.4	30.6	2.7	0.4	3.0
5/1	304	304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	388	388	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	476	476	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	811	811	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	524	524	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 23.4 Total Delay for Signalled Lanes (pcuHr): 13.25 Cycle Time (s): 192
PRC Over All Lanes (%): 23.4 Total Delay Over All Lanes(pcuHr): 13.25

Full Input Data And Results

Scenario 9: 'Do-Sth (Outline) 2037 AM' (FG29: 'Do-Sth (Outline+Com) 2037 AM', Plan 1: 'AM SSGM')

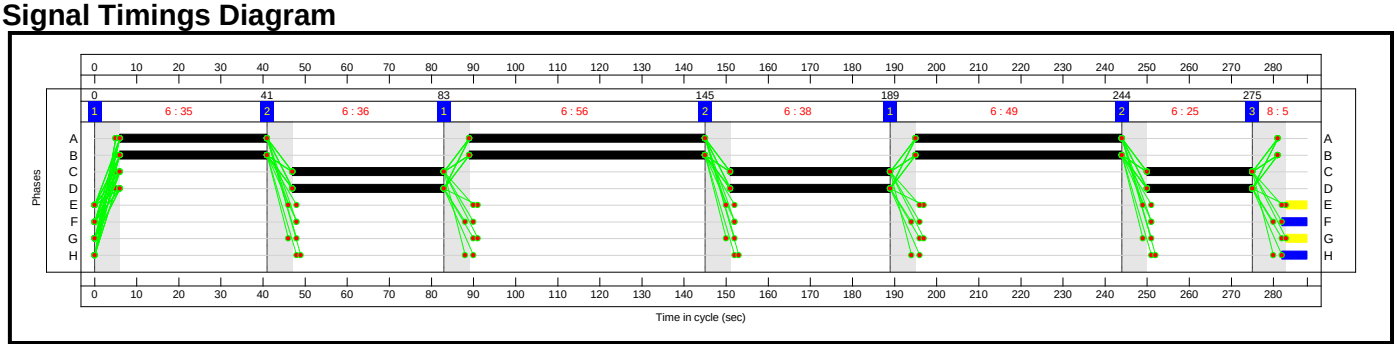
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	1	2	3
Duration	35	36	56	38	49	25	5
Change Point	0	41	83	145	189	244	275

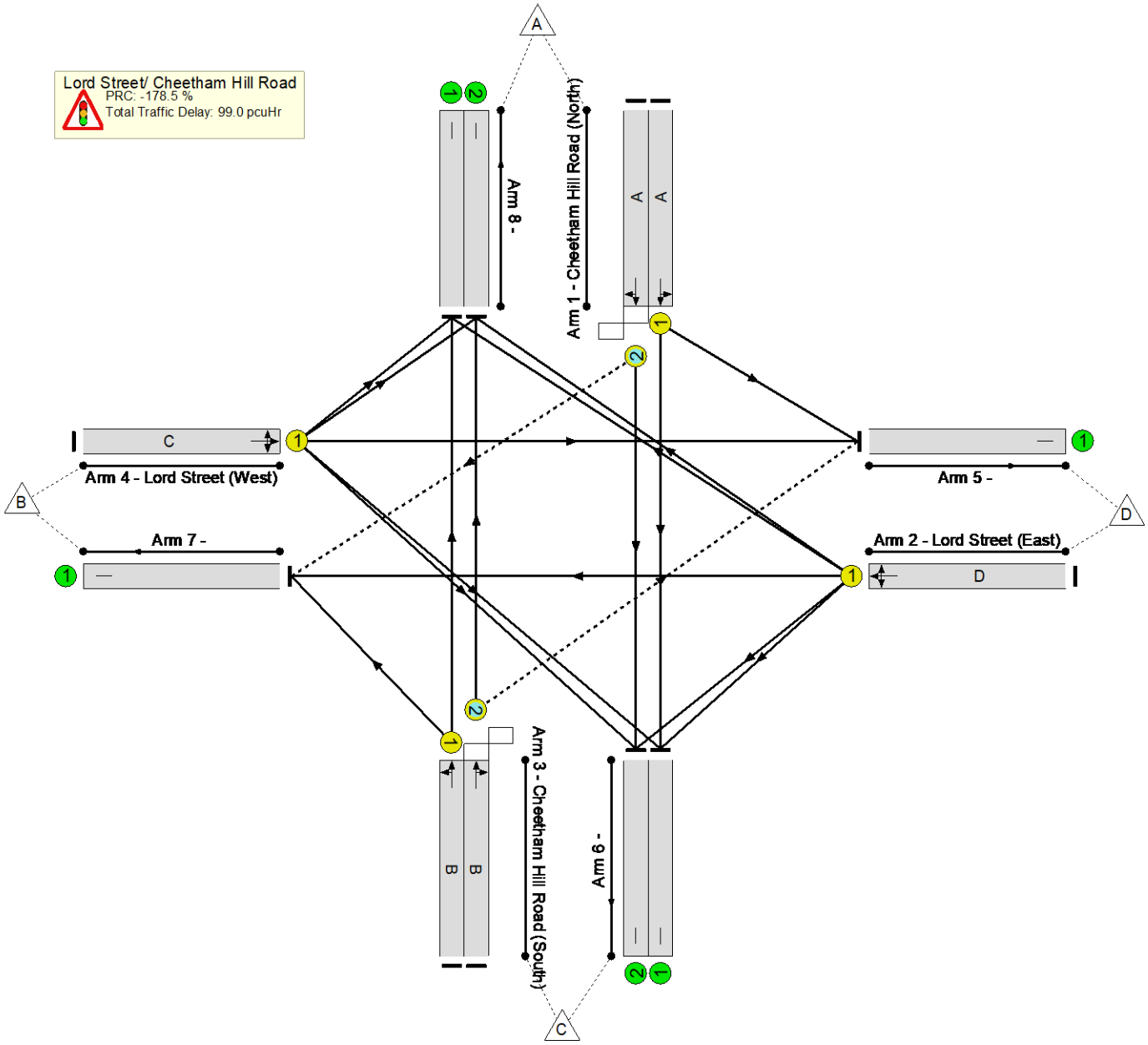
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**250.7%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**250.7%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	140	-	634	1884	935	67.8%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	140	-	704	2053	1019	69.1%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	99	-	482	1599	566	85.1%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	140	-	512	1909	948	54.0%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	140	-	188	2055	75	250.7%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	99	-	65	1879	665	9.8%
5/1		U	N/A	N/A	-		-	-	-	271	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	787	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	888	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	112	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	517	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%

Full Input Data And Results

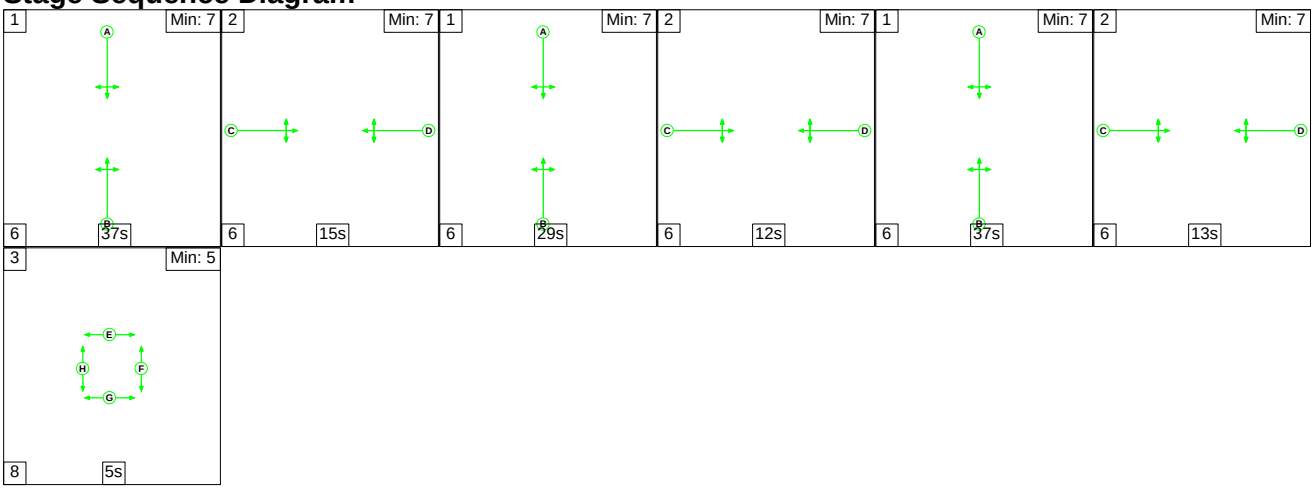
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**5**	**0**	**75**	**35.2**	**62.8**	**1.0**	**99.0**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**5**	**0**	**75**	**35.2**	**62.8**	**1.0**	**99.0**	**-**	**-**	**-**	**-**
1/1	634	634	-	-	-	3.2	1.0	-	4.3	24.3	12.9	1.0	13.9
1/2	704	704	5	0	0	3.6	1.1	0.0	4.7	24.3	14.5	1.1	15.6
2/1	482	482	-	-	-	3.9	2.7	-	6.5	48.8	12.7	2.7	15.4
3/1	512	512	-	-	-	2.4	0.6	-	3.0	20.8	9.4	0.6	10.0
3/2	188	75	0	0	75	21.7	57.3	1.0	80.0	1532.3	27.1	57.3	84.4
4/1	65	65	-	-	-	0.4	0.1	-	0.4	23.8	1.2	0.1	1.3
5/1	158	158	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	787	787	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	888	888	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	112	112	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	517	517	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	10	10	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -178.5 Total Delay for Signalled Lanes (pcuHr): 98.96 Cycle Time (s): 288
PRC Over All Lanes (%): -178.5 Total Delay Over All Lanes(pcuHr): 98.96

Full Input Data And Results

Scenario 10: 'Do-Sth (Outline) 2037 PM' (FG30: 'Do-Sth (Outline+Com) 2037 PM', Plan 2: 'PM SSGM')

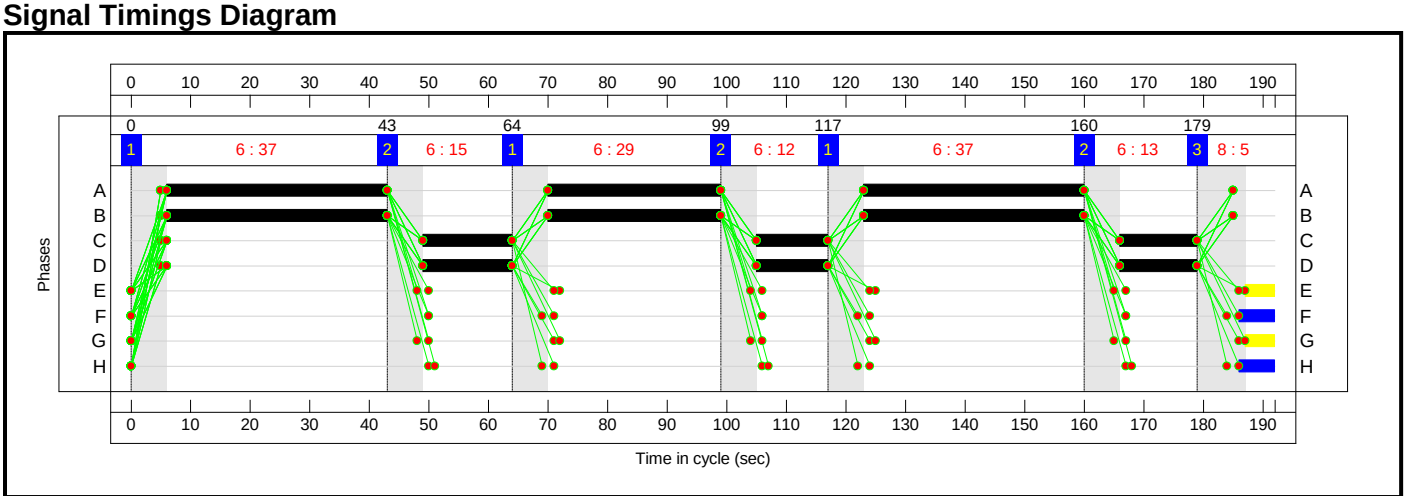
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	1	2	3
Duration	37	15	29	12	37	13	5
Change Point	0	43	64	99	117	160	179

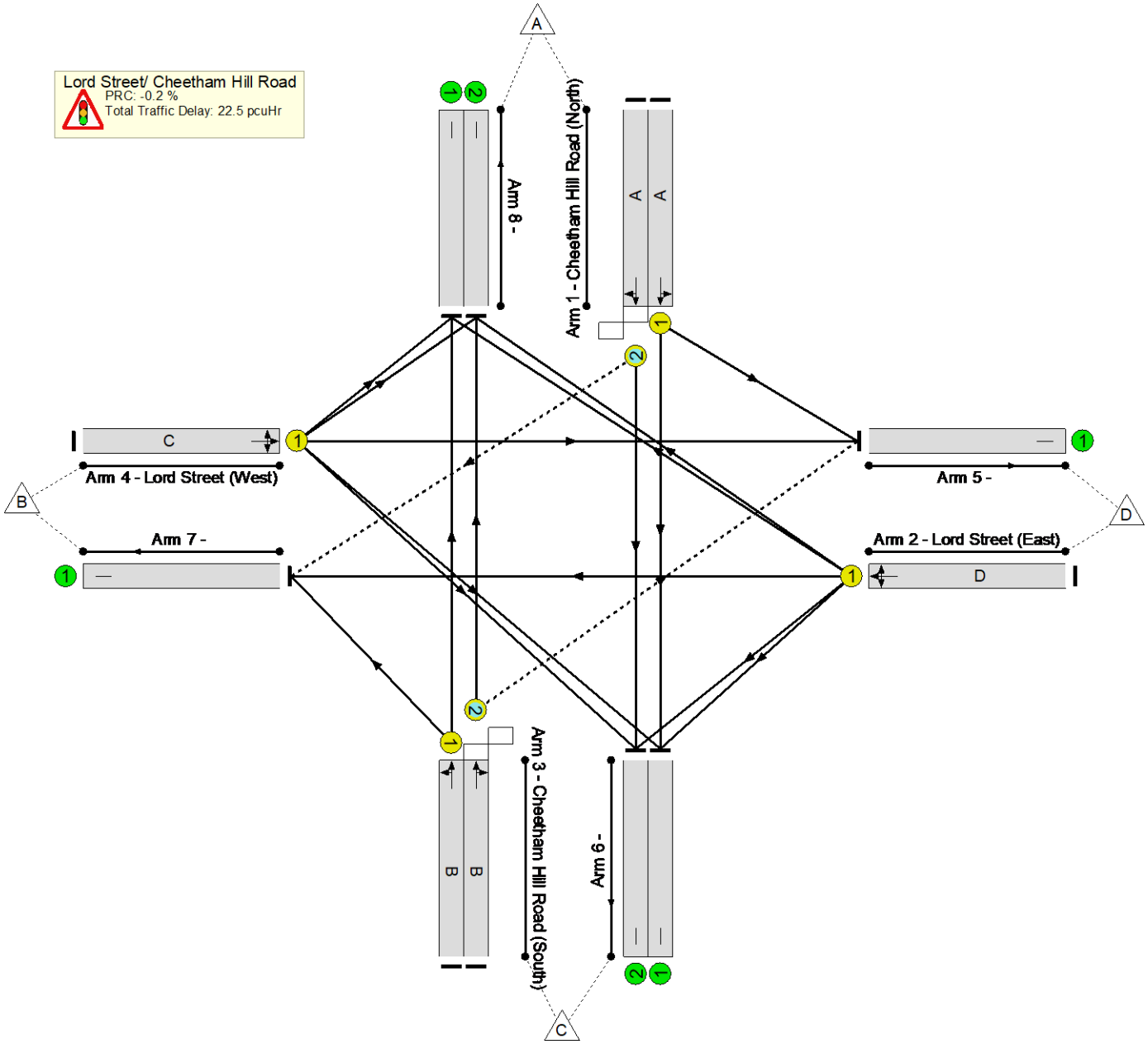
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	-	-	**N/A**	-	-		-	-	-	-	-	-	**90.1%**
Lord Street/ Cheetham Hill Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**90.1%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	103	-	353	1863	1029	34.3%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	103	-	414	2049	1126	36.8%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	40	-	330	1662	372	88.7%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	103	-	949	1907	1053	90.1%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	103	-	590	1921	692	85.3%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	40	-	162	1802	404	40.1%
5/1		U	N/A	N/A	-		-	-	-	396	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	427	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	512	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	128	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	971	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	364	Inf	Inf	0.0%

Full Input Data And Results

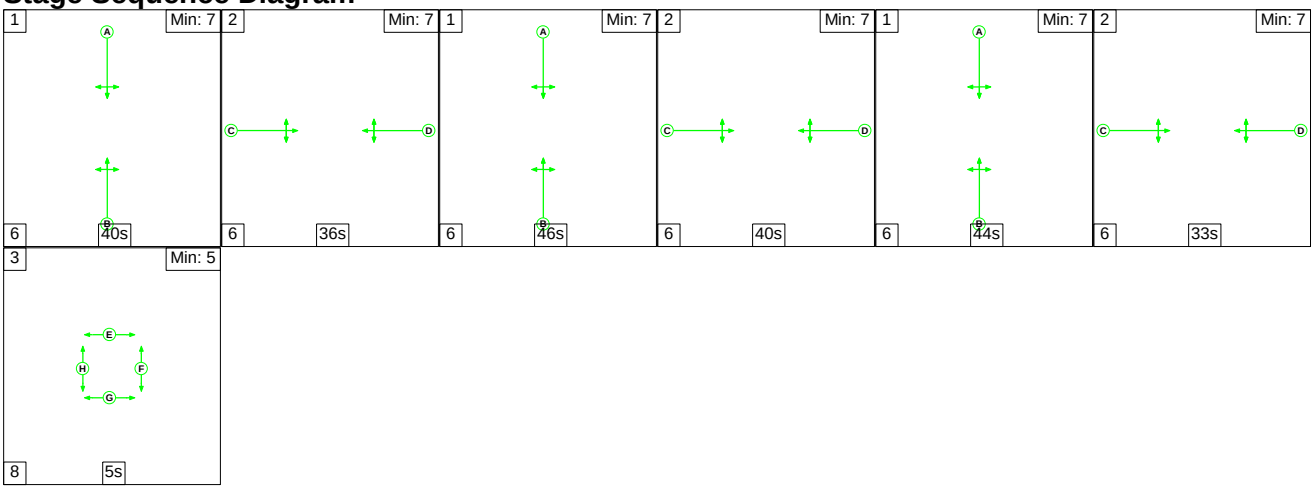
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**240**	**0**	**31**	**10.8**	**11.2**	**0.5**	**22.5**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**240**	**0**	**31**	**10.8**	**11.2**	**0.5**	**22.5**	**-**	**-**	**-**	**-**
1/1	353	353	-	-	-	0.8	0.3	-	1.1	10.9	4.4	0.3	4.7
1/2	414	414	4	0	6	1.0	0.3	0.1	1.3	11.5	5.3	0.3	5.6
2/1	330	330	-	-	-	2.3	3.4	-	5.6	61.5	7.0	3.4	10.3
3/1	949	949	-	-	-	3.5	4.2	-	7.7	29.4	19.2	4.2	23.5
3/2	590	590	236	0	25	2.2	2.8	0.5	5.4	33.2	12.1	2.8	14.9
4/1	162	162	-	-	-	1.0	0.3	-	1.3	29.3	3.0	0.3	3.3
5/1	396	396	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	427	427	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	512	512	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	971	971	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	364	364	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -0.2 Total Delay for Signalled Lanes (pcuHr): 22.53 Cycle Time (s): 192
PRC Over All Lanes (%): -0.2 Total Delay Over All Lanes(pcuHr): 22.53

Full Input Data And Results

Scenario 11: 'Do-Sth (Detail+Out) 2037 AM' (FG31: 'Do-Sth (Detail+Out+Com) 2037 AM', Plan 1: 'AM SSGM')

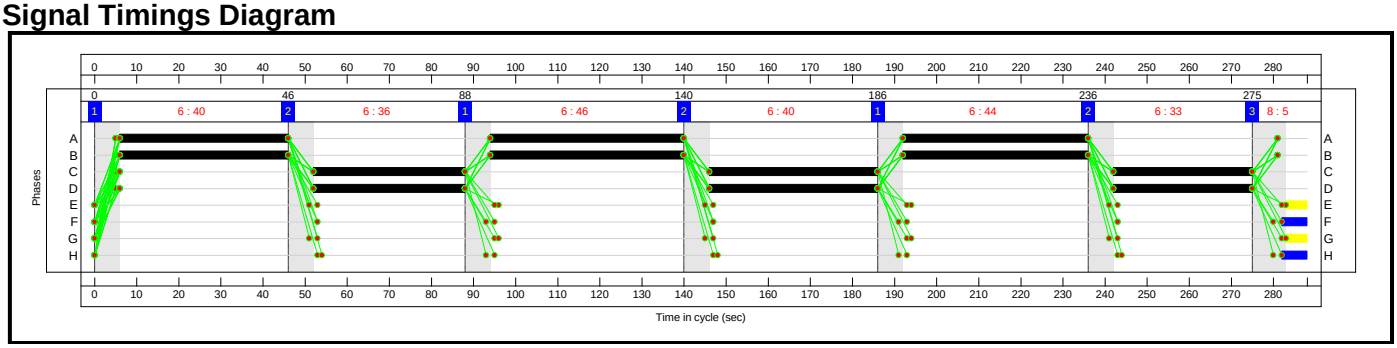
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	1	2	3
Duration	40	36	46	40	44	33	5
Change Point	0	46	88	140	186	236	275

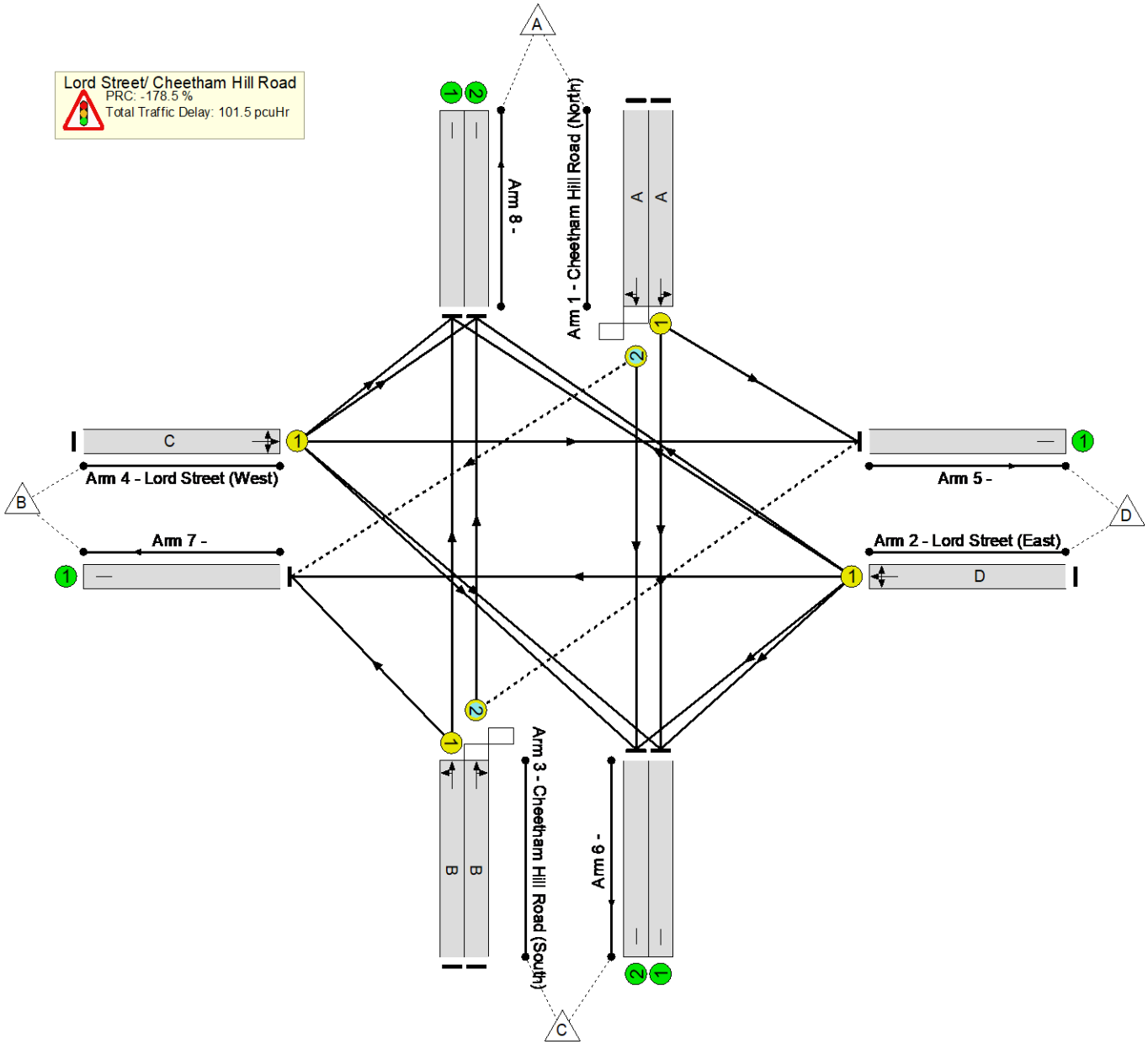
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**250.7%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**250.7%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	130	-	634	1884	870	72.9%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	130	-	704	2053	948	74.3%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	109	-	535	1589	618	86.6%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	130	-	512	1909	882	58.1%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	130	-	188	2055	75	250.7%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	109	-	65	1879	731	8.9%
5/1		U	N/A	N/A	-		-	-	-	271	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	813	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	915	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	112	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	517	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%

Full Input Data And Results

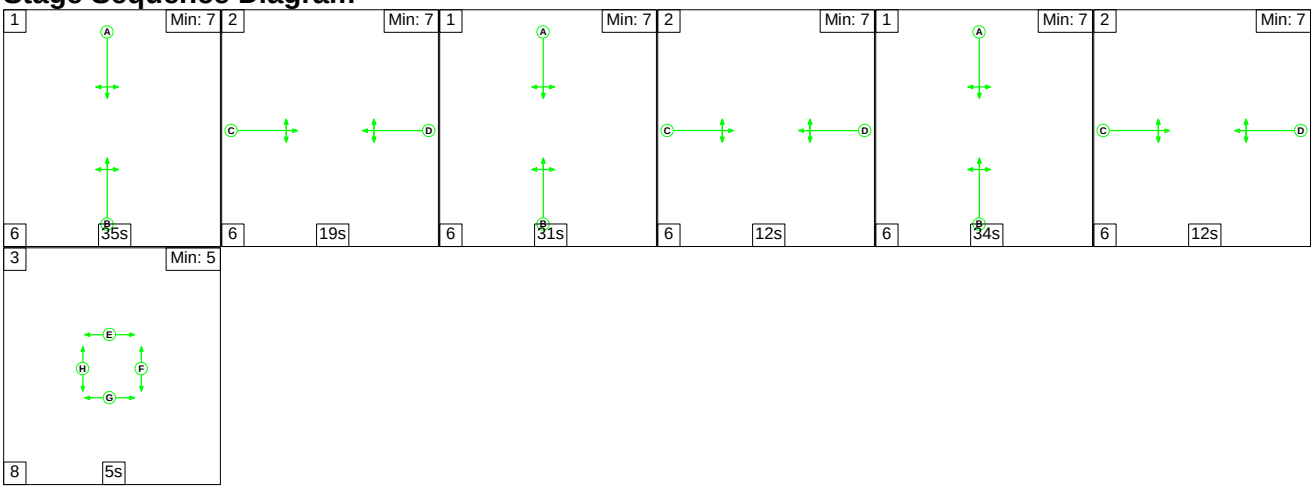
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**5**	**0**	**75**	**36.7**	**63.8**	**0.9**	**101.5**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**5**	**0**	**75**	**36.7**	**63.8**	**0.9**	**101.5**	**-**	**-**	**-**	**-**
1/1	634	634	-	-	-	3.7	1.3	-	5.0	28.6	15.0	1.3	16.3
1/2	704	704	5	0	0	4.2	1.4	0.0	5.6	28.7	16.8	1.4	18.2
2/1	535	535	-	-	-	4.0	3.0	-	7.0	47.4	14.3	3.0	17.3
3/1	512	512	-	-	-	2.7	0.7	-	3.4	24.0	11.0	0.7	11.6
3/2	188	75	0	0	75	21.7	57.3	0.9	80.0	1531.3	27.1	57.3	84.4
4/1	65	65	-	-	-	0.3	0.0	-	0.4	21.4	1.2	0.0	1.2
5/1	158	158	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	813	813	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	915	915	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	112	112	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	517	517	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	10	10	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -178.5 Total Delay for Signalled Lanes (pcuHr): 101.45 Cycle Time (s): 288
PRC Over All Lanes (%): -178.5 Total Delay Over All Lanes(pcuHr): 101.45

Full Input Data And Results

Scenario 12: 'Do-Sth (Detail+Out) 2037 PM' (FG32: 'Do-Sth (Detail+Out+Com) 2037 PM', Plan 2: 'PM SSGM')

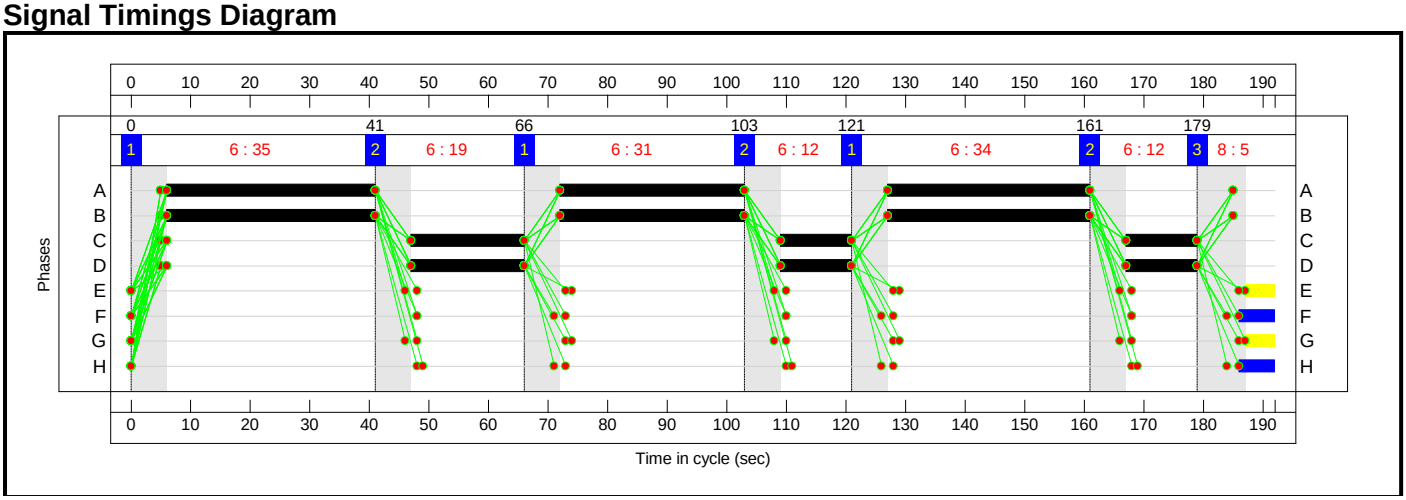
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	1	2	3
Duration	35	19	31	12	34	12	5
Change Point	0	41	66	103	121	161	179

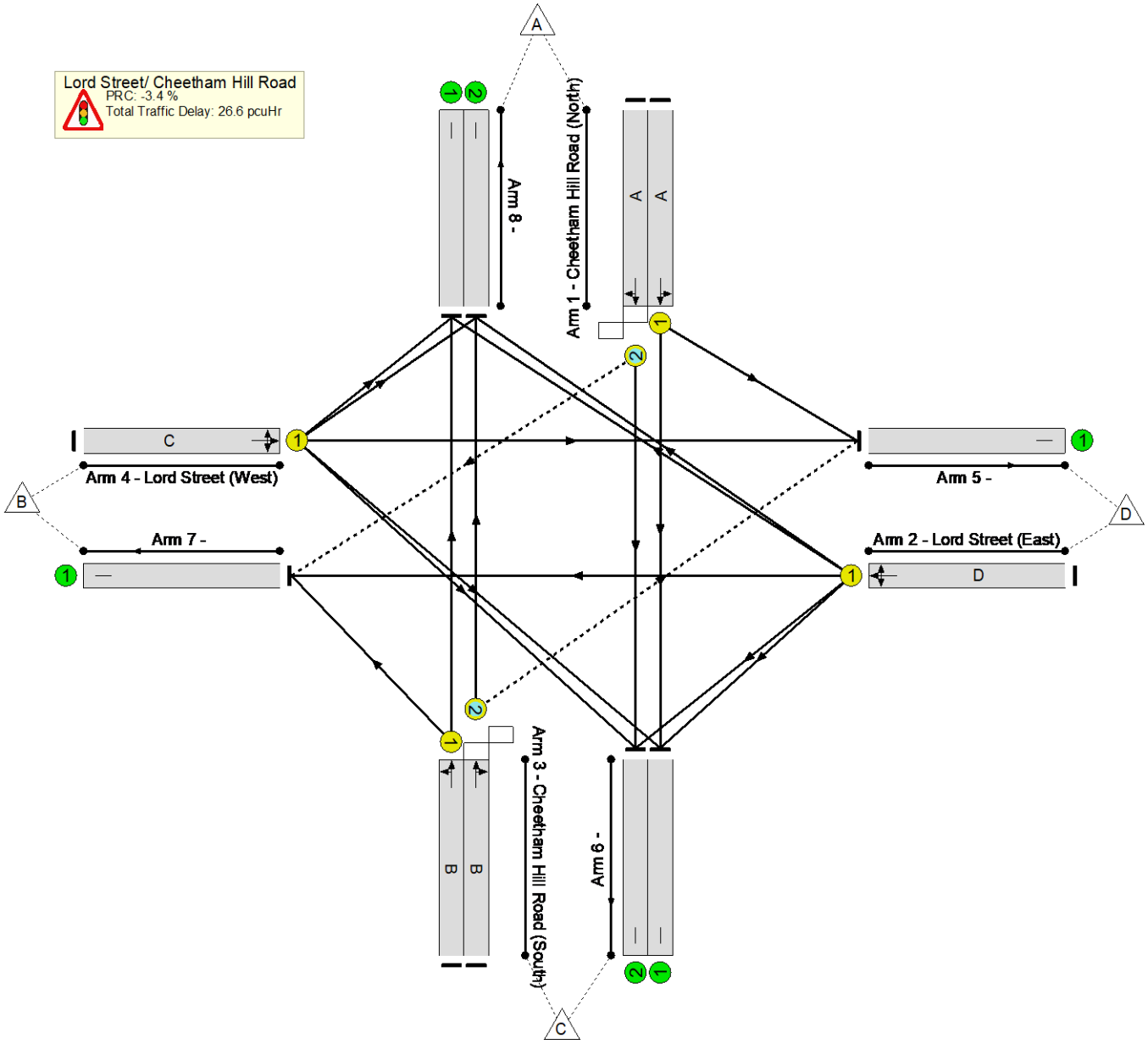
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Phase 1	-	-	**N/A**	-	-		-	-	-	-	-	-	**93.1%**
Lord Street/ Cheetham Hill Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**93.1%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	100	-	355	1863	999	35.5%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	100	-	412	2049	1093	37.7%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	43	-	364	1647	395	92.2%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	100	-	952	1907	1023	93.1%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B		3	100	-	587	1922	665	88.3%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	43	-	162	1802	432	37.5%
5/1		U	N/A	N/A	-		-	-	-	396	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	446	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	527	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	128	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	974	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	361	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Phase 1	**-**	**-**	**233**	**0**	**38**	**11.3**	**14.7**	**0.5**	**26.6**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**233**	**0**	**38**	**11.3**	**14.7**	**0.5**	**26.6**	**-**	**-**	**-**	**-**
1/1	355	355	-	-	-	0.9	0.3	-	1.1	11.6	4.3	0.3	4.6
1/2	412	412	2	0	8	1.0	0.3	0.1	1.4	12.1	5.2	0.3	5.5
2/1	364	364	-	-	-	2.5	4.6	-	7.0	69.6	7.6	4.6	12.2
3/1	952	952	-	-	-	3.7	5.8	-	9.5	36.0	18.8	5.8	24.5
3/2	587	587	231	0	30	2.3	3.5	0.5	6.3	38.5	11.6	3.5	15.1
4/1	162	162	-	-	-	0.9	0.3	-	1.2	27.5	2.9	0.3	3.2
5/1	396	396	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	446	446	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	527	527	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	974	974	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	361	361	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

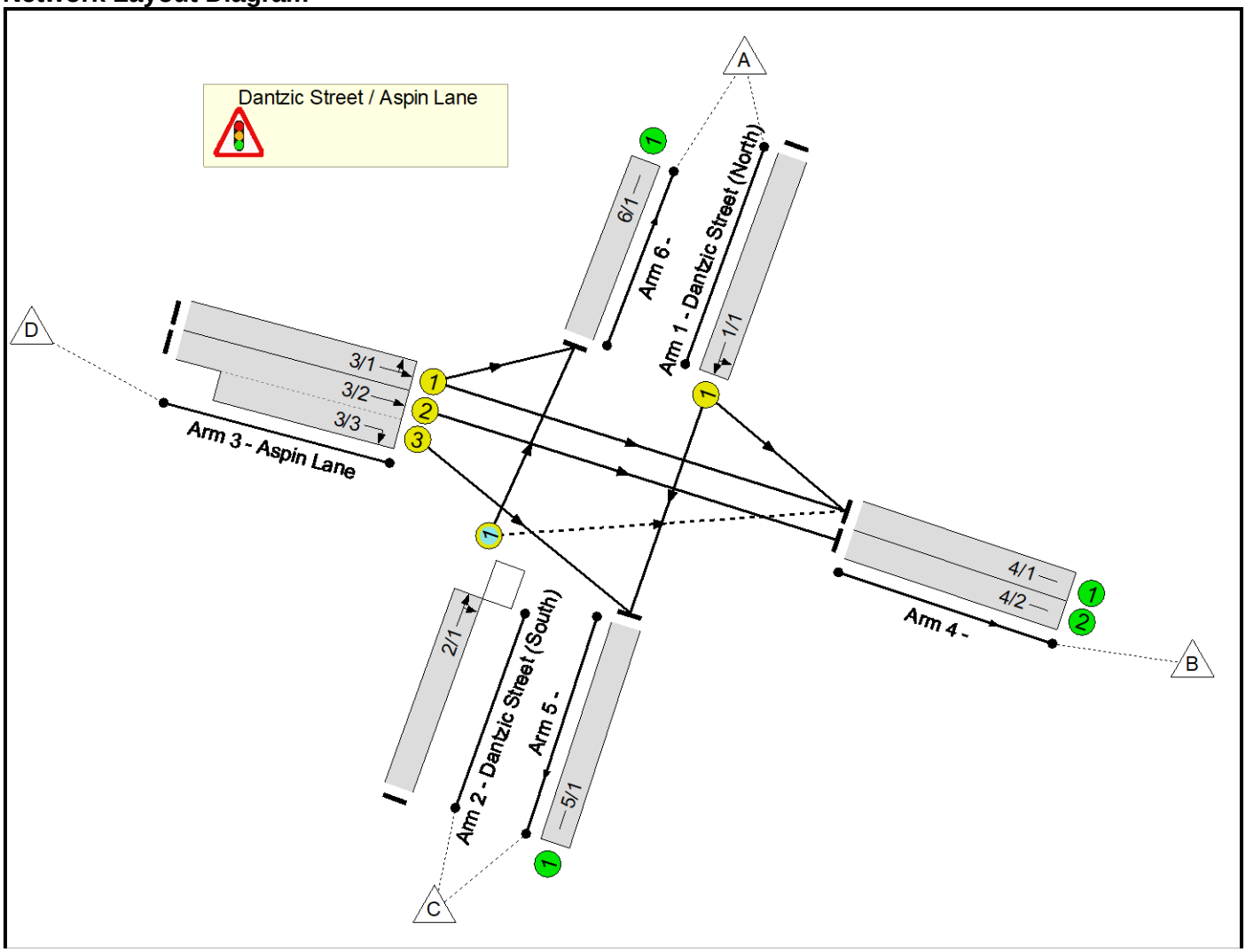
C1 PRC for Signalled Lanes (%): -3.4 Total Delay for Signalled Lanes (pcuHr): 26.59 Cycle Time (s): 192
PRC Over All Lanes (%): -3.4 Total Delay Over All Lanes(pcuHr): 26.59

Full Input Data And Results

User and Project Details

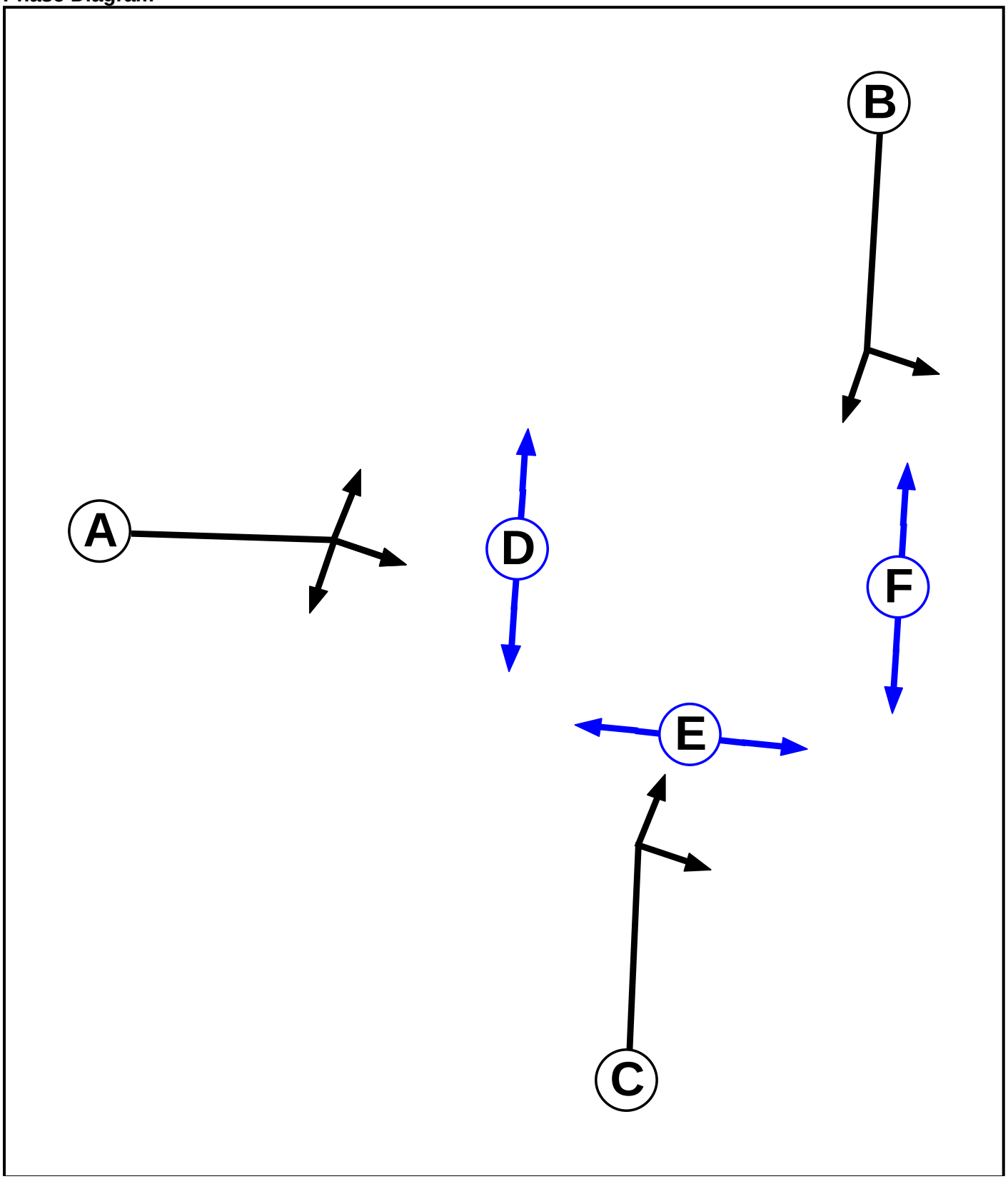
Project:	**Dantzic St / Aspin Lane**
Title:	
Location:	
Additional detail:	
File name:	Dantzic St_Aspin Lane - TA Scenarios.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Pedestrian		7	7
E	Pedestrian		6	6
F	Pedestrian		6	6

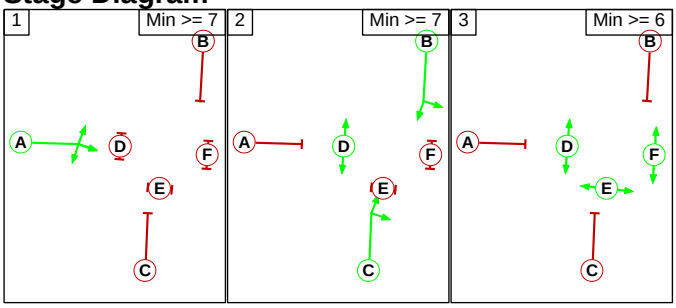
Phase Intergreens Matrix

		Starting Phase					
		A	B	C	D	E	F
Terminating Phase	A		6	6	5	9	8
	B	5		-	-	8	8
	C	5	-		-	10	5
	D	10	-	-		-	-
	E	9	9	9	-		-
	F	8	8	8	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	B C D
3	D E F

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
2	1	B	Losing	5	5
2	1	C	Losing	5	5

Full Input Data And Results

Prohibited Stage Change

From Stage	To Stage		
	1	2	3
1		6	9
2	10		10
3	10	9	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Dantzic Street / Aspin Lane											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
2/1 (Dantzic Street (South))	4/1 (Right)	1439	0	1/1	1.09	All	2.00	2.00	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: Dantzic Street / Aspin Lane

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Dantzic Street (North))	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 4 Left	15.00
											Arm 5 Ahead	Inf
2/1 (Dantzic Street (South))	O	C	2	3	60.0	Geom	-	4.50	0.00	Y	Arm 4 Right	20.00
											Arm 6 Ahead	Inf
3/1 (Aspin Lane)	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 4 Ahead	Inf
											Arm 6 Left	11.00
3/2 (Aspin Lane)	U	A	2	3	60.0	Geom	-	3.25	0.00	N	Arm 4 Ahead	Inf
3/3 (Aspin Lane)	U	A	2	3	15.7	Geom	-	4.50	0.00	N	Arm 5 Right	9.00
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
4/2	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base AM 2018'	08:00	09:00	01:00	
2: 'Base PM 2018'	17:00	18:00	01:00	
3: 'Do-Min 2029 AM'	08:00	09:00	01:00	
4: 'Do-Min 2029 PM'	17:00	18:00	01:00	
5: 'Do-Sth (Detailed) 2029 AM'	08:00	09:00	01:00	
6: 'Do-Sth (Detailed) 2029 PM'	17:00	18:00	01:00	
7: 'Do-Min 2032 AM'	08:00	09:00	01:00	
8: 'Do-Min 2032 PM'	17:00	18:00	01:00	
9: 'Do-Sth (Outline) 2032 AM'	08:00	09:00	01:00	
10: 'Do-Sth (Outline) 2032 PM'	17:00	18:00	01:00	
11: 'Do-Sth (Detailed+Out) 2032 AM'	08:00	09:00	01:00	
12: 'Do-Sth (Detailed+Out) 2032 PM'	17:00	18:00	01:00	
13: 'Do-Min 2034 AM'	08:00	09:00	01:00	
14: 'Do-Min 2034 PM'	17:00	18:00	01:00	
15: 'Do-Sth (Detailed) 2034 AM'	08:00	09:00	01:00	
16: 'Do-Sth (Detailed) 2034 PM'	17:00	18:00	01:00	
17: 'Do-Min (Com) 2034 AM'	08:00	09:00	01:00	
18: 'Do-Min (Com) 2034 PM'	17:00	18:00	01:00	
19: 'Do-Sth (Detailed+Com) 2034 AM'	08:00	09:00	01:00	
20: 'Do-Sth (Detailed+Com) 2034 PM'	17:00	18:00	01:00	
21: 'Do-Min 2037 AM'	08:00	09:00	01:00	
22: 'Do-Min 2037 PM'	17:00	18:00	01:00	
23: 'Do-Sth (Outline) 2037 AM'	08:00	09:00	01:00	
24: 'Do-Sth (Outline) 2037 PM'	17:00	18:00	01:00	
25: 'Do-Sth (Detailed+Out) 2037 AM'	08:00	09:00	01:00	
26: 'Do-Sth (Detailed+Out) 2037 PM'	17:00	18:00	01:00	
27: 'Do-Min (Com) 2037 AM'	08:00	09:00	01:00	
28: 'Do-Min (Com) 2037 PM'	17:00	18:00	01:00	
29: 'Do-Sth (Outline+Com) 2037 AM'	08:00	09:00	01:00	
30: 'Do-Sth (Outline+Com) 2037 PM'	17:00	18:00	01:00	
31: 'Do-Sth (Detail+Out+Com) 2037 AM'	08:00	09:00	01:00	
32: 'Do-Sth (Detail+Out+Com) 2037 PM'	17:00	18:00	01:00	

Scenario 1: 'Base AM 2018' (FG1: 'Base AM 2018', Plan 1: 'TfGM Staging Plan')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	361	18	0	379
	B	0	0	0	0	0
	C	5	12	0	0	17
	D	75	909	25	0	1009
	Tot.	80	1282	43	0	1405

Traffic Lane Flows

Lane	Scenario 1: Base AM 2018
Junction: Dantzic Street / Aspin Lane	
1/1	379
2/1	17
3/1	454
3/2 (with short)	555(In) 530(Out)
3/3 (short)	25
4/1	752
4/2	530
5/1	43
6/1	80

Full Input Data And Results

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	95.3 %	1794	1794
				Arm 5 Ahead	Inf	4.7 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	70.6 %	1961	1961
				Arm 6 Ahead	Inf	29.4 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	83.5 %	1873	1873
				Arm 6 Left	11.00	16.5 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	100.0 %	1890	1890
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'Base PM 2018' (FG2: 'Base PM 2018', Plan 1: 'TfGM Staging Plan')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	159	4	0	163
	B	0	0	0	0	0
	C	11	23	0	0	34
	D	223	1211	0	0	1434
	Tot.	234	1393	4	0	1631

Traffic Lane Flows

Lane	Scenario 2: Base PM 2018
Junction: Dantzic Street / Aspin Lane	
1/1	163
2/1	34
3/1	656
3/2 (with short)	778(In) 778(Out)
3/3 (short)	0
4/1	615
4/2	778
5/1	4
6/1	234

Full Input Data And Results

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	97.5 %	1790	1790
				Arm 5 Ahead	Inf	2.5 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	67.6 %	1965	1965
				Arm 6 Ahead	Inf	32.4 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	66.0 %	1830	1830
				Arm 6 Left	11.00	34.0 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	0.0 %	2205	2205
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'Do-Min 2034 AM' (FG17: 'Do-Min (Com) 2034 AM', Plan 1: 'TfGM Staging Plan')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	441	21	0	462
	B	0	0	0	0	0
	C	6	14	0	0	20
	D	97	1089	29	0	1215
	Tot.	103	1544	50	0	1697

Traffic Lane Flows

Lane	Scenario 3: Do-Min 2034 AM
Junction: Dantzic Street / Aspin Lane	
1/1	462
2/1	20
3/1	551
3/2 (with short)	664(In) 635(Out)
3/3 (short)	29
4/1	909
4/2	635
5/1	50
6/1	103

Full Input Data And Results

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	95.5 %	1794	1794
				Arm 5 Ahead	Inf	4.5 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	70.0 %	1962	1962
				Arm 6 Ahead	Inf	30.0 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	82.4 %	1870	1870
				Arm 6 Left	11.00	17.6 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	100.0 %	1890	1890
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'Do-Min 2034 PM' (FG18: 'Do-Min (Com) 2034 PM', Plan 1: 'TfGM Staging Plan')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	194	5	0	199
	B	0	0	0	0	0
	C	13	27	0	0	40
	D	298	1439	18	0	1755
	Tot.	311	1660	23	0	1994

Traffic Lane Flows

Lane	Scenario 4: Do-Min 2034 PM
Junction: Dantzic Street / Aspin Lane	
1/1	199
2/1	40
3/1	797
3/2 (with short)	958(In) 940(Out)
3/3 (short)	18
4/1	720
4/2	940
5/1	23
6/1	311

Full Input Data And Results

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	97.5 %	1790	1790
				Arm 5 Ahead	Inf	2.5 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	67.5 %	1965	1965
				Arm 6 Ahead	Inf	32.5 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	62.6 %	1822	1822
				Arm 6 Left	11.00	37.4 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	100.0 %	1890	1890
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'Do-Sth (Detailed) 2034 AM' (FG19: 'Do-Sth (Detailed+Com) 2034 AM', Plan 1: 'TfGM Staging Plan')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	471	21	0	492
	B	0	0	0	0	0
	C	6	14	0	0	20
	D	121	1089	29	0	1239
	Tot.	127	1574	50	0	1751

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: Do-Sth (Detailed) 2034 AM
Junction: Dantzic Street / Aspin Lane	
1/1	492
2/1	20
3/1	561
3/2 (with short)	678(In) 649(Out)
3/3 (short)	29
4/1	925
4/2	649
5/1	50
6/1	127

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	95.7 %	1793	1793
				Arm 5 Ahead	Inf	4.3 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	70.0 %	1962	1962
				Arm 6 Ahead	Inf	30.0 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	78.4 %	1860	1860
				Arm 6 Left	11.00	21.6 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	100.0 %	1890	1890
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 6: 'Do-Sth (Detailed) 2034 AM' (FG20: 'Do-Sth (Detailed+Com) 2034 PM', Plan 1: 'TfGM Staging Plan')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	213	5	0	218
	B	0	0	0	0	0
	C	13	27	0	0	40
	D	387	1439	18	0	1844
	Tot.	400	1679	23	0	2102

Traffic Lane Flows

Lane	Scenario 6: Do-Sth (Detailed) 2034 AM
Junction: Dantzic Street / Aspin Lane	
1/1	218
2/1	40
3/1	833
3/2 (with short)	1011(In) 993(Out)
3/3 (short)	18
4/1	686
4/2	993
5/1	23
6/1	400

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	97.7 %	1790	1790
				Arm 5 Ahead	Inf	2.3 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	67.5 %	1965	1965
				Arm 6 Ahead	Inf	32.5 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	53.5 %	1801	1801
				Arm 6 Left	11.00	46.5 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	100.0 %	1890	1890
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 7: 'Do-Min 2037 AM' (FG27: 'Do-Min (Com) 2037 AM', Plan 1: 'TfGM Staging Plan')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	452	22	0	474
	B	0	0	0	0	0
	C	6	14	0	0	20
	D	99	1115	29	0	1243
	Tot.	105	1581	51	0	1737

Traffic Lane Flows

Lane	Scenario 7: Do-Min 2037 AM
Junction: Dantzic Street / Aspin Lane	
1/1	474
2/1	20
3/1	564
3/2 (with short)	679(In) 650(Out)
3/3 (short)	29
4/1	931
4/2	650
5/1	51
6/1	105

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	95.4 %	1794	1794
				Arm 5 Ahead	Inf	4.6 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	70.0 %	1962	1962
				Arm 6 Ahead	Inf	30.0 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	82.4 %	1870	1870
				Arm 6 Left	11.00	17.6 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	100.0 %	1890	1890
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 8: 'Do-Min 2037 PM' (FG28: 'Do-Min (Com) 2037 PM', Plan 1: 'TfGM Staging Plan')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	199	5	0	204
	B	0	0	0	0	0
	C	14	27	0	0	41
	D	304	1471	18	0	1793
	Tot.	318	1697	23	0	2038

Traffic Lane Flows

Lane	Scenario 8: Do-Min 2037 PM
Junction: Dantzic Street / Aspin Lane	
1/1	204
2/1	41
3/1	815
3/2 (with short)	978(In) 960(Out)
3/3 (short)	18
4/1	737
4/2	960
5/1	23
6/1	318

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	97.5 %	1790	1790
				Arm 5 Ahead	Inf	2.5 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	65.9 %	1968	1968
				Arm 6 Ahead	Inf	34.1 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	62.7 %	1822	1822
				Arm 6 Left	11.00	37.3 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	100.0 %	1890	1890
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 9: 'Do-Sth (Outline) 2037 AM' (FG29: 'Do-Sth (Outline+Com) 2037 AM', Plan 1: 'TfGM Staging Plan')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	524	22	0	546
	B	0	0	0	0	0
	C	6	14	0	0	20
	D	151	1115	29	0	1295
	Tot.	157	1653	51	0	1861

Traffic Lane Flows

Lane	Scenario 9: Do-Sth (Outline) 2037 AM
Junction: Dantzic Street / Aspin Lane	
1/1	546
2/1	20
3/1	586
3/2 (with short)	709(In) 680(Out)
3/3 (short)	29
4/1	973
4/2	680
5/1	51
6/1	157

Full Input Data And Results

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	96.0 %	1793	1793
				Arm 5 Ahead	Inf	4.0 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	70.0 %	1962	1962
				Arm 6 Ahead	Inf	30.0 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	74.2 %	1850	1850
				Arm 6 Left	11.00	25.8 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	100.0 %	1890	1890
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 10: 'Do-Sth (Outline) 2037 PM' (FG30: 'Do-Sth (Outline+Com) 2037 PM', Plan 1: 'TfGM Staging Plan')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	241	5	0	246
	B	0	0	0	0	0
	C	14	27	0	0	41
	D	382	1471	18	0	1871
	Tot.	396	1739	23	0	2158

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 10: Do-Sth (Outline) 2037 PM
Junction: Dantzic Street / Aspin Lane	
1/1	246
2/1	41
3/1	848
3/2 (with short)	1023(In) 1005(Out)
3/3 (short)	18
4/1	734
4/2	1005
5/1	23
6/1	396

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	98.0 %	1790	1790
				Arm 5 Ahead	Inf	2.0 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	65.9 %	1968	1968
				Arm 6 Ahead	Inf	34.1 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	55.0 %	1804	1804
				Arm 6 Left	11.00	45.0 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	100.0 %	1890	1890
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 11: 'Do-Sth (Detail+Out) 2037 AM' (FG31: 'Do-Sth (Detail+Out+Com) 2037 AM', Plan 1: 'TfGM Staging

Full Input Data And Results
Plan')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	553	22	0	575
	B	0	0	0	0	0
	C	6	14	0	0	20
	D	175	1115	29	0	1319
	Tot.	181	1682	51	0	1914

Traffic Lane Flows

Lane	Scenario 11: Do-Sth (Detail+Out) 2037 AM
Junction: Dantzic Street / Aspin Lane	
1/1	575
2/1	20
3/1	596
3/2 (with short)	723(In) 694(Out)
3/3 (short)	29
4/1	988
4/2	694
5/1	51
6/1	181

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	96.2 %	1793	1793
				Arm 5 Ahead	Inf	3.8 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	70.0 %	1962	1962
				Arm 6 Ahead	Inf	30.0 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	70.6 %	1841	1841
				Arm 6 Left	11.00	29.4 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	100.0 %	1890	1890
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 12: 'Do-Sth (Detail+Out) 2037 PM' (FG32: 'Do-Sth (Detail+Out+Com) 2037 PM', Plan 1: 'TfGM Staging Plan')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	259	5	0	264
	B	0	0	0	0	0
	C	14	27	0	0	41
	D	471	1471	18	0	1960
	Tot.	485	1757	23	0	2265

Traffic Lane Flows

Lane	Scenario 12: Do-Sth (Detail+Out) 2037 PM
Junction: Dantzic Street / Aspin Lane	
1/1	264
2/1	41
3/1	885
3/2 (with short)	1075(In) 1057(Out)
3/3 (short)	18
4/1	700
4/2	1057
5/1	23
6/1	485

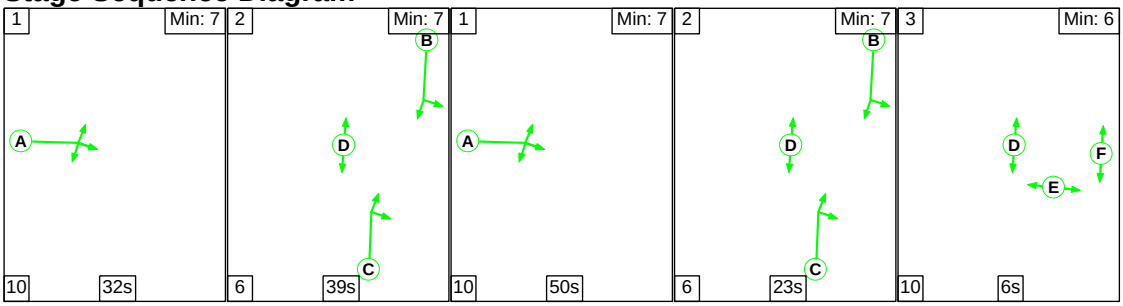
Full Input Data And Results

Lane Saturation Flows

Junction: Dantzic Street / Aspin Lane								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Dantzic Street (North))	3.50	0.00	Y	Arm 4 Left	15.00	98.1 %	1789	1789
				Arm 5 Ahead	Inf	1.9 %		
2/1 (Dantzic Street (South))	4.50	0.00	Y	Arm 4 Right	20.00	65.9 %	1968	1968
				Arm 6 Ahead	Inf	34.1 %		
3/1 (Aspin Lane)	3.00	0.00	Y	Arm 4 Ahead	Inf	46.8 %	1785	1785
				Arm 6 Left	11.00	53.2 %		
3/2 (Aspin Lane)	3.25	0.00	N	Arm 4 Ahead	Inf	100.0 %	2080	2080
3/3 (Aspin Lane)	4.50	0.00	N	Arm 5 Right	9.00	100.0 %	1890	1890
4/1	Infinite Saturation Flow						Inf	Inf
4/2	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'Base AM 2018' (FG1: 'Base AM 2018', Plan 1: 'TfGM Staging Plan')

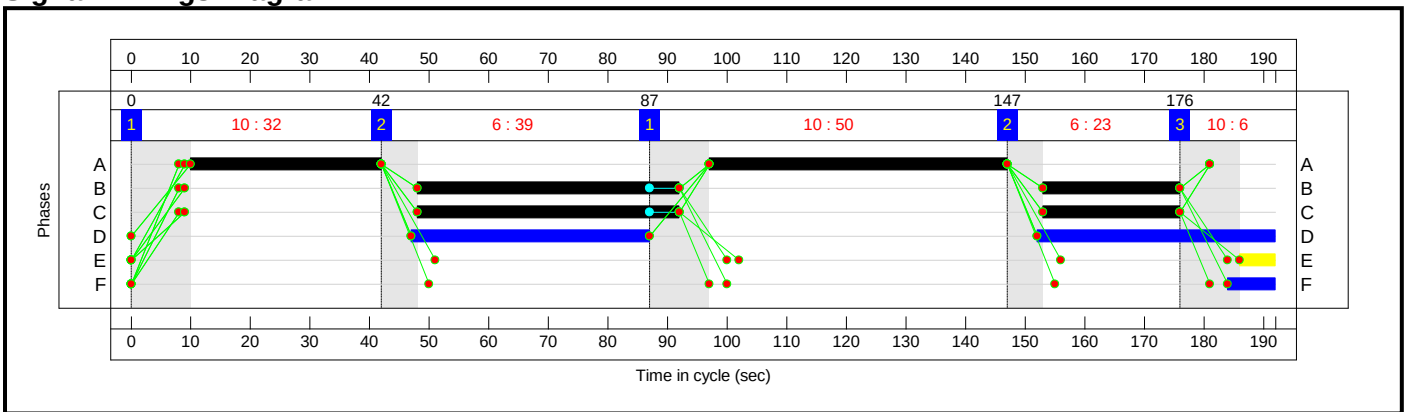
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	3
Duration	32	39	50	23	6
Change Point	0	42	87	147	176

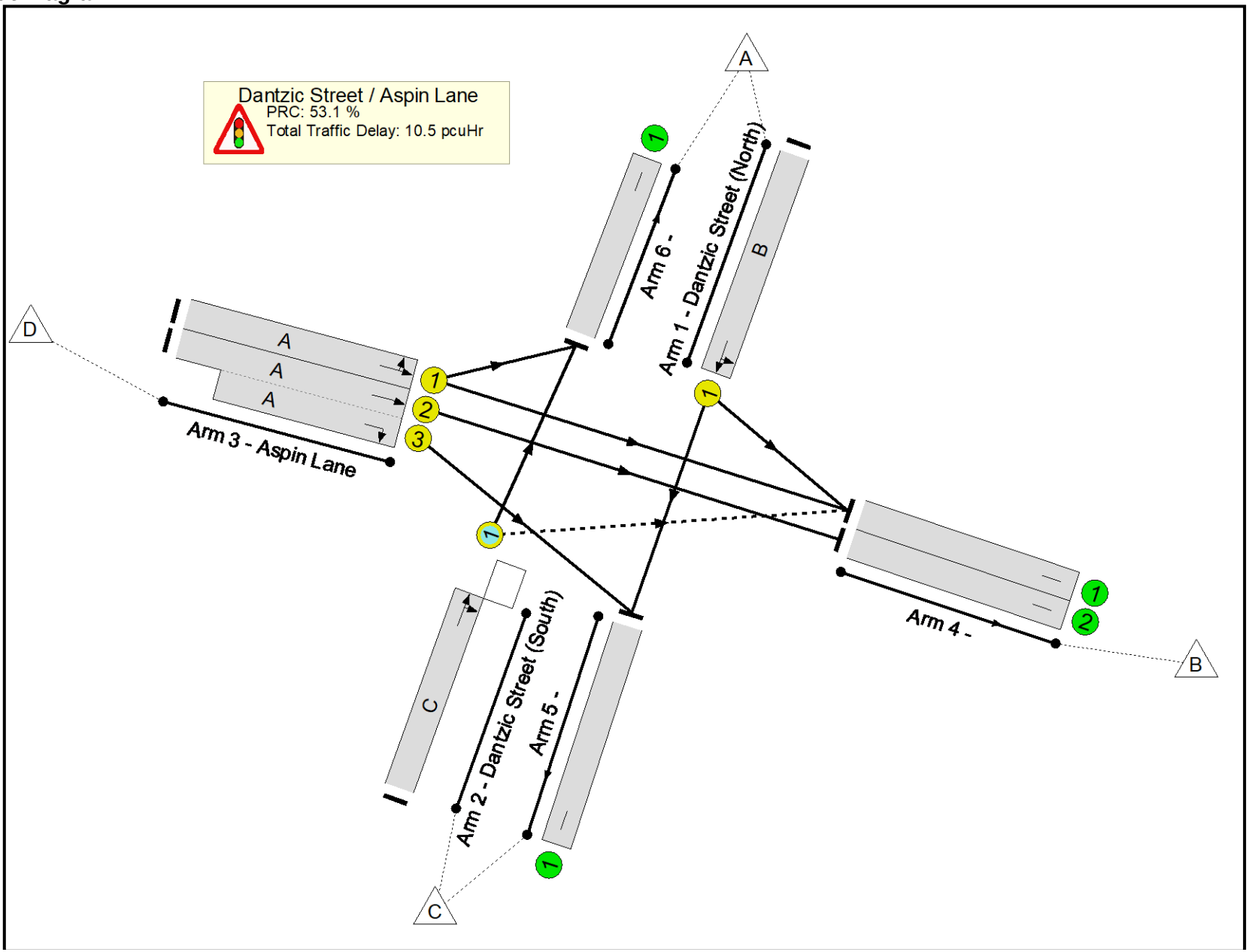
Signal Timings Diagram



Full Input Data And Results

Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.8%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.8%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	67	-	379	1794	645	58.8%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	67	-	17	1961	342	5.0%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	82	-	454	1873	819	55.4%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	82	-	555	2080:1890	902+43	58.7 : 58.7%
4/1		U	N/A	N/A	-		-	-	-	752	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	530	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	43	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	80	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**12**	**0**	**0**	**8.4**	**2.1**	**0.0**	**10.5**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**12**	**0**	**0**	**8.4**	**2.1**	**0.0**	**10.5**	**-**	**-**	**-**	**-**
1/1	379	379	-	-	-	2.6	0.7	-	3.3	31.7	8.3	0.7	9.0
2/1	17	17	12	0	0	0.1	0.0	0.0	0.2	34.1	0.3	0.0	0.3
3/1	454	454	-	-	-	2.5	0.6	-	3.1	25.0	9.0	0.6	9.6
3/2+3/3	555	555	-	-	-	3.1	0.7	-	3.8	24.8	10.6	0.7	11.3
4/1	752	752	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	530	530	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	43	43	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	80	80	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

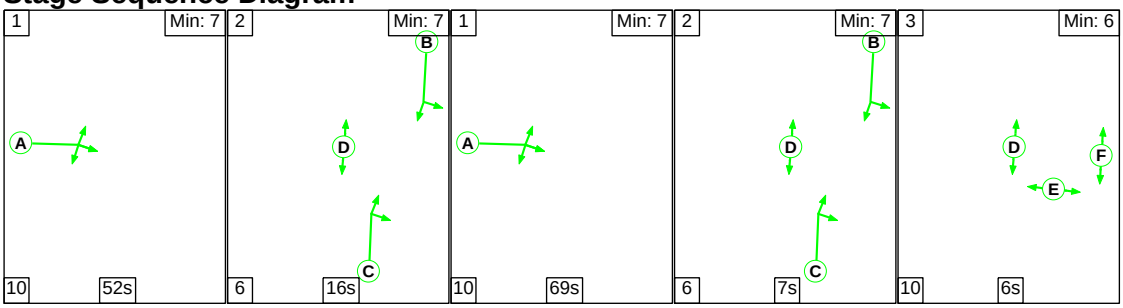
PRC for Signalled Lanes (%): 53.1 Total Delay for Signalled Lanes (pcuHr): 10.47 Cycle Time (s): 192

PRC Over All Lanes (%): 53.1 Total Delay Over All Lanes(pcuHr): 10.47

Full Input Data And Results

Scenario 2: 'Base PM 2018' (FG2: 'Base PM 2018', Plan 1: 'TfGM Staging Plan')

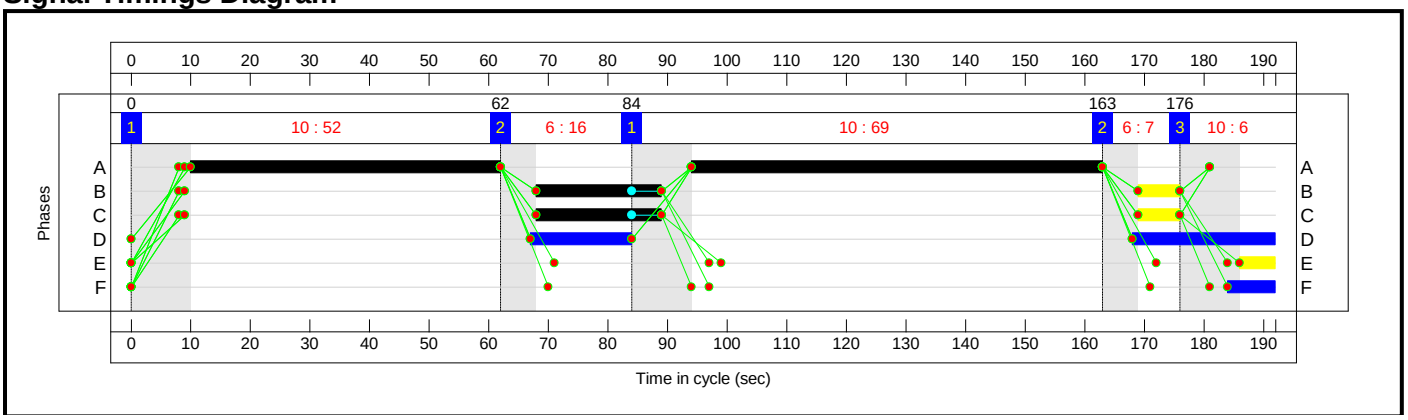
Stage Sequence Diagram



Stage Timings

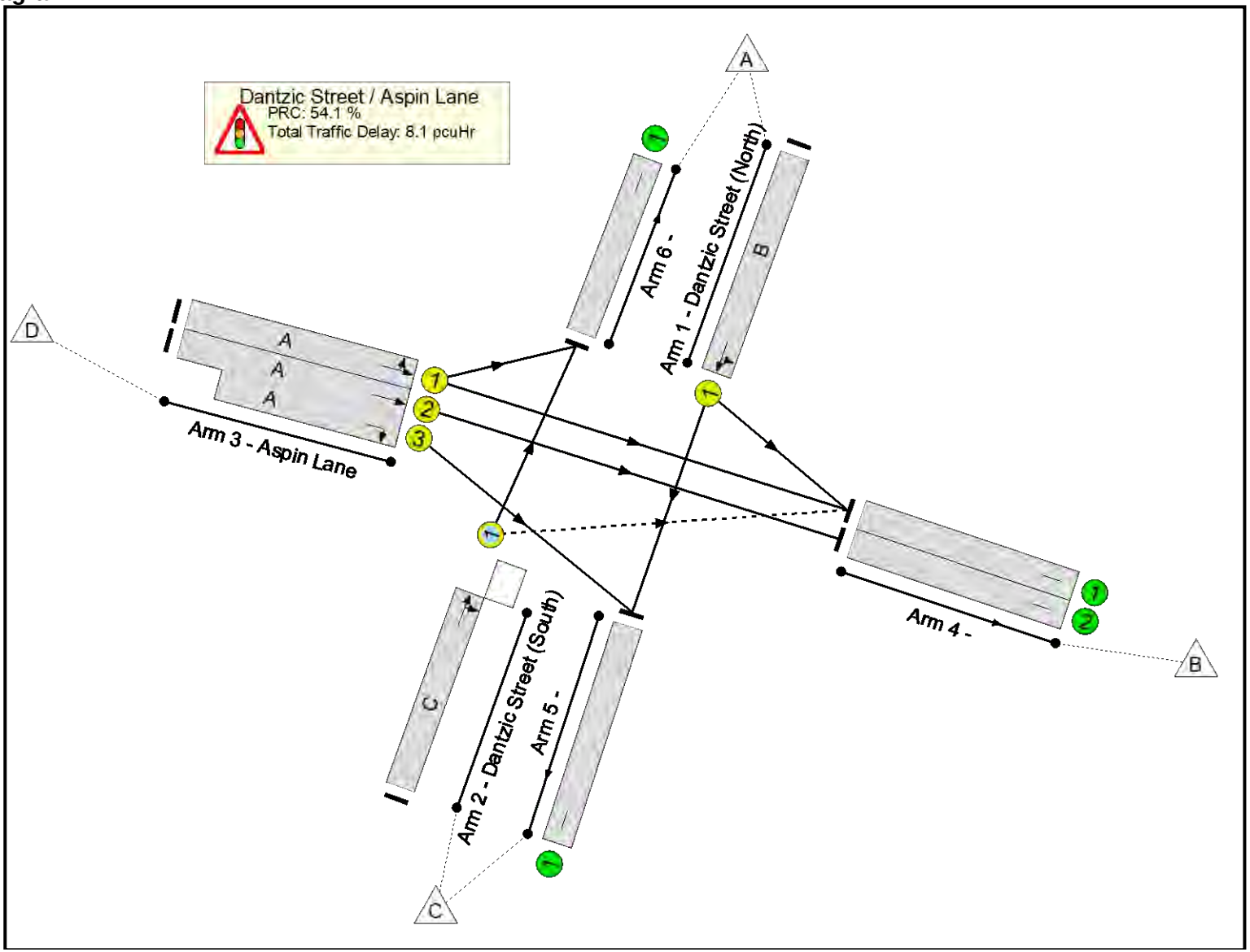
Stage	1	2	1	2	3
Duration	52	16	69	7	6
Change Point	0	62	84	163	176

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.4%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.4%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	28	-	163	1790	280	58.3%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	28	-	34	1965	213	15.9%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	121	-	656	1830	1172	56.0%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	121	-	778	2080:2205	1333+0	58.4 : 0.0%
4/1		U	N/A	N/A	-		-	-	-	615	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	778	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	4	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	234	Inf	Inf	0.0%

Full Input Data And Results

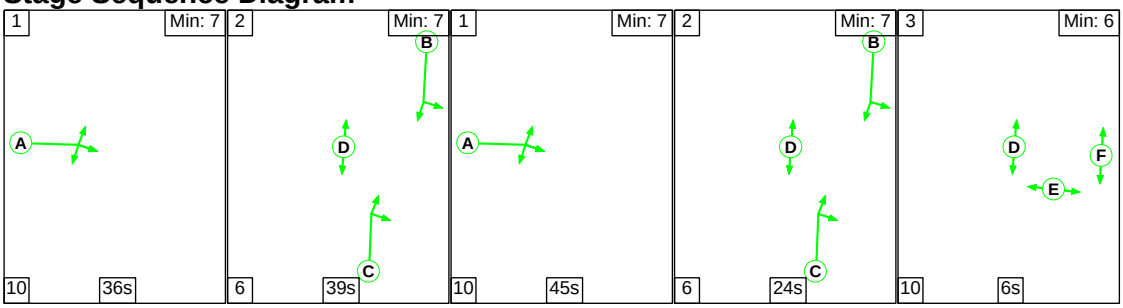
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**13**	**0**	**10**	**6.0**	**2.1**	**0.0**	**8.1**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**13**	**0**	**10**	**6.0**	**2.1**	**0.0**	**8.1**	**-**	**-**	**-**	**-**
1/1	163	163	-	-	-	1.7	0.7	-	2.4	52.9	4.1	0.7	4.8
2/1	34	34	13	0	10	0.3	0.1	0.0	0.5	49.8	0.8	0.1	0.9
3/1	656	656	-	-	-	1.8	0.6	-	2.4	13.2	10.8	0.6	11.4
3/2+3/3	778	778	-	-	-	2.2	0.7	-	2.9	13.2	13.0	0.7	13.7
4/1	615	615	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	778	778	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	4	4	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	234	234	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 54.1 Total Delay for Signalled Lanes (pcuHr): 8.14 Cycle Time (s): 192
PRC Over All Lanes (%): 54.1 Total Delay Over All Lanes(pcuHr): 8.14

Full Input Data And Results

Scenario 3: 'Do-Min 2034 AM' (FG17: 'Do-Min (Com) 2034 AM', Plan 1: 'TfGM Staging Plan')

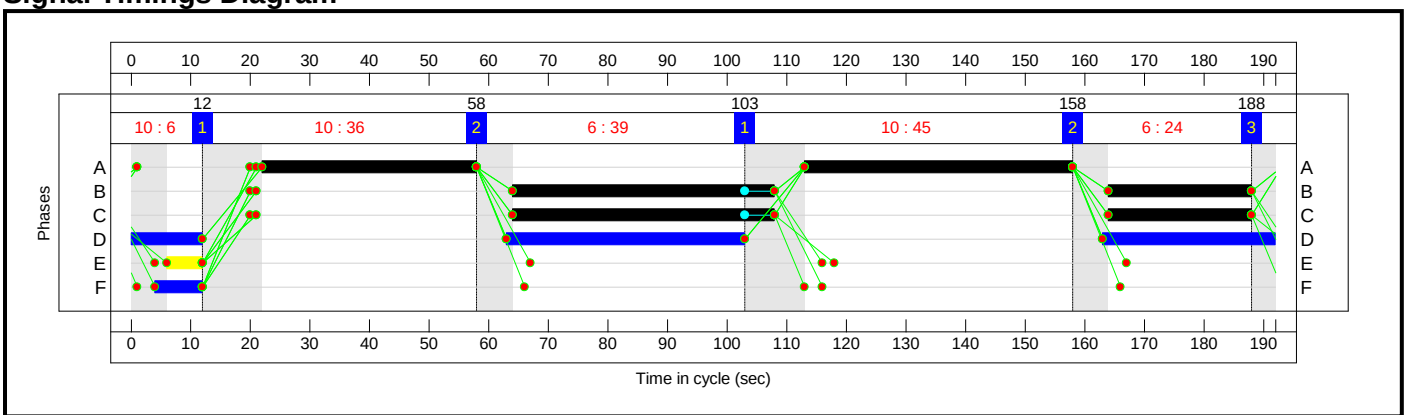
Stage Sequence Diagram



Stage Timings

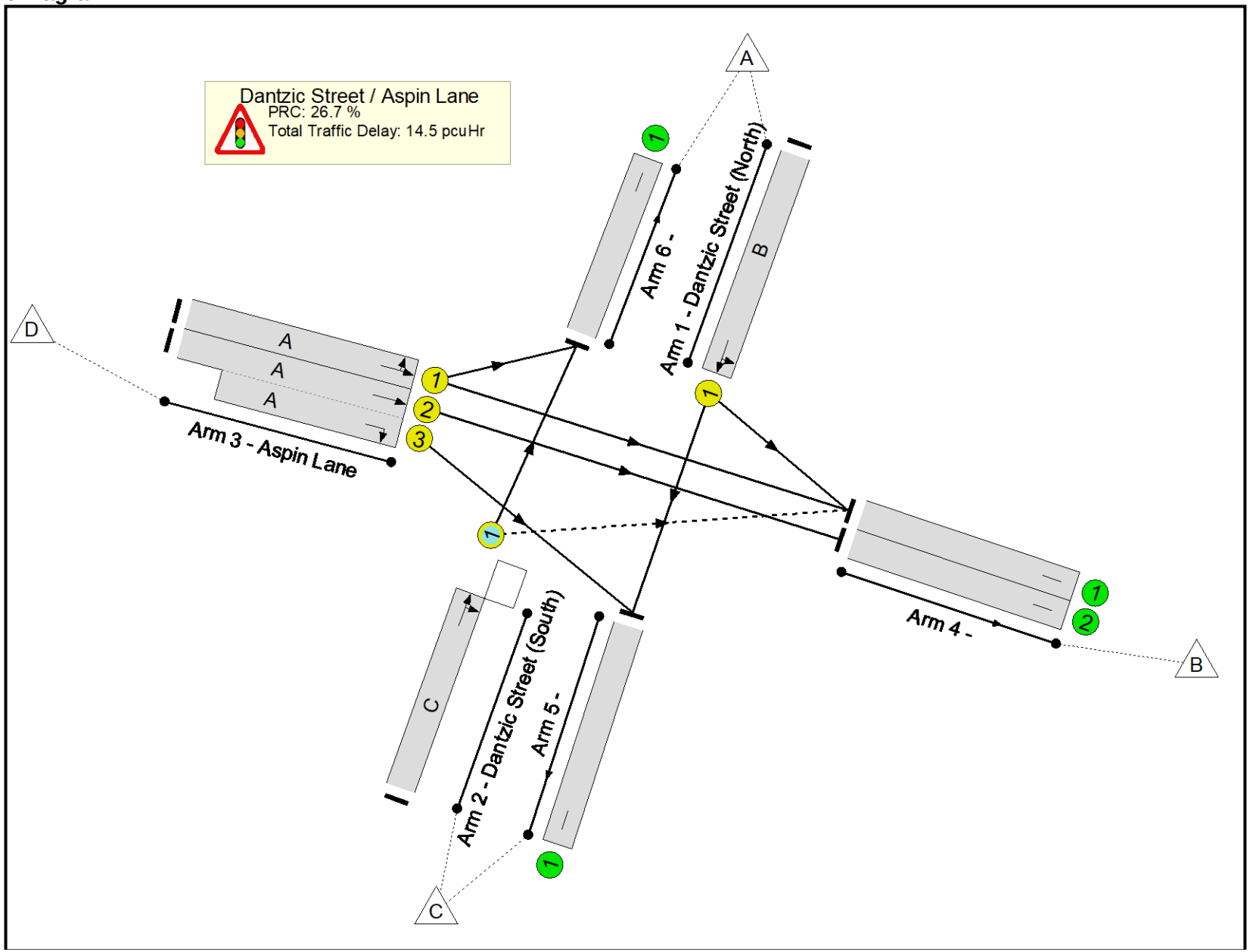
Stage	1	2	1	2	3
Duration	36	39	45	24	6
Change Point	12	58	103	158	188

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**71.0%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**71.0%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	68	-	462	1794	654	70.6%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	68	-	20	1962	262	7.6%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	81	-	551	1870	808	68.2%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	81	-	664	2080:1890	894+41	71.0 : 71.0%
4/1		U	N/A	N/A	-		-	-	-	909	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	635	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	50	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	103	Inf	Inf	0.0%

Full Input Data And Results

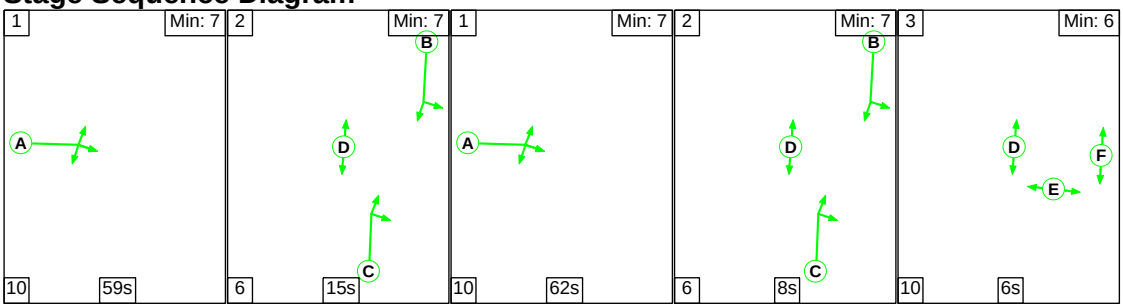
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**14**	**0**	**0**	**10.9**	**3.5**	**0.1**	**14.5**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**14**	**0**	**0**	**10.9**	**3.5**	**0.1**	**14.5**	**-**	**-**	**-**	**-**
1/1	462	462	-	-	-	3.4	1.2	-	4.6	35.6	11.5	1.2	12.7
2/1	20	20	14	0	0	0.1	0.0	0.1	0.2	38.7	0.4	0.0	0.4
3/1	551	551	-	-	-	3.4	1.1	-	4.4	28.9	11.8	1.1	12.8
3/2+3/3	664	664	-	-	-	4.1	1.2	-	5.3	28.6	13.9	1.2	15.1
4/1	909	909	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	635	635	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	50	50	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	103	103	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 26.7 Total Delay for Signalled Lanes (pcuHr): 14.47 Cycle Time (s): 192
PRC Over All Lanes (%): 26.7 Total Delay Over All Lanes(pcuHr): 14.47

Full Input Data And Results

Scenario 4: 'Do-Min 2034 PM' (FG18: 'Do-Min (Com) 2034 PM', Plan 1: 'TfGM Staging Plan')

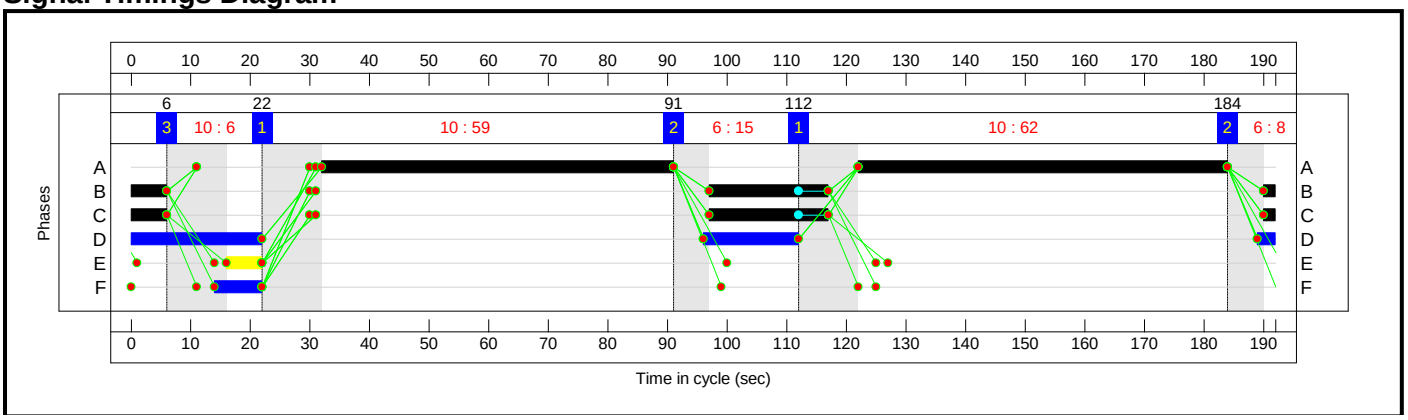
Stage Sequence Diagram



Stage Timings

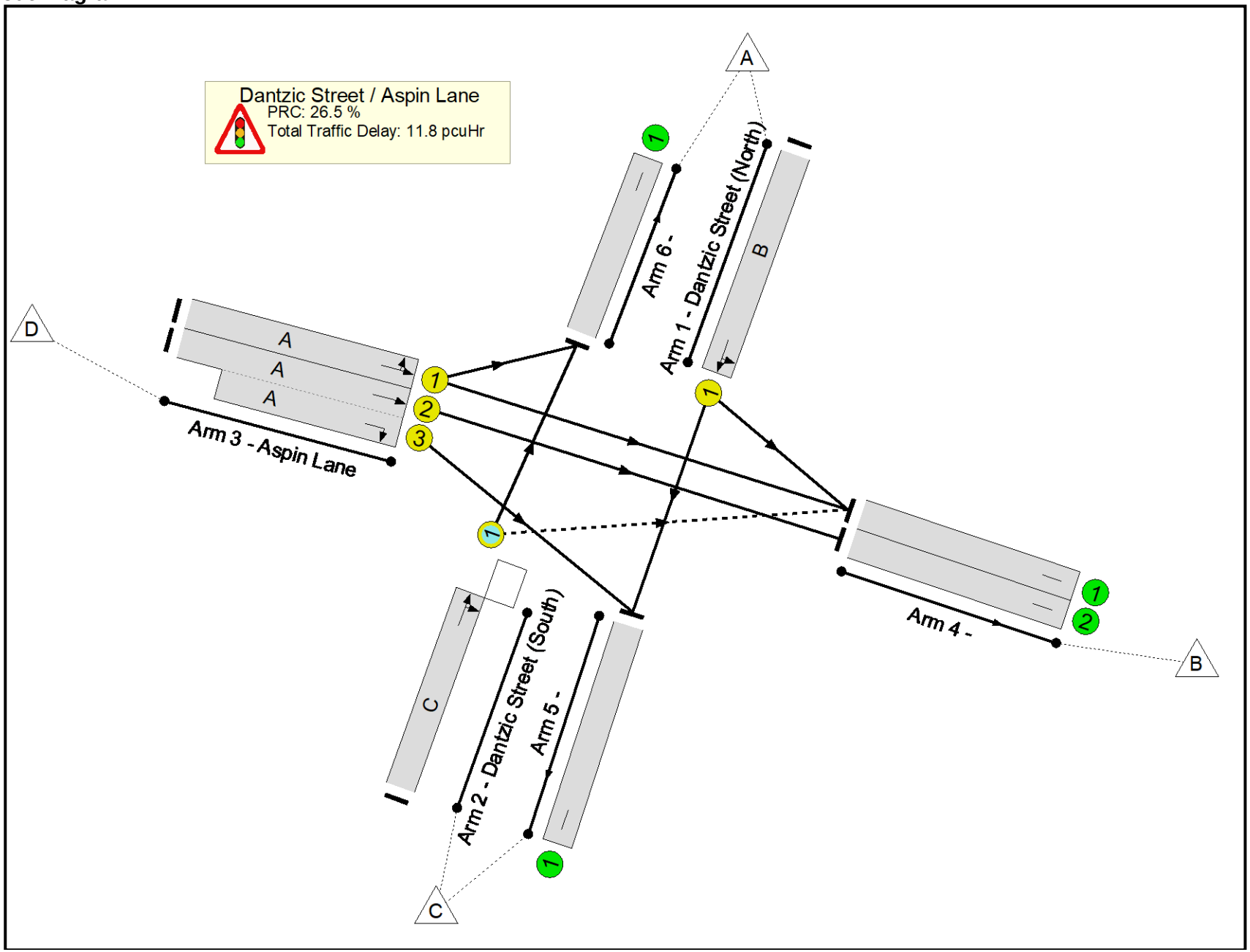
Stage	1	2	1	2	3
Duration	59	15	62	8	6
Change Point	22	91	112	184	6

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**71.2%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**71.2%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	28	-	199	1790	280	71.2%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	28	-	40	1965	173	23.2%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	121	-	797	1822	1167	68.3%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	121	-	958	2080:1890	1327+25	70.8 : 70.8%
4/1		U	N/A	N/A	-		-	-	-	720	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	940	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	23	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	311	Inf	Inf	0.0%

Full Input Data And Results

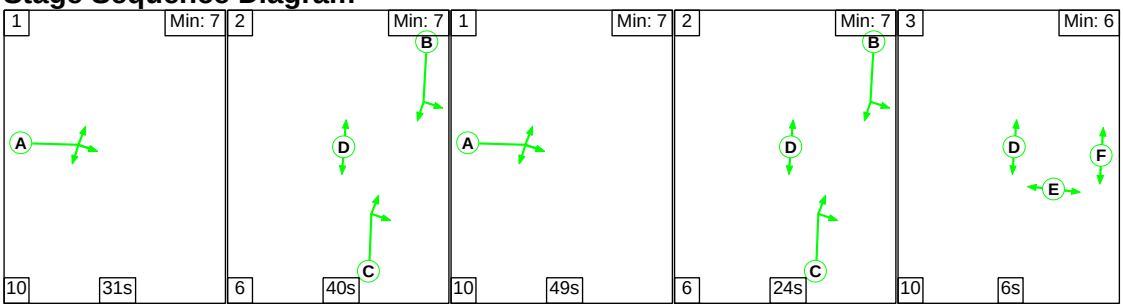
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**16**	**0**	**11**	**8.1**	**3.6**	**0.1**	**11.8**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**16**	**0**	**11**	**8.1**	**3.6**	**0.1**	**11.8**	**-**	**-**	**-**	**-**
1/1	199	199	-	-	-	2.2	1.2	-	3.4	60.6	5.6	1.2	6.8
2/1	40	40	16	0	11	0.4	0.2	0.1	0.6	55.2	1.0	0.2	1.2
3/1	797	797	-	-	-	2.5	1.1	-	3.6	16.0	15.3	1.1	16.3
3/2+3/3	958	958	-	-	-	3.0	1.2	-	4.2	15.9	18.5	1.2	19.7
4/1	720	720	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	940	940	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	23	23	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	311	311	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 26.5 Total Delay for Signalled Lanes (pcuHr): 11.76 Cycle Time (s): 192
PRC Over All Lanes (%): 26.5 Total Delay Over All Lanes(pcuHr): 11.76

Full Input Data And Results

Scenario 5: 'Do-Sth (Detailed) 2034 AM' (FG19: 'Do-Sth (Detailed+Com) 2034 AM', Plan 1: 'TfGM Staging Plan')

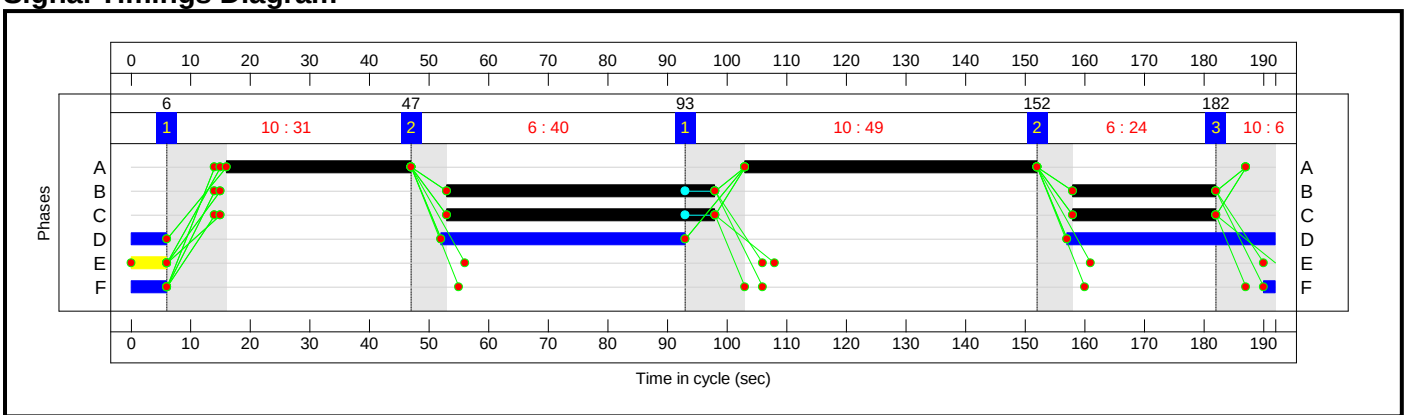
Stage Sequence Diagram



Stage Timings

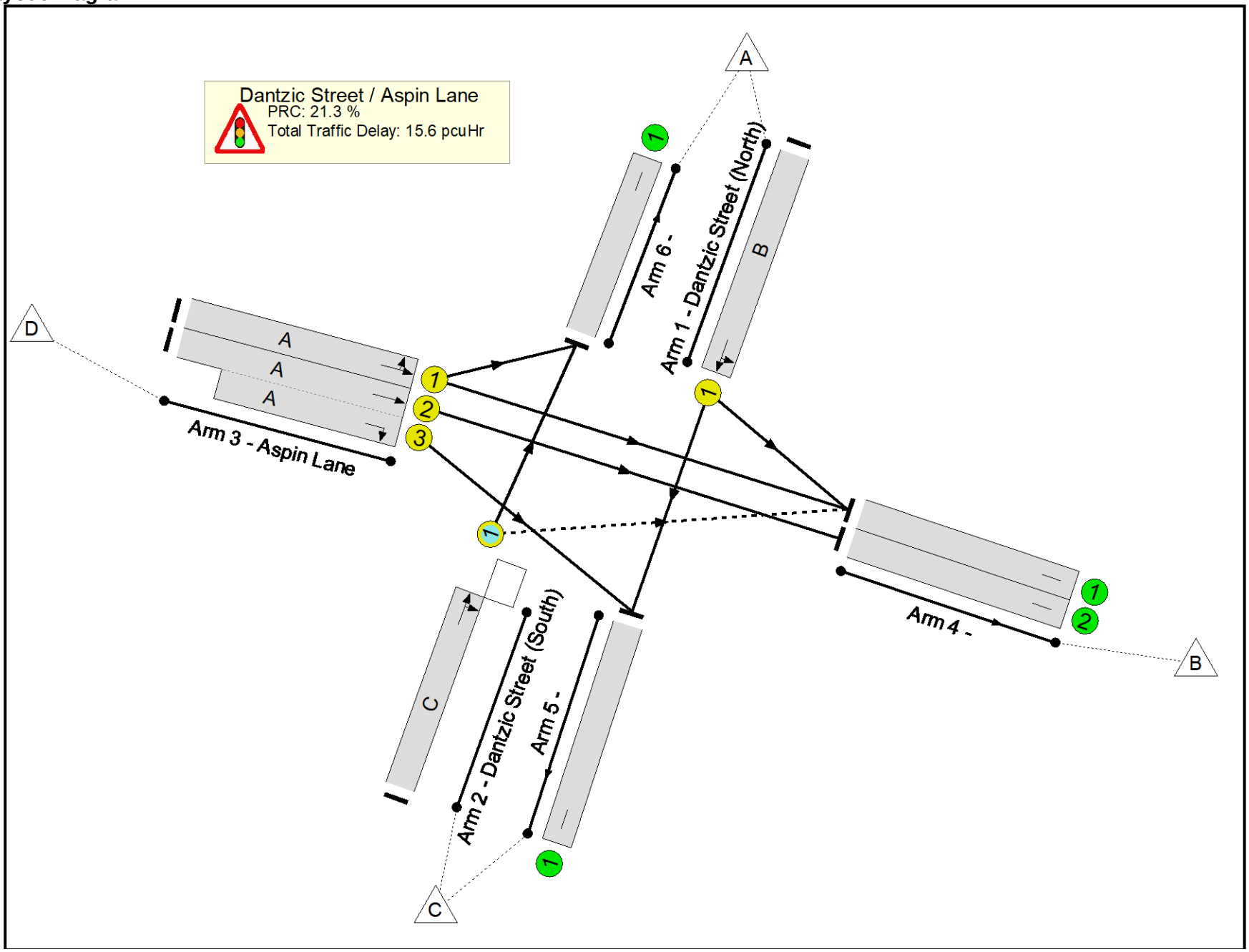
Stage	1	2	1	2	3
Duration	31	40	49	24	6
Change Point	6	47	93	152	182

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.2%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.2%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	69	-	492	1793	663	74.2%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	69	-	20	1962	242	8.3%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	80	-	561	1860	794	70.6%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	80	-	678	2080:1890	882+39	73.6 : 73.6%
4/1		U	N/A	N/A	-		-	-	-	925	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	649	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	50	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	127	Inf	Inf	0.0%

Full Input Data And Results

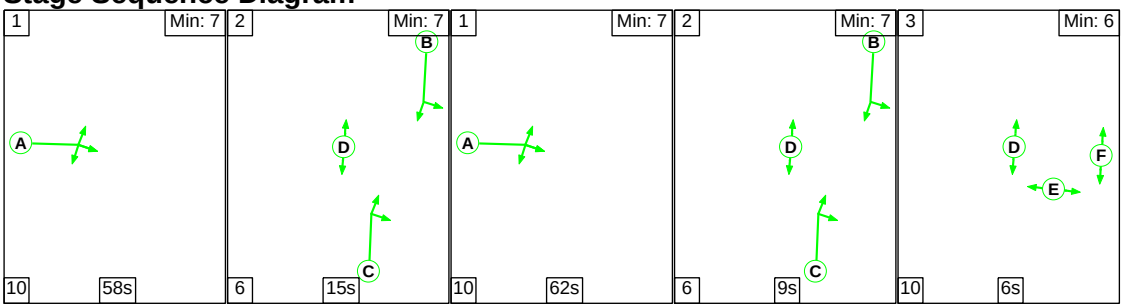
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**14**	**0**	**0**	**11.5**	**4.0**	**0.1**	**15.6**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**14**	**0**	**0**	**11.5**	**4.0**	**0.1**	**15.6**	**-**	**-**	**-**	**-**
1/1	492	492	-	-	-	3.6	1.4	-	5.0	36.6	11.6	1.4	13.0
2/1	20	20	14	0	0	0.1	0.0	0.1	0.2	39.8	0.3	0.0	0.4
3/1	561	561	-	-	-	3.5	1.2	-	4.7	30.2	12.2	1.2	13.3
3/2+3/3	678	678	-	-	-	4.3	1.4	-	5.6	29.9	14.2	1.4	15.6
4/1	925	925	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	649	649	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	50	50	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	127	127	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 21.3 Total Delay for Signalled Lanes (pcuHr): 15.57 Cycle Time (s): 192
PRC Over All Lanes (%): 21.3 Total Delay Over All Lanes(pcuHr): 15.57

Full Input Data And Results

Scenario 6: 'Do-Sth (Detailed) 2034 AM' (FG20: 'Do-Sth (Detailed+Com) 2034 PM', Plan 1: 'TfGM Staging Plan')

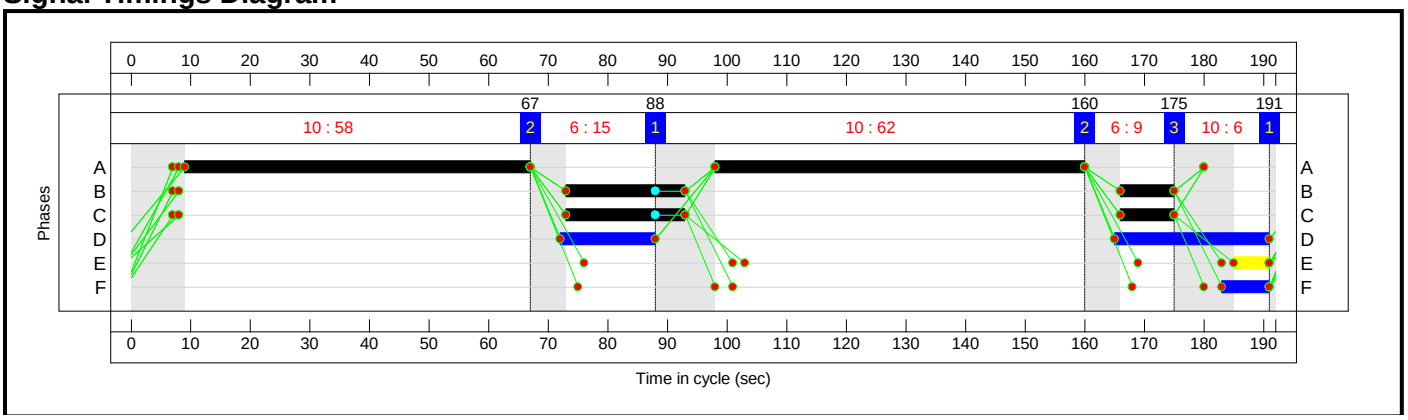
Stage Sequence Diagram



Stage Timings

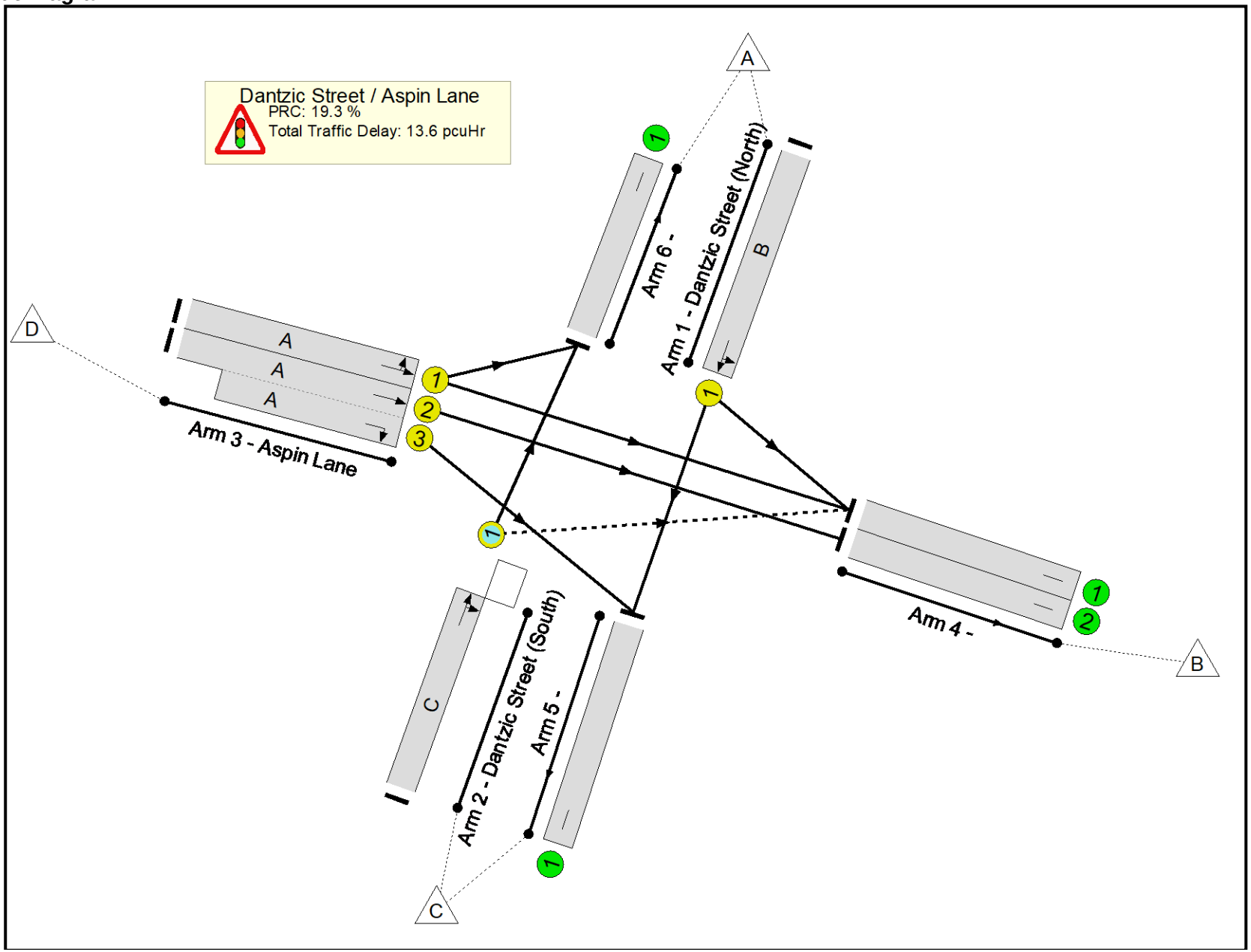
Stage	1	2	1	2	3
Duration	58	15	62	9	6
Change Point	191	67	88	160	175

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.4%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.4%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	29	-	218	1790	289	75.4%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	29	-	40	1965	162	24.6%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	120	-	833	1801	1144	72.8%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	120	-	1011	2080:1890	1317+24	75.4 : 75.4%
4/1		U	N/A	N/A	-		-	-	-	686	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	993	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	23	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	400	Inf	Inf	0.0%

Full Input Data And Results

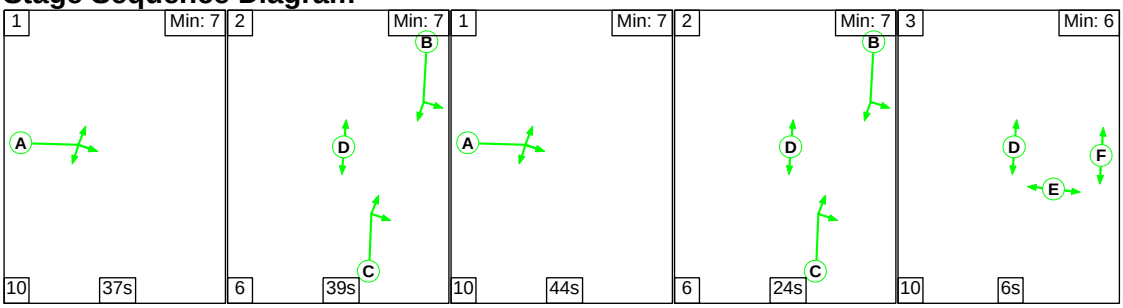
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**15**	**0**	**12**	**9.0**	**4.5**	**0.1**	**13.6**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**15**	**0**	**12**	**9.0**	**4.5**	**0.1**	**13.6**	**-**	**-**	**-**	**-**
1/1	218	218	-	-	-	2.4	1.5	-	3.8	63.2	6.1	1.5	7.6
2/1	40	40	15	0	12	0.4	0.2	0.1	0.6	56.5	1.0	0.2	1.2
3/1	833	833	-	-	-	2.8	1.3	-	4.1	17.8	17.1	1.3	18.4
3/2+3/3	1011	1011	-	-	-	3.5	1.5	-	5.0	17.8	21.0	1.5	22.6
4/1	686	686	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	993	993	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	23	23	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	400	400	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 19.3 Total Delay for Signalled Lanes (pcuHr): 13.57 Cycle Time (s): 192
PRC Over All Lanes (%): 19.3 Total Delay Over All Lanes(pcuHr): 13.57

Full Input Data And Results

Scenario 7: 'Do-Min 2037 AM' (FG27: 'Do-Min (Com) 2037 AM', Plan 1: 'TfGM Staging Plan')

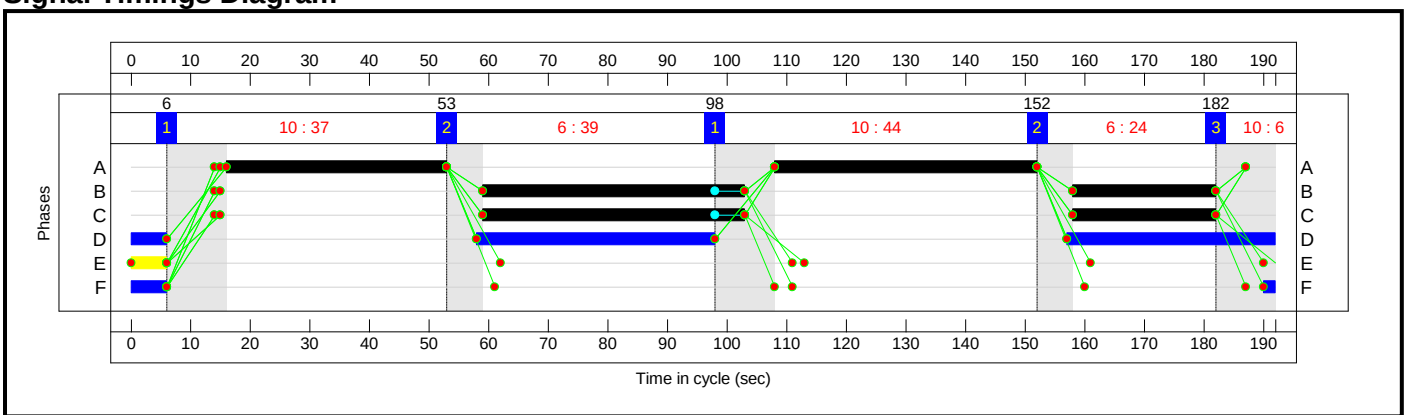
Stage Sequence Diagram



Stage Timings

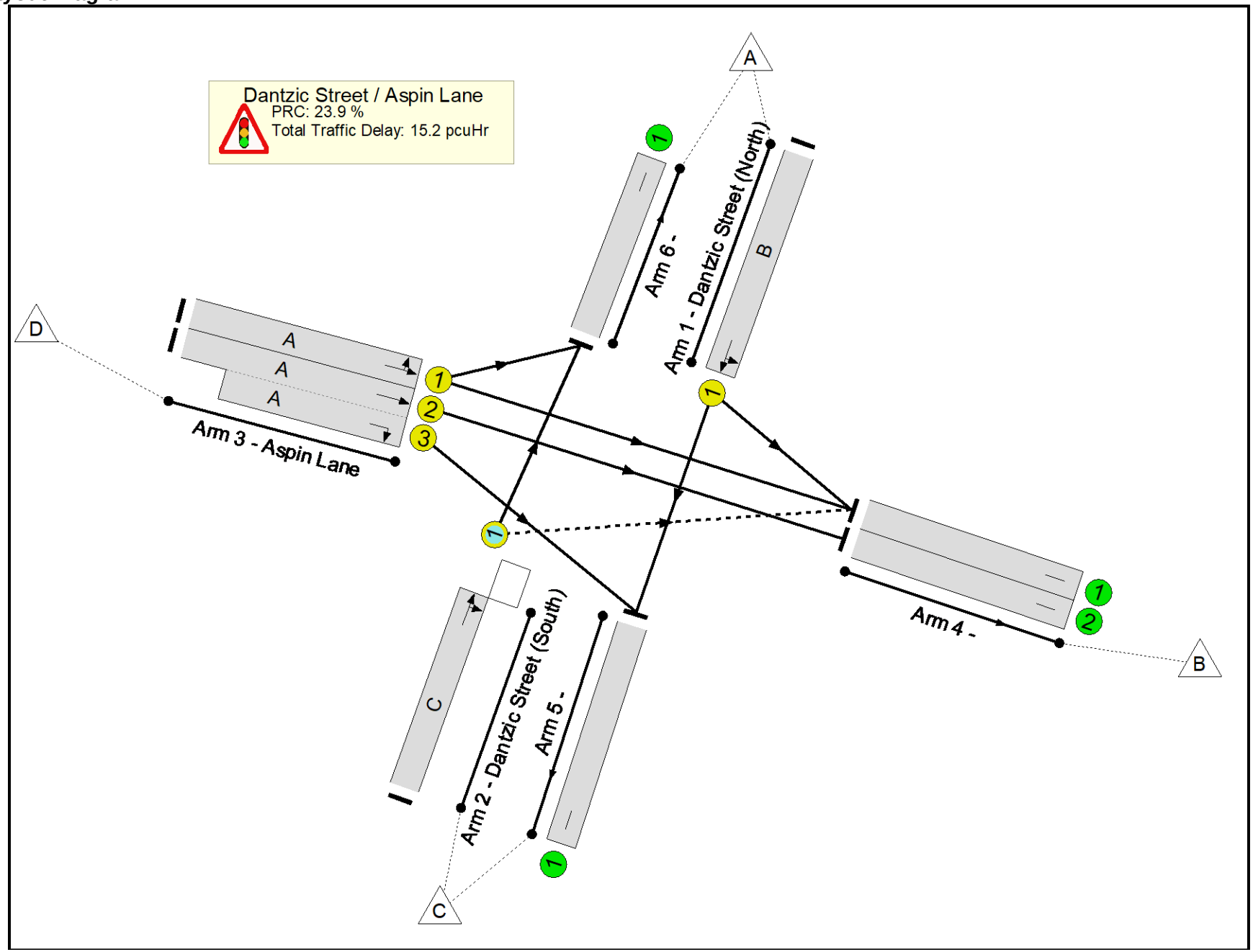
Stage	1	2	1	2	3
Duration	37	39	44	24	6
Change Point	6	53	98	152	182

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.7%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.7%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	68	-	474	1794	654	72.5%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	68	-	20	1962	251	8.0%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	81	-	564	1870	808	69.8%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	81	-	679	2080:1890	895+40	72.7 : 72.7%
4/1		U	N/A	N/A	-		-	-	-	931	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	650	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	51	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	105	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**14**	**0**	**0**	**11.3**	**3.8**	**0.1**	**15.2**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**14**	**0**	**0**	**11.3**	**3.8**	**0.1**	**15.2**	**-**	**-**	**-**	**-**
1/1	474	474	-	-	-	3.5	1.3	-	4.8	36.5	12.1	1.3	13.4
2/1	20	20	14	0	0	0.1	0.0	0.1	0.2	39.7	0.4	0.0	0.4
3/1	564	564	-	-	-	3.5	1.1	-	4.6	29.5	12.2	1.1	13.4
3/2+3/3	679	679	-	-	-	4.2	1.3	-	5.5	29.2	14.4	1.3	15.8
4/1	931	931	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	650	650	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	51	51	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	105	105	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

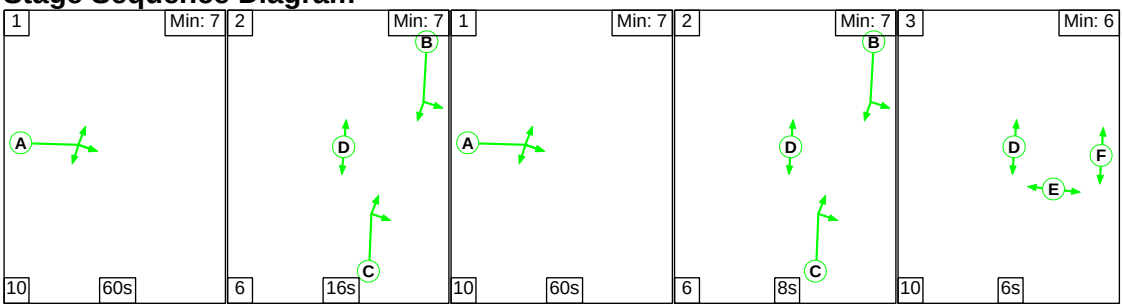
PRC for Signalled Lanes (%): 23.9 Total Delay for Signalled Lanes (pcuHr): 15.15 Cycle Time (s): 192

PRC Over All Lanes (%): 23.9 Total Delay Over All Lanes(pcuHr): 15.15

Full Input Data And Results

Scenario 8: 'Do-Min 2037 PM' (FG28: 'Do-Min (Com) 2037 PM', Plan 1: 'TfGM Staging Plan')

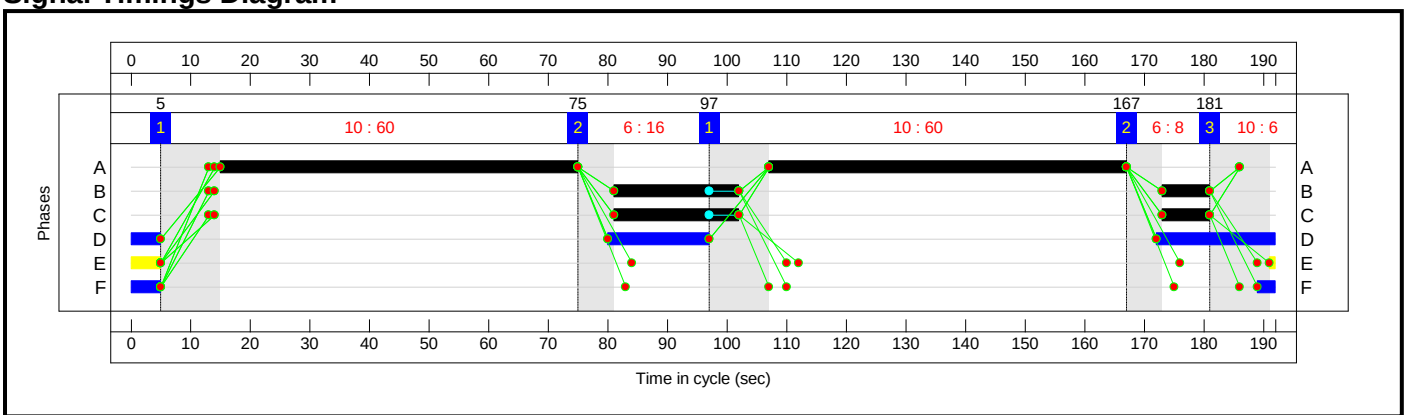
Stage Sequence Diagram



Stage Timings

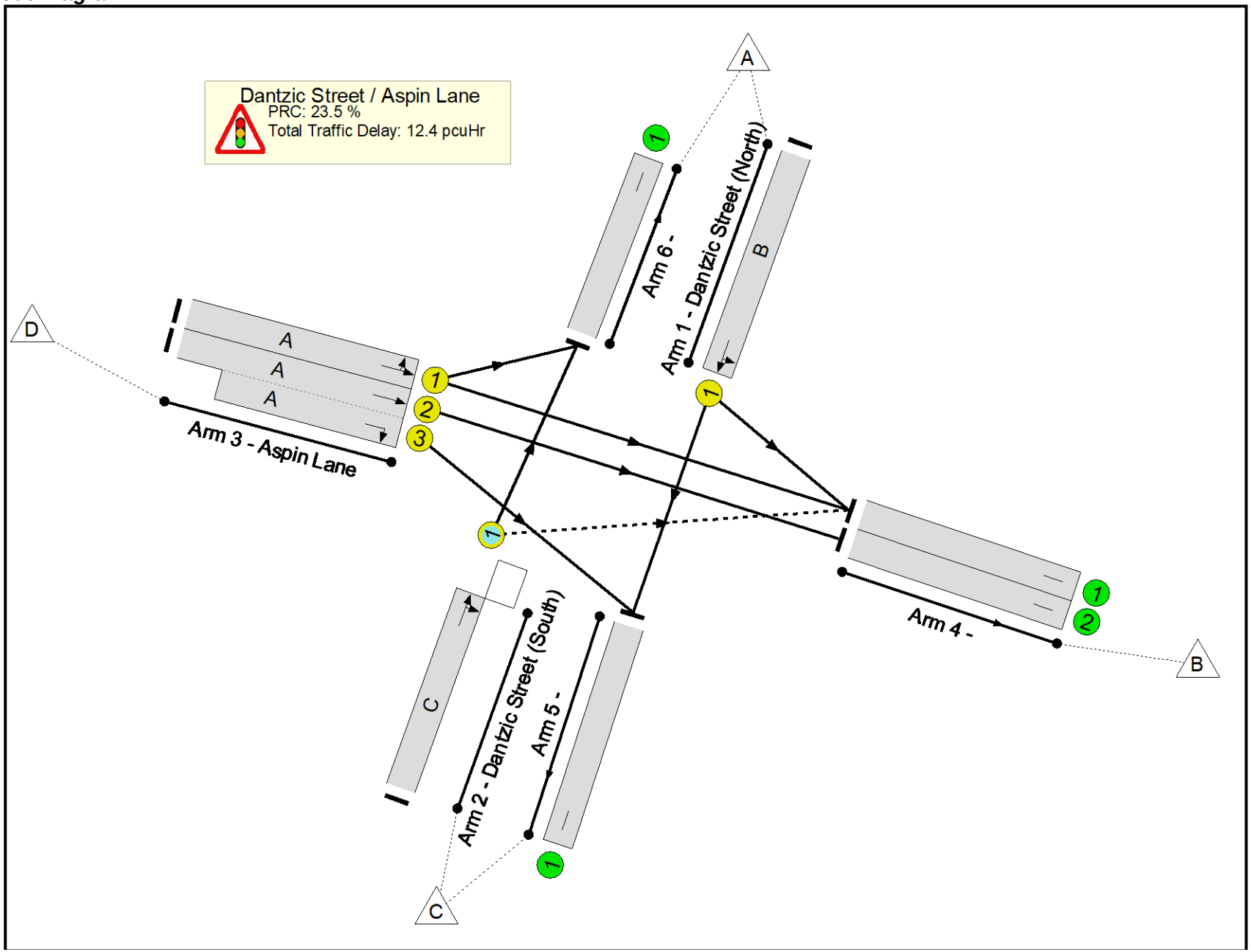
Stage	1	2	1	2	3
Duration	60	16	60	8	6
Change Point	5	75	97	167	181

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.9%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.9%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	29	-	204	1790	289	70.6%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	29	-	41	1968	175	23.4%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	120	-	815	1822	1158	70.4%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	120	-	978	2080:1890	1317+25	72.9 : 72.9%
4/1		U	N/A	N/A	-		-	-	-	737	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	960	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	23	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	318	Inf	Inf	0.0%

Full Input Data And Results

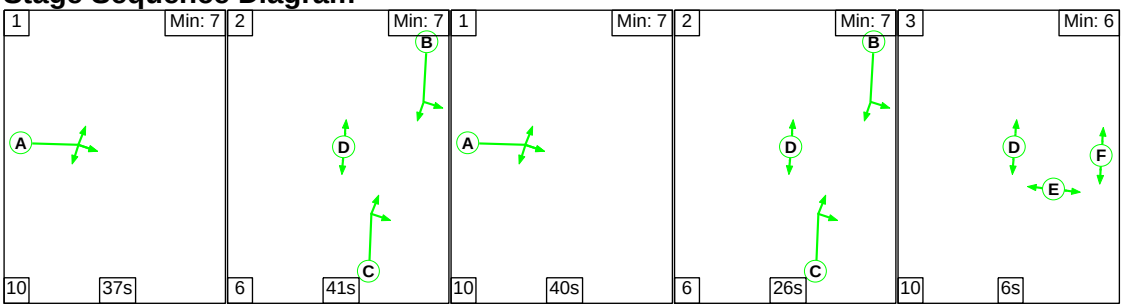
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**16**	**0**	**11**	**8.5**	**3.8**	**0.1**	**12.4**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**16**	**0**	**11**	**8.5**	**3.8**	**0.1**	**12.4**	**-**	**-**	**-**	**-**
1/1	204	204	-	-	-	2.2	1.2	-	3.4	59.4	5.8	1.2	6.9
2/1	41	41	16	0	11	0.4	0.2	0.1	0.6	54.8	1.0	0.2	1.2
3/1	815	815	-	-	-	2.6	1.2	-	3.8	16.9	15.8	1.2	17.0
3/2+3/3	978	978	-	-	-	3.2	1.3	-	4.6	16.8	19.2	1.3	20.6
4/1	737	737	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	960	960	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	23	23	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	318	318	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 23.5 Total Delay for Signalled Lanes (pcuHr): 12.39 Cycle Time (s): 192
PRC Over All Lanes (%): 23.5 Total Delay Over All Lanes(pcuHr): 12.39

Full Input Data And Results

Scenario 9: 'Do-Sth (Outline) 2037 AM' (FG29: 'Do-Sth (Outline+Com) 2037 AM', Plan 1: 'TfGM Staging Plan')

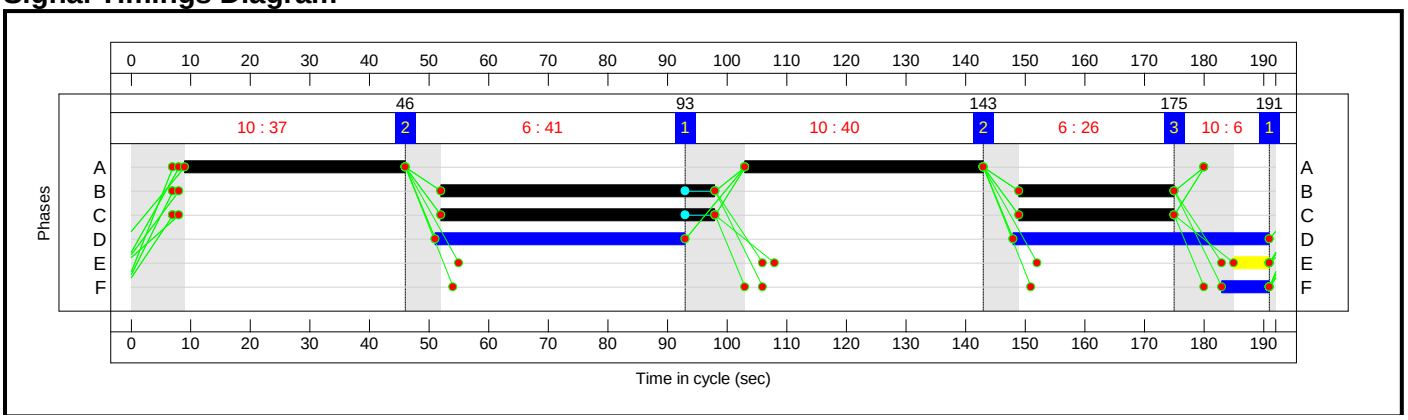
Stage Sequence Diagram



Stage Timings

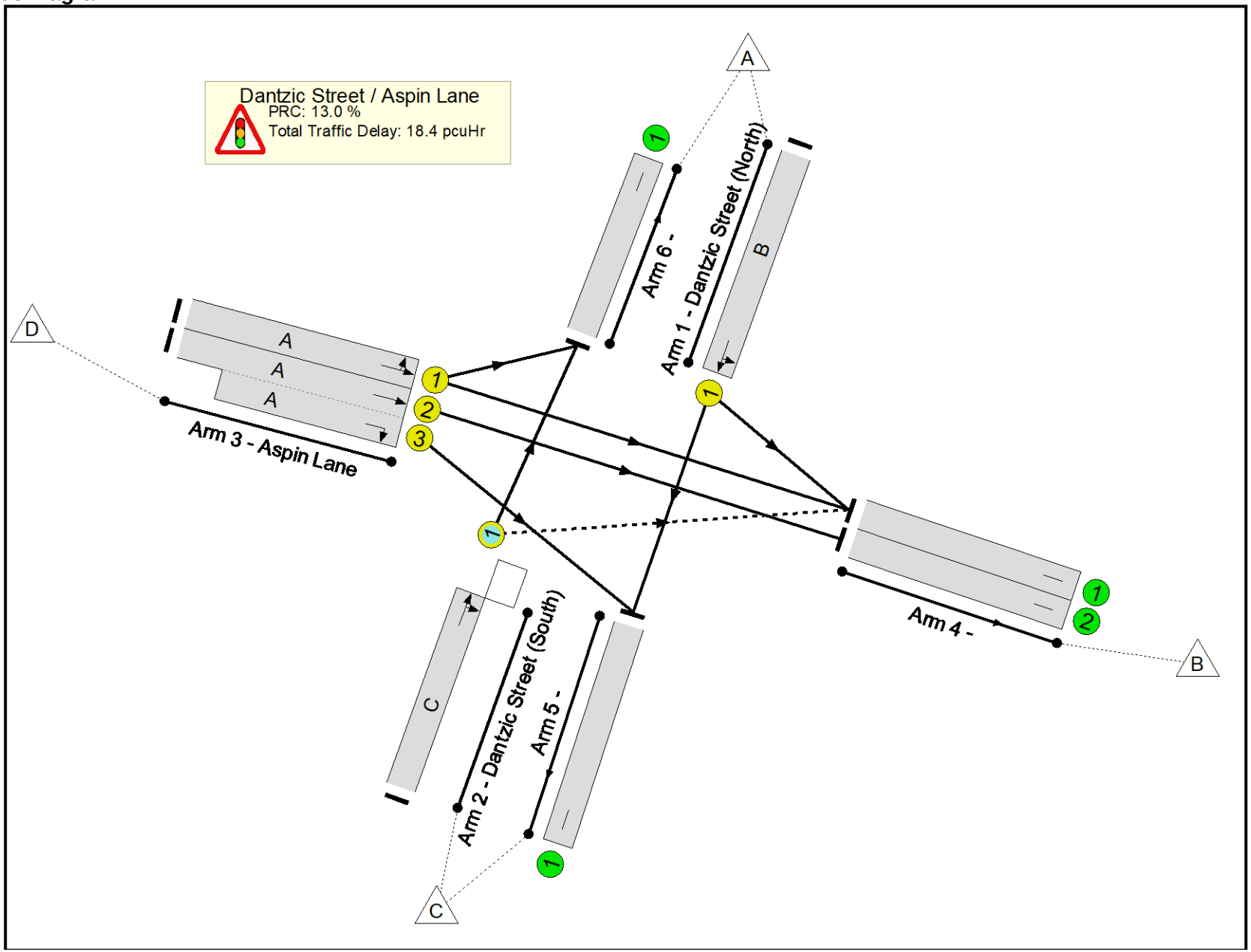
Stage	1	2	1	2	3
Duration	37	41	40	26	6
Change Point	191	46	93	143	175

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.6%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.6%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	72	-	546	1793	691	79.0%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	72	-	20	1962	210	9.5%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	77	-	586	1850	761	77.0%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	77	-	709	2080:1890	854+36	79.6 : 79.6%
4/1		U	N/A	N/A	-		-	-	-	973	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	680	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	51	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	157	Inf	Inf	0.0%

Full Input Data And Results

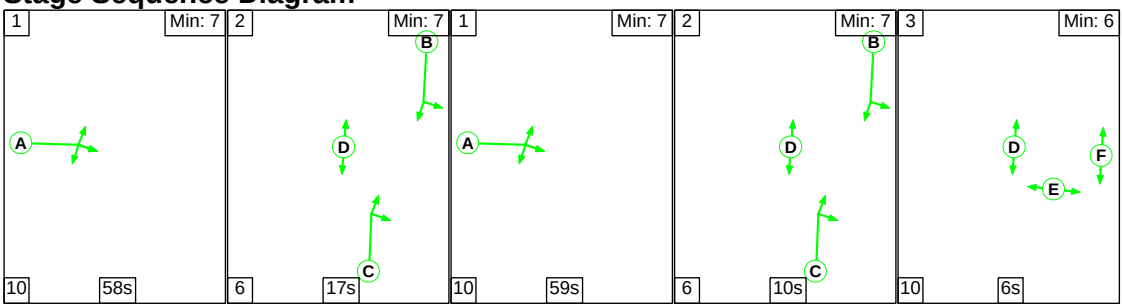
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**14**	**0**	**0**	**12.9**	**5.4**	**0.1**	**18.4**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**14**	**0**	**0**	**12.9**	**5.4**	**0.1**	**18.4**	**-**	**-**	**-**	**-**
1/1	546	546	-	-	-	4.0	1.8	-	5.9	38.8	14.7	1.8	16.5
2/1	20	20	14	0	0	0.1	0.1	0.1	0.2	42.6	0.4	0.1	0.4
3/1	586	586	-	-	-	4.0	1.6	-	5.6	34.4	13.5	1.6	15.2
3/2+3/3	709	709	-	-	-	4.8	1.9	-	6.7	34.1	15.9	1.9	17.8
4/1	973	973	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	680	680	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	51	51	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	157	157	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 13.0 Total Delay for Signalled Lanes (pcuHr): 18.44 Cycle Time (s): 192
PRC Over All Lanes (%): 13.0 Total Delay Over All Lanes(pcuHr): 18.44

Full Input Data And Results

Scenario 10: 'Do-Sth (Outline) 2037 PM' (FG30: 'Do-Sth (Outline+Com) 2037 PM', Plan 1: 'TfGM Staging Plan')

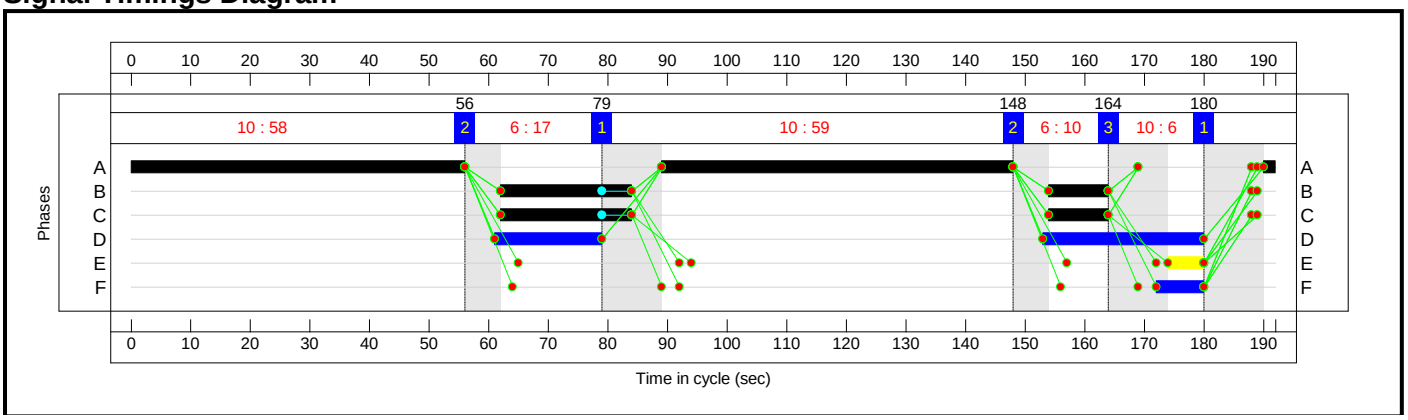
Stage Sequence Diagram



Stage Timings

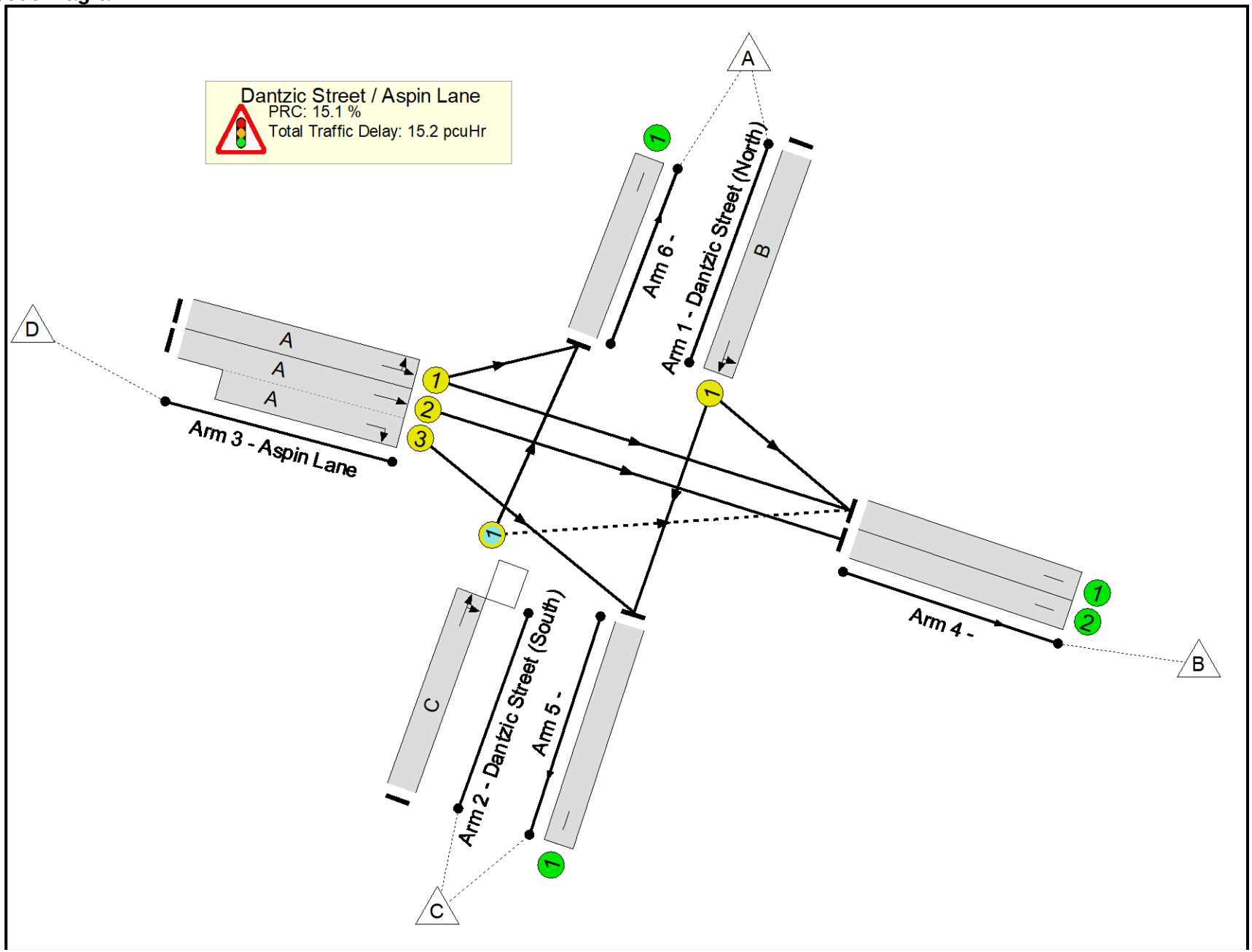
Stage	1	2	1	2	3
Duration	58	17	59	10	6
Change Point	180	56	79	148	164

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.2%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.2%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	32	-	246	1790	317	77.6%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	32	-	41	1968	165	24.8%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	117	-	848	1804	1118	75.8%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	117	-	1023	2080:1890	1286+23	78.2 : 78.2%
4/1		U	N/A	N/A	-		-	-	-	734	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	1005	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	23	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	396	Inf	Inf	0.0%

Full Input Data And Results

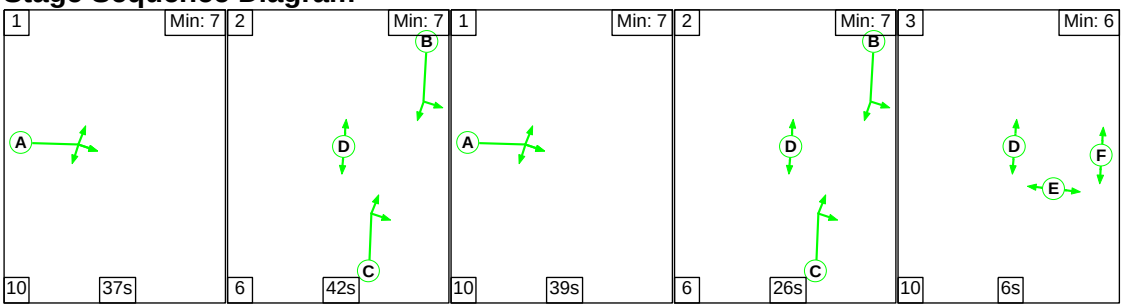
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**16**	**0**	**11**	**10.0**	**5.1**	**0.1**	**15.2**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**16**	**0**	**11**	**10.0**	**5.1**	**0.1**	**15.2**	**-**	**-**	**-**	**-**
1/1	246	246	-	-	-	2.6	1.7	-	4.3	62.5	7.0	1.7	8.7
2/1	41	41	16	0	11	0.4	0.2	0.1	0.6	55.8	1.0	0.2	1.2
3/1	848	848	-	-	-	3.1	1.6	-	4.7	19.9	18.1	1.6	19.7
3/2+3/3	1023	1023	-	-	-	3.8	1.8	-	5.6	19.8	22.1	1.8	23.8
4/1	734	734	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1005	1005	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	23	23	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	396	396	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 15.1 Total Delay for Signalled Lanes (pcuHr): 15.20 Cycle Time (s): 192
PRC Over All Lanes (%): 15.1 Total Delay Over All Lanes(pcuHr): 15.20

Full Input Data And Results

Scenario 11: 'Do-Sth (Detail+Out) 2037 AM' (FG31: 'Do-Sth (Detail+Out+Com) 2037 AM', Plan 1: 'TfGM Staging Plan')

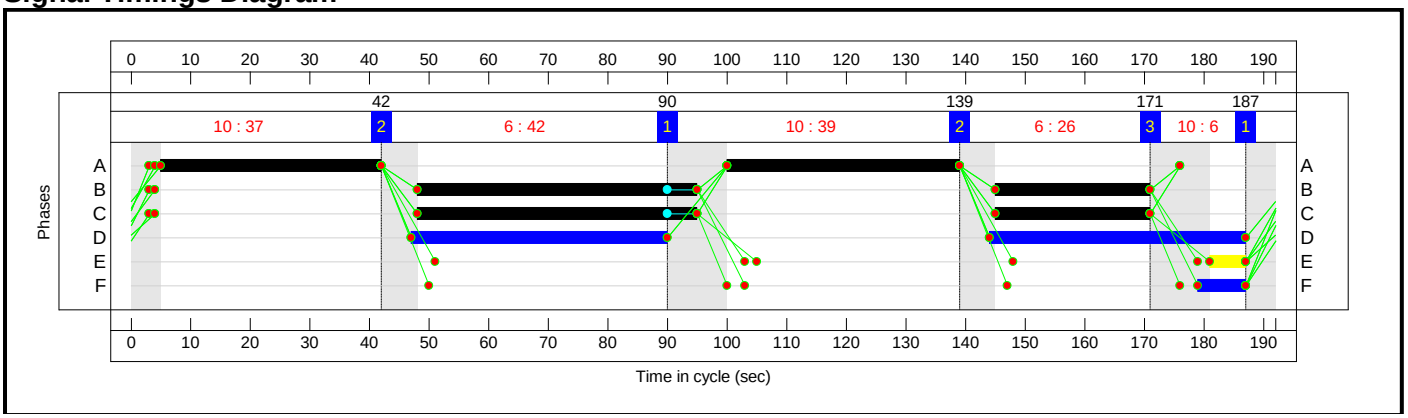
Stage Sequence Diagram



Stage Timings

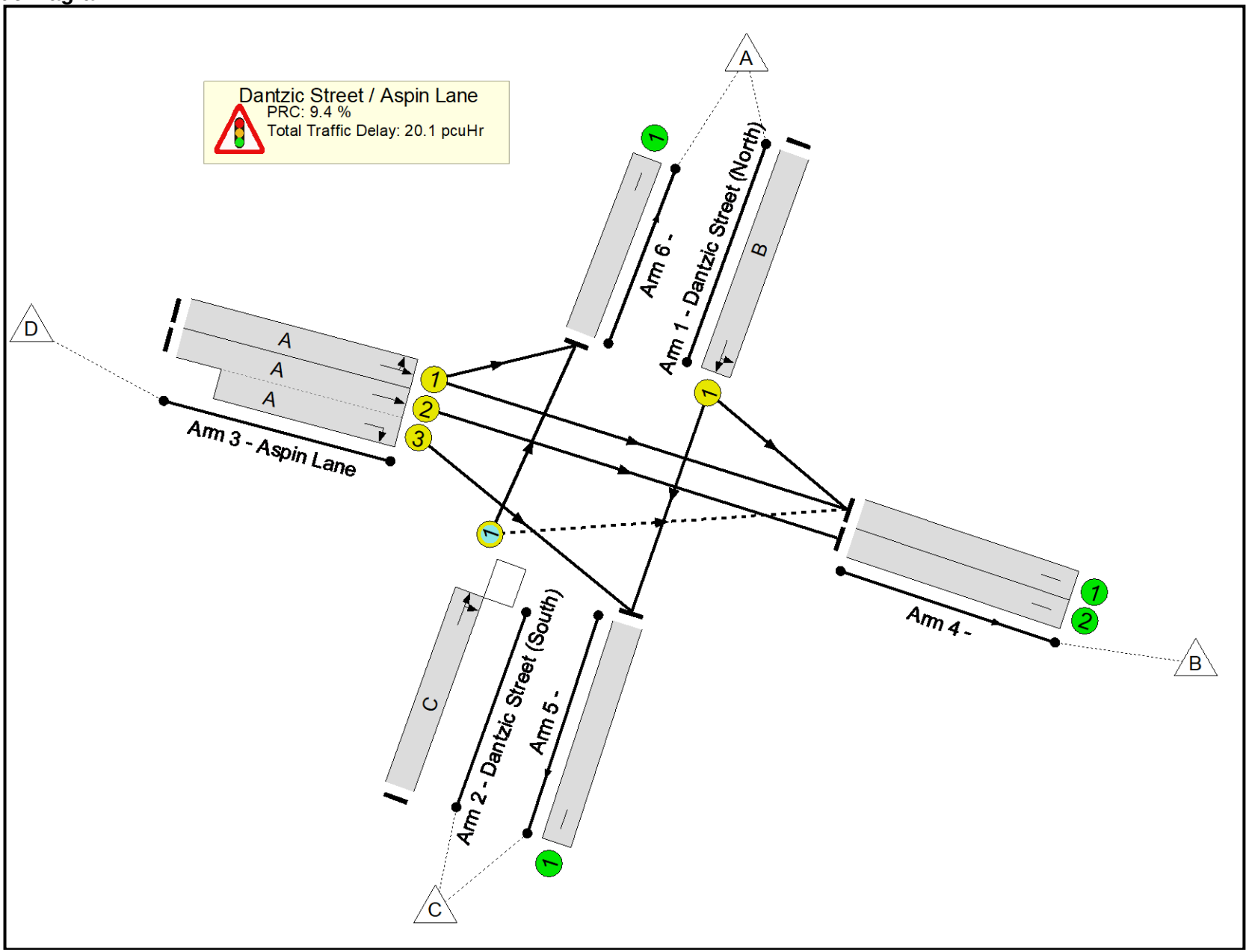
Stage	1	2	1	2	3
Duration	37	42	39	26	6
Change Point	187	42	90	139	171

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.3%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.3%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	73	-	575	1793	700	82.1%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	73	-	20	1962	189	10.6%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	76	-	596	1841	748	79.7%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	76	-	723	2080:1890	844+35	82.3 : 82.3%
4/1		U	N/A	N/A	-		-	-	-	988	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	694	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	51	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	181	Inf	Inf	0.0%

Full Input Data And Results

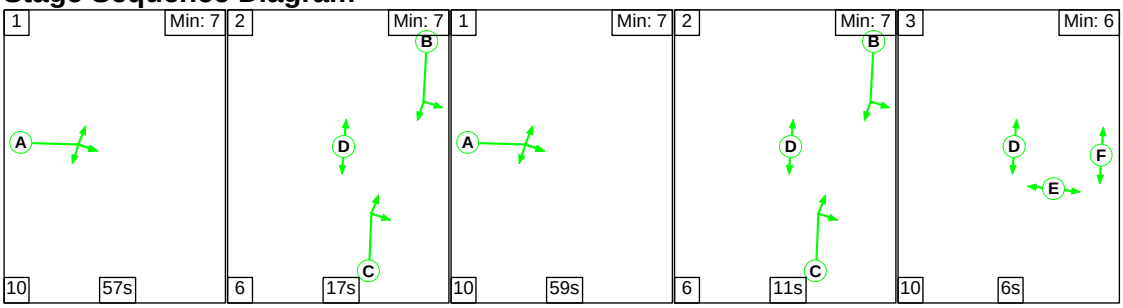
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**14**	**0**	**0**	**13.6**	**6.4**	**0.1**	**20.1**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**14**	**0**	**0**	**13.6**	**6.4**	**0.1**	**20.1**	**-**	**-**	**-**	**-**
1/1	575	575	-	-	-	4.3	2.2	-	6.5	40.8	16.0	2.2	18.2
2/1	20	20	14	0	0	0.1	0.1	0.1	0.2	44.5	0.4	0.1	0.4
3/1	596	596	-	-	-	4.1	1.9	-	6.1	36.6	13.9	1.9	15.8
3/2+3/3	723	723	-	-	-	5.0	2.3	-	7.3	36.3	16.4	2.3	18.6
4/1	988	988	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	694	694	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	51	51	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	181	181	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 9.4 Total Delay for Signalled Lanes (pcuHr): 20.11 Cycle Time (s): 192
PRC Over All Lanes (%): 9.4 Total Delay Over All Lanes(pcuHr): 20.11

Full Input Data And Results

Scenario 12: 'Do-Sth (Detail+Out) 2037 PM' (FG32: 'Do-Sth (Detail+Out+Com) 2037 PM', Plan 1: 'TfGM Staging Plan')

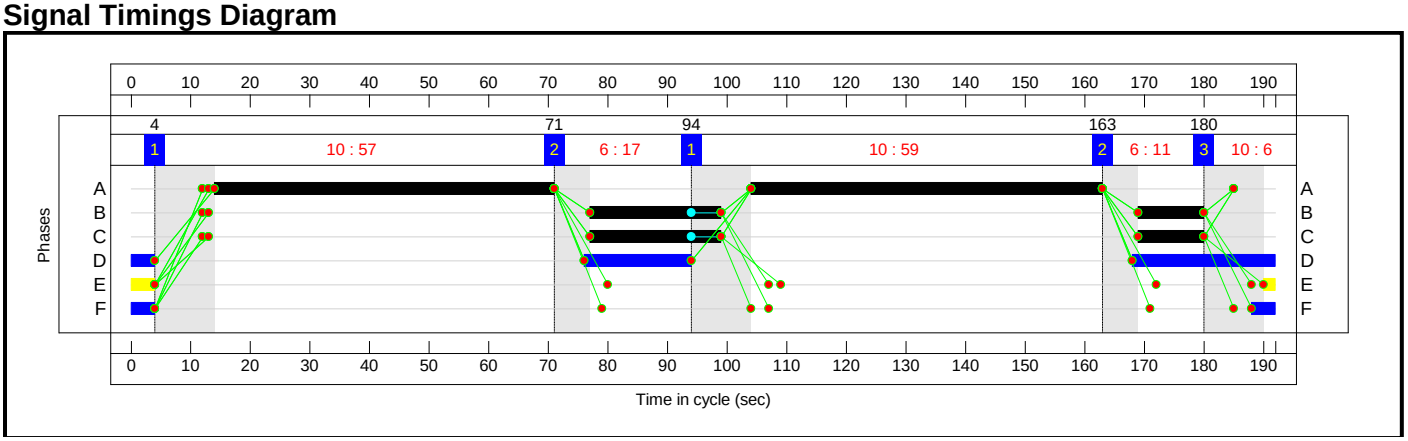
Stage Sequence Diagram



Stage Timings

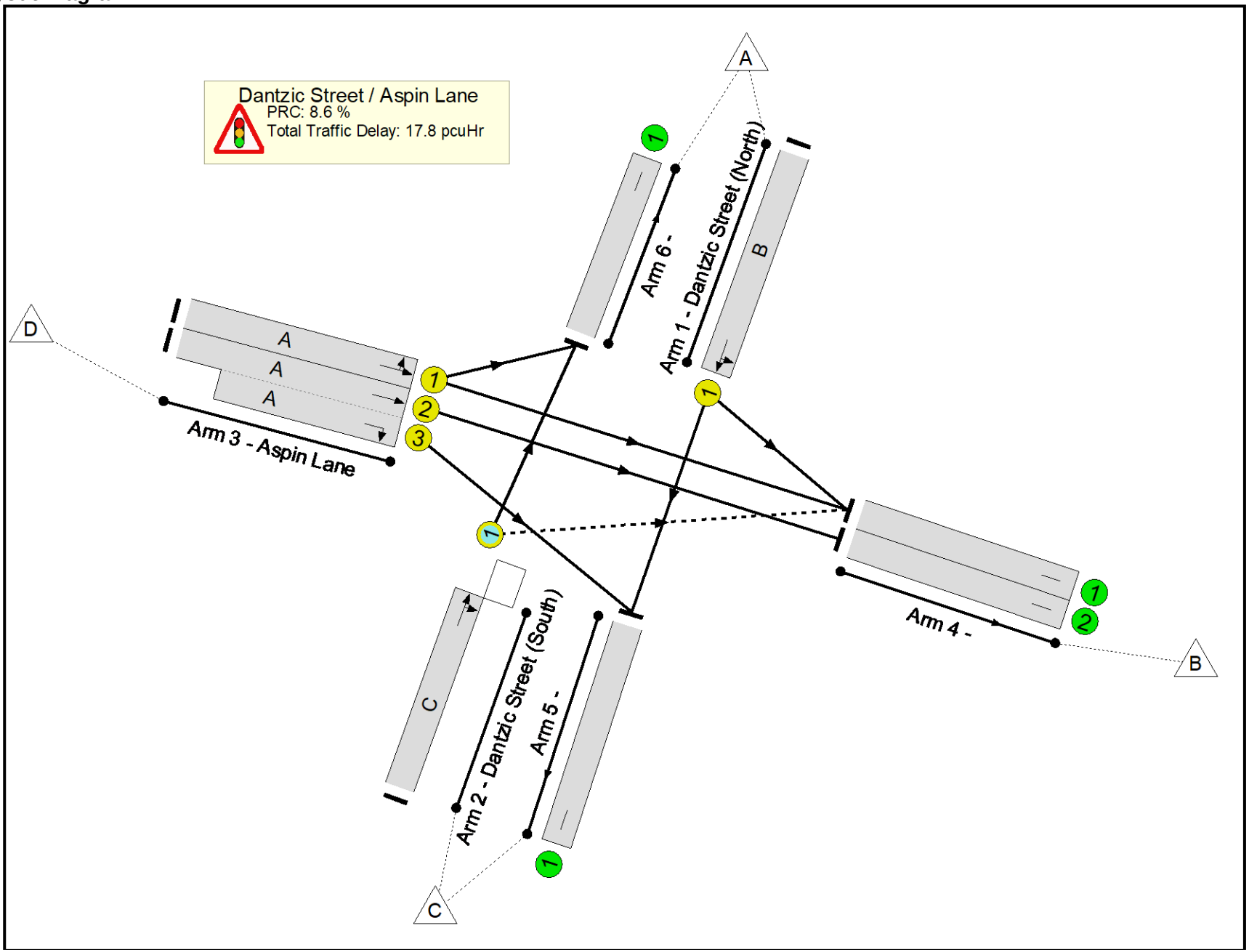
Stage	1	2	1	2	3
Duration	57	17	59	11	6
Change Point	4	71	94	163	180

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.9%**
Dantzic Street / Aspin Lane	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.9%**
1/1	Dantzic Street (North) Left Ahead	U	N/A	N/A	B		2	33	-	264	1789	326	81.0%
2/1	Dantzic Street (South) Right Ahead	O	N/A	N/A	C		2	33	-	41	1968	155	26.5%
3/1	Aspin Lane Ahead Left	U	N/A	N/A	A		2	116	-	885	1785	1097	80.7%
3/2+3/3	Aspin Lane Ahead Right	U	N/A	N/A	A		2	116	-	1075	2080:1890	1276+22	82.9 : 82.9%
4/1		U	N/A	N/A	-		-	-	-	700	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	1057	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	23	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	485	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**16**	**0**	**11**	**11.1**	**6.6**	**0.1**	**17.8**	**-**	**-**	**-**	**-**
Dantzic Street / Aspin Lane	**-**	**-**	**16**	**0**	**11**	**11.1**	**6.6**	**0.1**	**17.8**	**-**	**-**	**-**	**-**
1/1	264	264	-	-	-	2.8	2.0	-	4.8	65.4	7.6	2.0	9.5
2/1	41	41	16	0	11	0.4	0.2	0.1	0.7	57.3	1.0	0.2	1.2
3/1	885	885	-	-	-	3.5	2.0	-	5.6	22.7	20.4	2.0	22.5
3/2+3/3	1075	1075	-	-	-	4.4	2.4	-	6.7	22.6	25.3	2.4	27.6
4/1	700	700	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	1057	1057	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	23	23	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	485	485	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 8.6 Total Delay for Signalled Lanes (pcuHr): 17.78 Cycle Time (s): 192
PRC Over All Lanes (%): 8.6 Total Delay Over All Lanes(pcuHr): 17.78

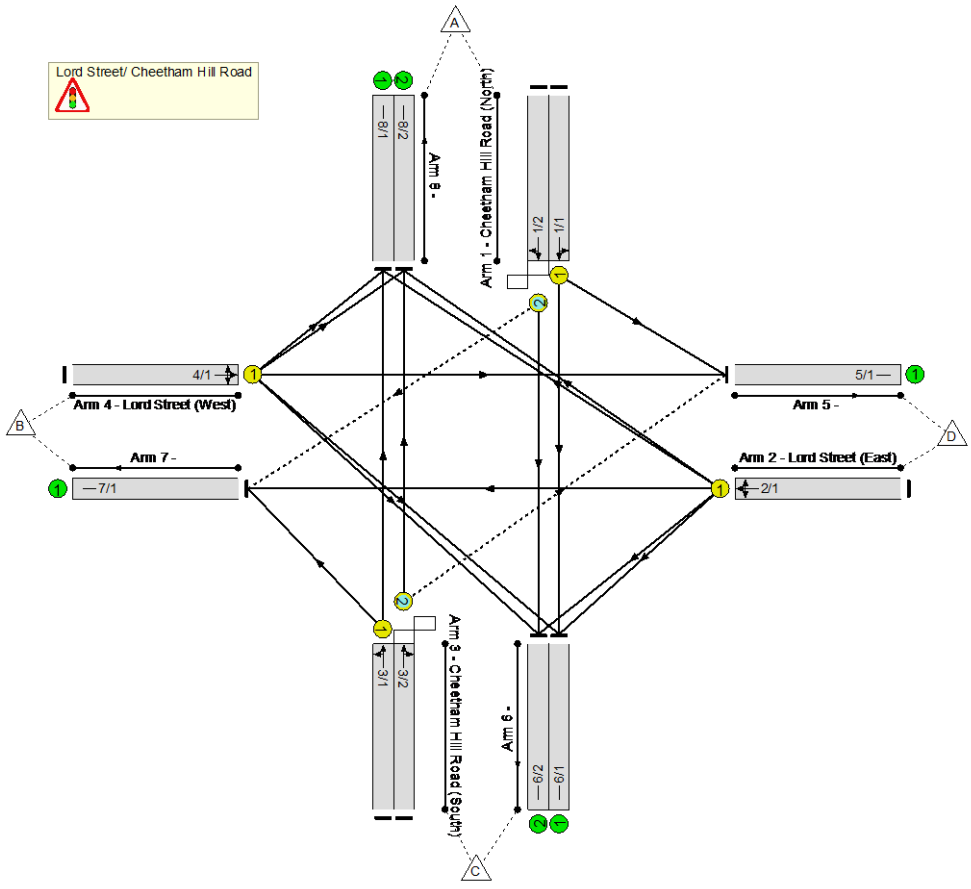
Full Input Data And Results

User and Project Details

Project:	**Northern Gateway**
Title:	
Location:	
Client:	FEC
Site Ref(s):	Lord Street/ Cheetham Hill Road
Additional detail:	With Mitigation - Indicative Right Turn Arrow in AM peak
File name:	Lord Street_Cheetham Hill Road - Mitigation.lsg3x
Author:	
Company:	
Address:	

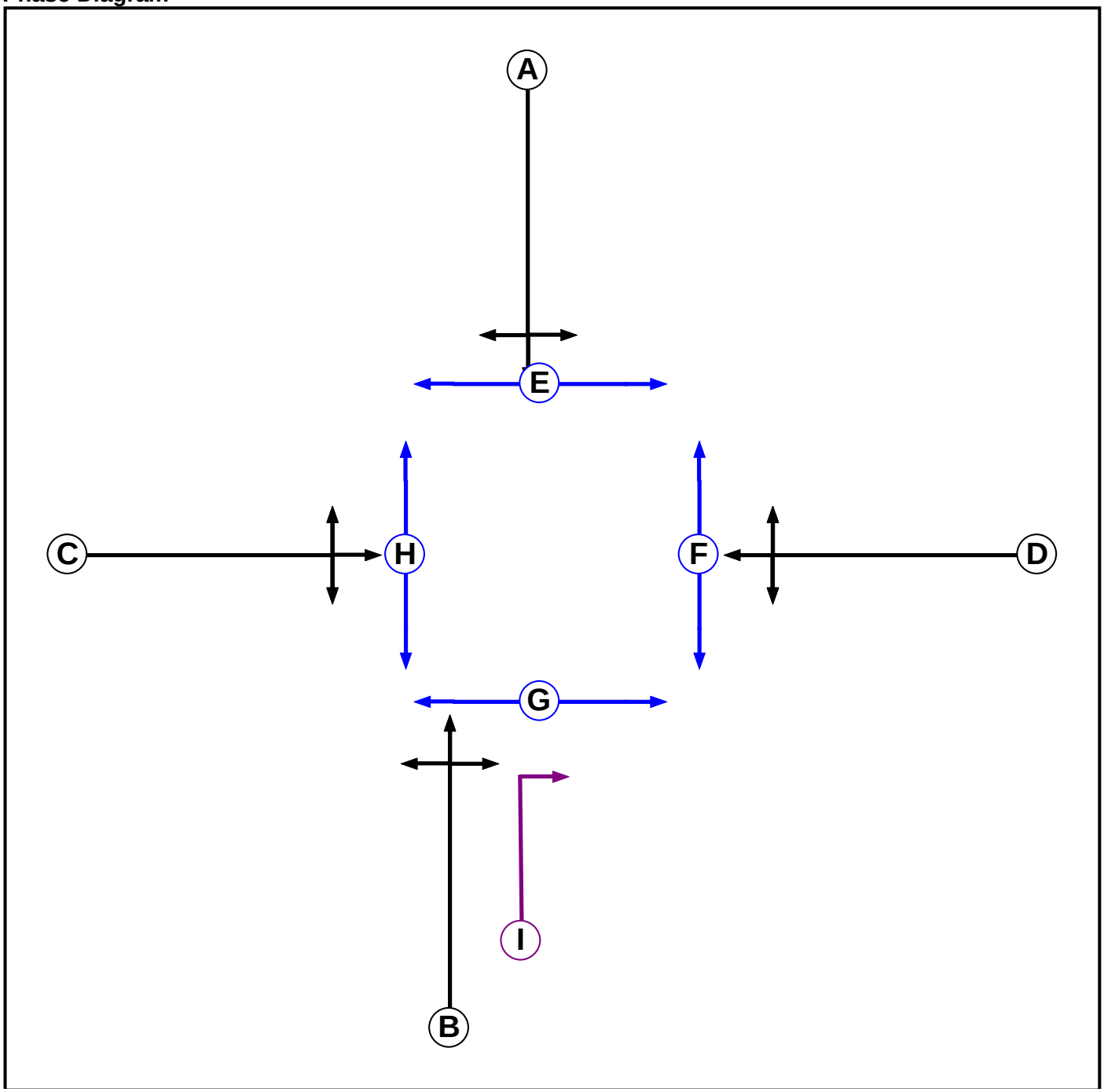
Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		5	5
F	Pedestrian		5	5
G	Pedestrian		5	5
H	Pedestrian		5	5
I	Ind. Arrow	B	4	4

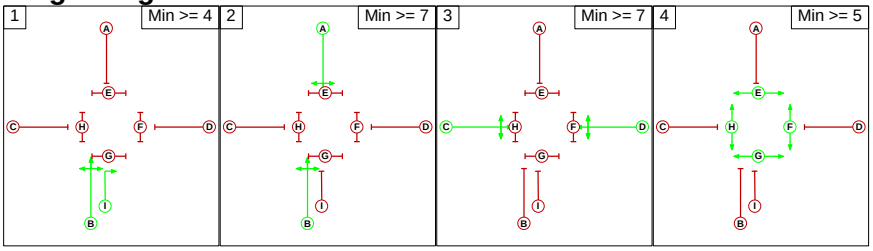
Phase Intergreens Matrix

		Starting Phase								
		A	B	C	D	E	F	G	H	I
Terminating Phase	A		-	6	6	5	7	7	8	6
	B	-		6	6	7	7	5	7	-
	C	6	6		-	7	7	8	5	6
	D	6	6	-		8	5	7	7	6
	E	6	6	6	6		-	-	-	6
	F	6	6	6	6	-		-	-	6
	G	6	6	6	6	-	-		-	6
	H	5	5	5	5	-	-	-		5
	I	6	-	6	6	7	7	5	7	

Phases in Stage

Stage No.	Phases in Stage
1	B I
2	A B
3	C D
4	E F G H

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Full Input Data And Results

Prohibited Stage Change

From Stage	To Stage				
		1	2	3	4
	1		6	6	7
	2	6		6	8
	3	6	6		8
	4	6	6	6	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Lord Street/ Cheetham Hill Road											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
1/2 (Cheetham Hill Road (North))	7/1 (Right)	1439	0	3/1	1.09	All	2.00	1.00	0.50	2	2.00
				3/2	1.09	To 8/2 (Ahead)					
3/2 (Cheetham Hill Road (South))	5/1 (Right)	1439	0	1/1	1.09	All	2.00	1.00	0.50	2	2.00
				1/2	1.09	To 6/2 (Ahead)					

Full Input Data And Results

Lane Input Data

Junction: Lord Street/ Cheetham Hill Road												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (Cheetham Hill Road (North))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Left	5.00
											Arm 6 Ahead	Inf
1/2 (Cheetham Hill Road (North))	O	A	2	3	60.0	Geom	-	3.00	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	12.00
2/1 (Lord Street (East))	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 6 Left	5.00
											Arm 7 Ahead	Inf
											Arm 8 Right	12.00
3/1 (Cheetham Hill Road (South))	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 7 Left	5.00
											Arm 8 Ahead	Inf
3/2 (Cheetham Hill Road (South))	O	B I	2	3	60.0	Geom	-	3.00	0.00	N	Arm 5 Right	Inf
											Arm 8 Ahead	12.00
4/1 (Lord Street (West))	U	C	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Right	12.00
											Arm 8 Left	5.00
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/2	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Do-Sth (Detailed+Com) 2034 AM'	08:00	09:00	01:00	
2: 'Do-Sth (Detailed+Com) 2034 PM'	17:00	18:00	01:00	
3: 'Do-Sth (Outline+Com) 2037 AM'	08:00	09:00	01:00	
4: 'Do-Sth (Outline+Com) 2037 PM'	17:00	18:00	01:00	
5: 'Do-Sth (Detail+Out+Com) 2037 AM'	08:00	09:00	01:00	
6: 'Do-Sth (Detail+Out+Com) 2037 PM'	17:00	18:00	01:00	

Scenario 1: 'Do-Sth (Detailed+Com) 2034 AM' (FG1: 'Do-Sth (Detailed+Com) 2034 AM', Plan 1: 'AM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	5	1267	34	1306
	B	0	0	17	47	64
	C	495	5	0	106	606
	D	20	100	278	0	398
	Tot.	515	110	1562	187	2374

Traffic Lane Flows

Lane	Scenario 1: Do-Sth (Detailed+Com) 2034 AM
Junction: Lord Street/ Cheetham Hill Road	
1/1	619
1/2	687
2/1	398
3/1	500
3/2	106
4/1	64
5/1	187
6/1	732
6/2	830
7/1	110
8/1	505
8/2	10

Full Input Data And Results

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	5.5 %	1884	1884
				Arm 6 Ahead	Inf	94.5 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	99.3 %	2053	2053
				Arm 7 Right	12.00	0.7 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	69.8 %	1616	1616
				Arm 7 Ahead	Inf	25.1 %		
				Arm 8 Right	12.00	5.0 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.0 %	1909	1909
				Arm 8 Ahead	Inf	99.0 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	100.0 %	2055	2055
				Arm 8 Ahead	12.00	0.0 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	73.4 %	1878	1878
				Arm 6 Right	12.00	26.6 %		
				Arm 8 Left	5.00	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'Do-Sth (Detailed+Com) 2034 PM' (FG2: 'Do-Sth (Detailed+Com) 2034 PM', Plan 2: 'PM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	9	708	33	750
	B	28	0	31	99	158
	C	1237	13	0	165	1415
	D	41	102	139	0	282
	Tot.	1306	124	878	297	2605

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: Do-Sth (Detailed+Com) 2034 PM
Junction: Lord Street/ Cheetham Hill Road	
1/1	348
1/2	402
2/1	282
3/1	797
3/2	618
4/1	158
5/1	297
6/1	399
6/2	479
7/1	124
8/1	818
8/2	488

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	9.5 %	1862	1862
				Arm 6 Ahead	Inf	90.5 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	97.8 %	2049	2049
				Arm 7 Right	12.00	2.2 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	49.3 %	1685	1685
				Arm 7 Ahead	Inf	36.2 %		
				Arm 8 Right	12.00	14.5 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.6 %	1906	1906
				Arm 8 Ahead	Inf	98.4 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	26.7 %	1883	1883
				Arm 8 Ahead	12.00	73.3 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	62.7 %	1800	1800
				Arm 6 Right	12.00	19.6 %		
				Arm 8 Left	5.00	17.7 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: 'Do-Sth (Outline+Com) 2037 AM' (FG3: 'Do-Sth (Outline+Com) 2037 AM', Plan 1: 'AM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	5	1298	35	1338
	B	0	0	17	48	65
	C	507	5	0	188	700
	D	20	102	360	0	482
	Tot.	527	112	1675	271	2585

Traffic Lane Flows

Lane	Scenario 3: Do-Sth (Outline+Com) 2037 AM
Junction: Lord Street/ Cheetham Hill Road	
1/1	636
1/2	702
2/1	482
3/1	512
3/2	188
4/1	65
5/1	271
6/1	789
6/2	886
7/1	112
8/1	517
8/2	10

Full Input Data And Results

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	5.5 %	1884	1884
				Arm 6 Ahead	Inf	94.5 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	99.3 %	2053	2053
				Arm 7 Right	12.00	0.7 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	74.7 %	1599	1599
				Arm 7 Ahead	Inf	21.2 %		
				Arm 8 Right	12.00	4.1 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.0 %	1909	1909
				Arm 8 Ahead	Inf	99.0 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	100.0 %	2055	2055
				Arm 8 Ahead	12.00	0.0 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	73.8 %	1879	1879
				Arm 6 Right	12.00	26.2 %		
				Arm 8 Left	5.00	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'Do-Sth (Outline+Com) 2037 PM' (FG4: 'Do-Sth (Outline+Com) 2037 PM', Plan 2: 'PM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	10	724	33	767
	B	28	0	32	102	162
	C	1265	13	0	261	1539
	D	42	105	183	0	330
	Tot.	1335	128	939	396	2798

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: Do-Sth (Outline+Com) 2037 PM
Junction: Lord Street/ Cheetham Hill Road	
1/1	358
1/2	409
2/1	330
3/1	994
3/2	545
4/1	162
5/1	396
6/1	432
6/2	507
7/1	128
8/1	1016
8/2	319

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	9.2 %	1863	1863
				Arm 6 Ahead	Inf	90.8 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	97.6 %	2049	2049
				Arm 7 Right	12.00	2.4 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	55.5 %	1662	1662
				Arm 7 Ahead	Inf	31.8 %		
				Arm 8 Right	12.00	12.7 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.3 %	1908	1908
				Arm 8 Ahead	Inf	98.7 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	47.9 %	1929	1929
				Arm 8 Ahead	12.00	52.1 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	63.0 %	1802	1802
				Arm 6 Right	12.00	19.8 %		
				Arm 8 Left	5.00	17.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 5: 'Do-Sth (Detail+Out+Com) 2037 AM' (FG5: 'Do-Sth (Detail+Out+Com) 2037 AM', Plan 1: 'AM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	5	1298	35	1338
	B	0	0	17	48	65
	C	507	5	0	188	700
	D	20	102	413	0	535
	Tot.	527	112	1728	271	2638

Traffic Lane Flows

Lane	Scenario 5: Do-Sth (Detail+Out+Com) 2037 AM
Junction: Lord Street/ Cheetham Hill Road	
1/1	637
1/2	701
2/1	535
3/1	512
3/2	188
4/1	65
5/1	271
6/1	816
6/2	912
7/1	112
8/1	517
8/2	10

Full Input Data And Results

Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	5.5 %	1884	1884
				Arm 6 Ahead	Inf	94.5 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	99.3 %	2053	2053
				Arm 7 Right	12.00	0.7 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	77.2 %	1589	1589
				Arm 7 Ahead	Inf	19.1 %		
				Arm 8 Right	12.00	3.7 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.0 %	1909	1909
				Arm 8 Ahead	Inf	99.0 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	100.0 %	2055	2055
				Arm 8 Ahead	12.00	0.0 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	73.8 %	1879	1879
				Arm 6 Right	12.00	26.2 %		
				Arm 8 Left	5.00	0.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'Do-Sth (Detail+Out+Com) 2037 PM' (FG6: 'Do-Sth (Detail+Out+Com) 2037 PM', Plan 2: 'PM SSGM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	10	724	33	767
	B	28	0	32	102	162
	C	1265	13	0	261	1539
	D	42	105	217	0	364
	Tot.	1335	128	973	396	2832

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: Do-Sth (Detail+Out+Com) 2037 PM
Junction: Lord Street/ Cheetham Hill Road	
1/1	357
1/2	410
2/1	364
3/1	991
3/2	548
4/1	162
5/1	396
6/1	448
6/2	525
7/1	128
8/1	1013
8/2	322

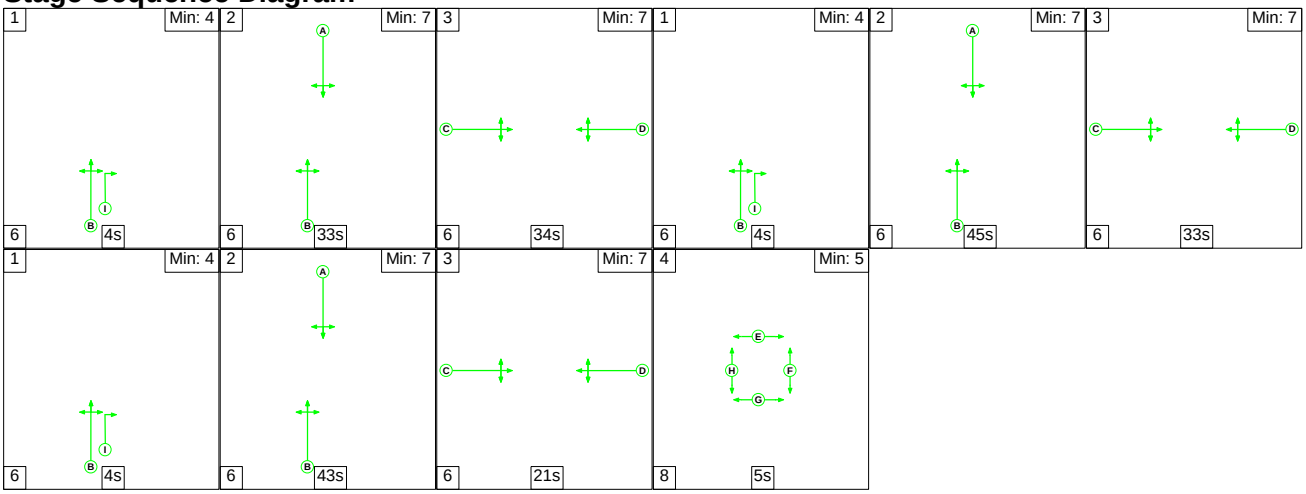
Lane Saturation Flows

Junction: Lord Street/ Cheetham Hill Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Cheetham Hill Road (North))	3.00	0.00	Y	Arm 5 Left	5.00	9.2 %	1863	1863
				Arm 6 Ahead	Inf	90.8 %		
1/2 (Cheetham Hill Road (North))	3.00	0.00	N	Arm 6 Ahead	Inf	97.6 %	2049	2049
				Arm 7 Right	12.00	2.4 %		
2/1 (Lord Street (East))	3.50	0.00	Y	Arm 6 Left	5.00	59.6 %	1647	1647
				Arm 7 Ahead	Inf	28.8 %		
				Arm 8 Right	12.00	11.5 %		
3/1 (Cheetham Hill Road (South))	3.00	0.00	Y	Arm 7 Left	5.00	1.3 %	1907	1907
				Arm 8 Ahead	Inf	98.7 %		
3/2 (Cheetham Hill Road (South))	3.00	0.00	N	Arm 5 Right	Inf	47.6 %	1929	1929
				Arm 8 Ahead	12.00	52.4 %		
4/1 (Lord Street (West))	3.25	0.00	Y	Arm 5 Ahead	Inf	63.0 %	1802	1802
				Arm 6 Right	12.00	19.8 %		
				Arm 8 Left	5.00	17.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
6/2	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 1: 'Do-Sth (Detailed+Com) 2034 AM' (FG1: 'Do-Sth (Detailed+Com) 2034 AM', Plan 1: 'AM SSGM')

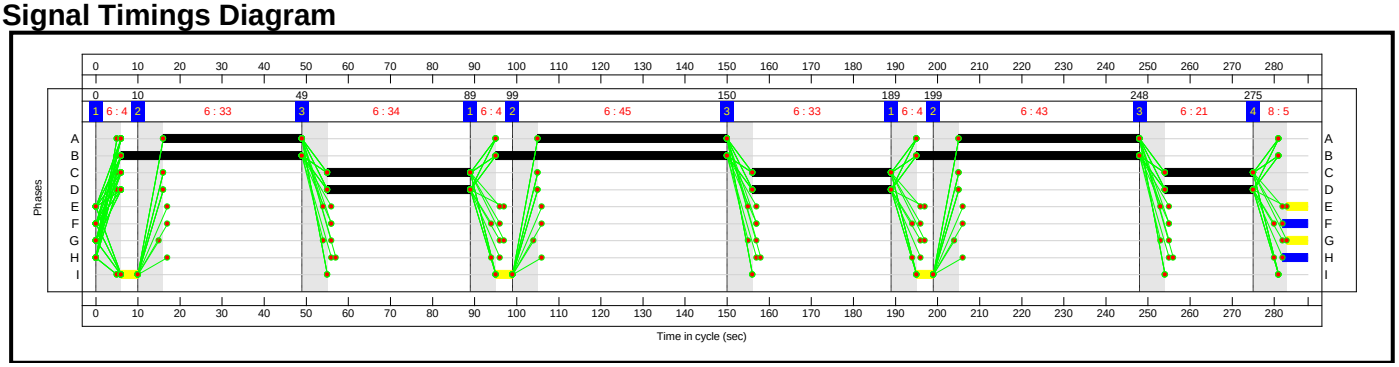
Stage Sequence Diagram



Stage Timings

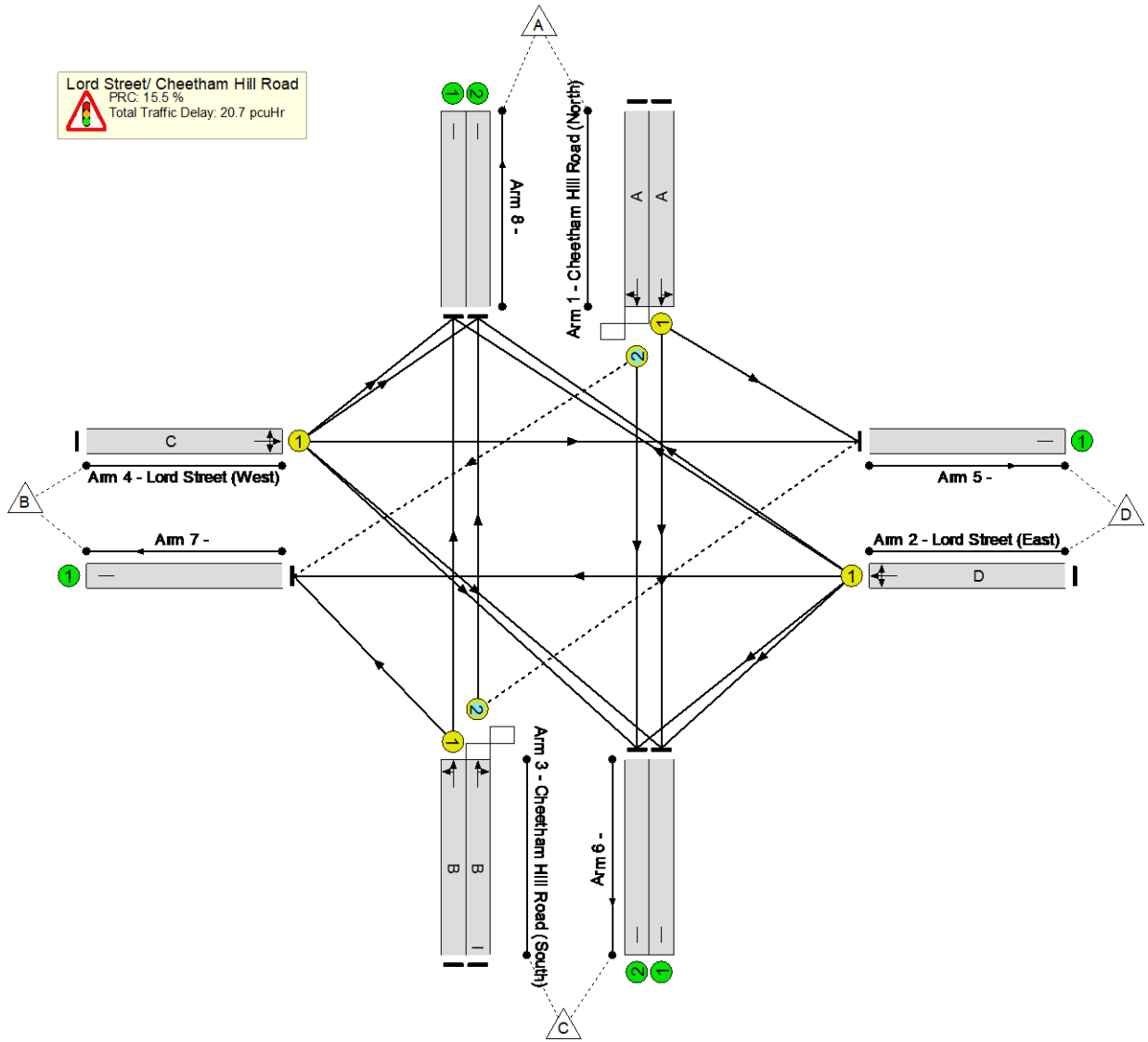
Stage	1	2	3	1	2	3	1	2	3	4
Duration	4	33	34	4	45	33	4	43	21	5
Change Point	0	10	49	89	99	150	189	199	248	275

Signal Timings Diagram



Full Input Data And Results

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**77.9%**
Lord Street/ Cheetham Hill Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**77.9%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	121	-	619	1884	811	76.3%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	121	-	687	2053	884	77.7%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	88	-	398	1616	511	77.9%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	151	-	500	1909	1021	49.0%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B	I	3	151	12	106	2055	248	42.7%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	88	-	64	1878	593	10.8%
5/1		U	N/A	N/A	-		-	-	-	187	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	732	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	830	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	110	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	505	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%

Full Input Data And Results

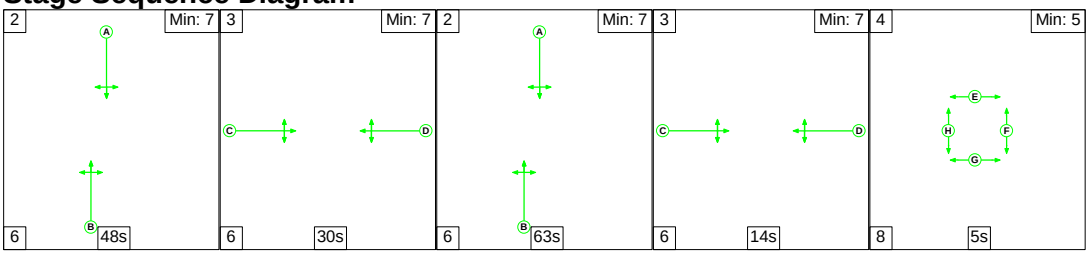
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**7**	**58**	**45**	**14.5**	**5.9**	**0.3**	**20.7**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**7**	**58**	**45**	**14.5**	**5.9**	**0.3**	**20.7**	**-**	**-**	**-**	**-**
1/1	619	619	-	-	-	4.0	1.6	-	5.6	32.4	13.9	1.6	15.5
1/2	687	687	5	0	0	4.5	1.7	0.0	6.2	32.4	15.6	1.7	17.4
2/1	398	398	-	-	-	3.3	1.7	-	5.0	45.3	9.7	1.7	11.4
3/1	500	500	-	-	-	2.0	0.5	-	2.4	17.5	8.3	0.5	8.8
3/2	106	106	2	58	45	0.3	0.4	0.3	1.0	33.8	1.4	0.4	1.8
4/1	64	64	-	-	-	0.4	0.1	-	0.5	26.7	1.2	0.1	1.3
5/1	187	187	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	732	732	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	830	830	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	110	110	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	505	505	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	10	10	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 15.5 Total Delay for Signalled Lanes (pcuHr): 20.68 Cycle Time (s): 288
PRC Over All Lanes (%): 15.5 Total Delay Over All Lanes(pcuHr): 20.68

Full Input Data And Results

Scenario 2: 'Do-Sth (Detailed+Com) 2034 PM' (FG2: 'Do-Sth (Detailed+Com) 2034 PM', Plan 2: 'PM SSGM')

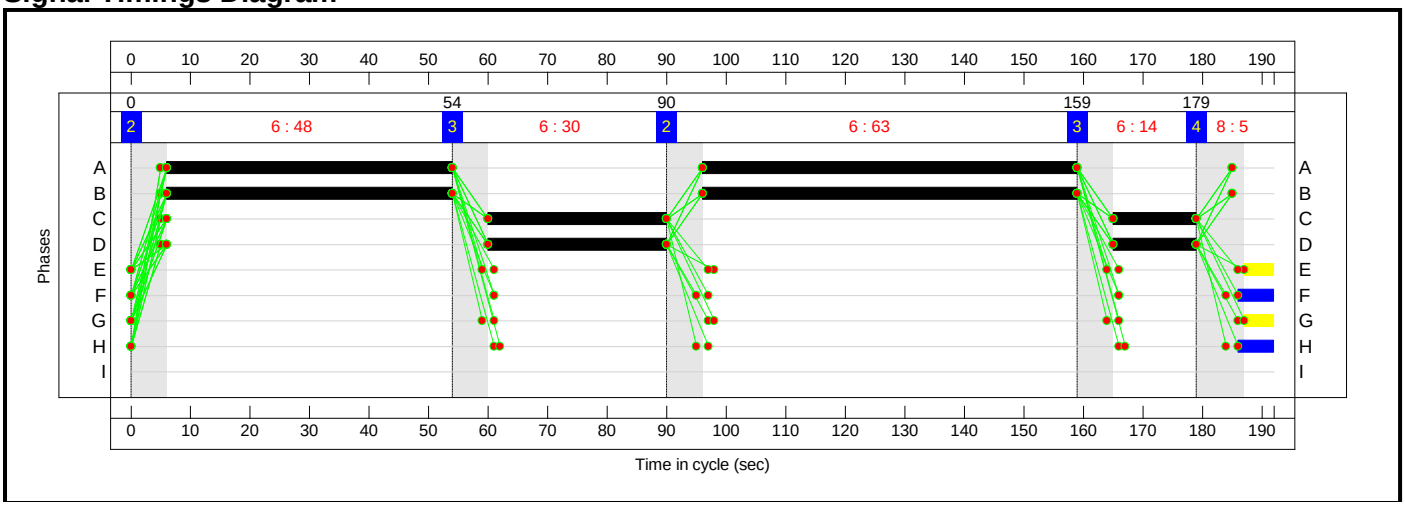
Stage Sequence Diagram



Stage Timings

Stage	2	3	2	3	4
Duration	48	30	63	14	5
Change Point	0	54	90	159	179

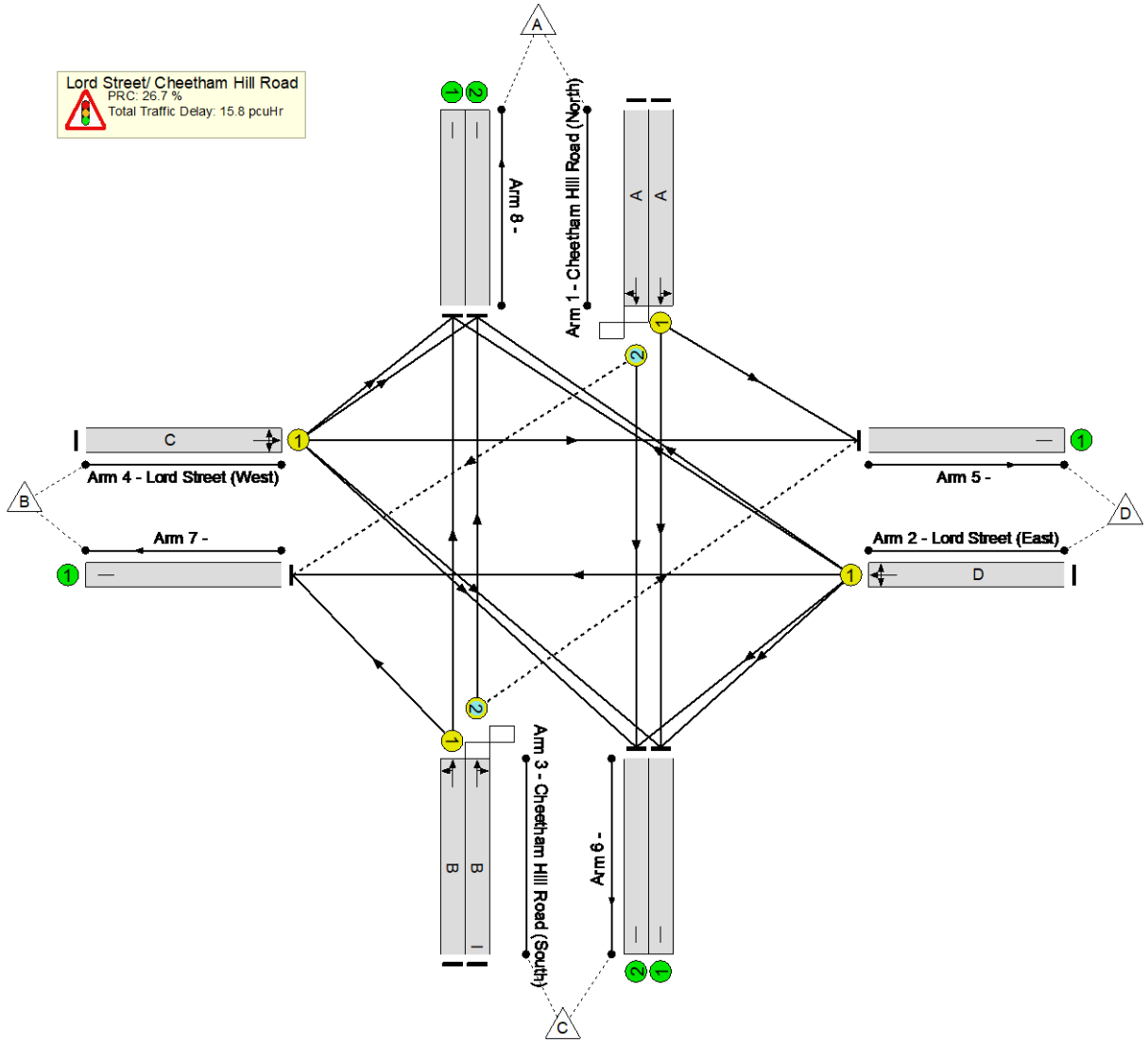
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**71.0%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**71.0%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		2	111	-	348	1862	1096	31.8%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		2	111	-	402	2049	1188	33.8%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		2	44	-	282	1685	404	69.9%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		2	111	-	797	1906	1122	71.0%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B	I	2	111	0	618	1883	982	62.9%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		2	44	-	158	1800	431	36.6%
5/1		U	N/A	N/A	-		-	-	-	297	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	399	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	479	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	124	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	818	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	488	Inf	Inf	0.0%

Full Input Data And Results

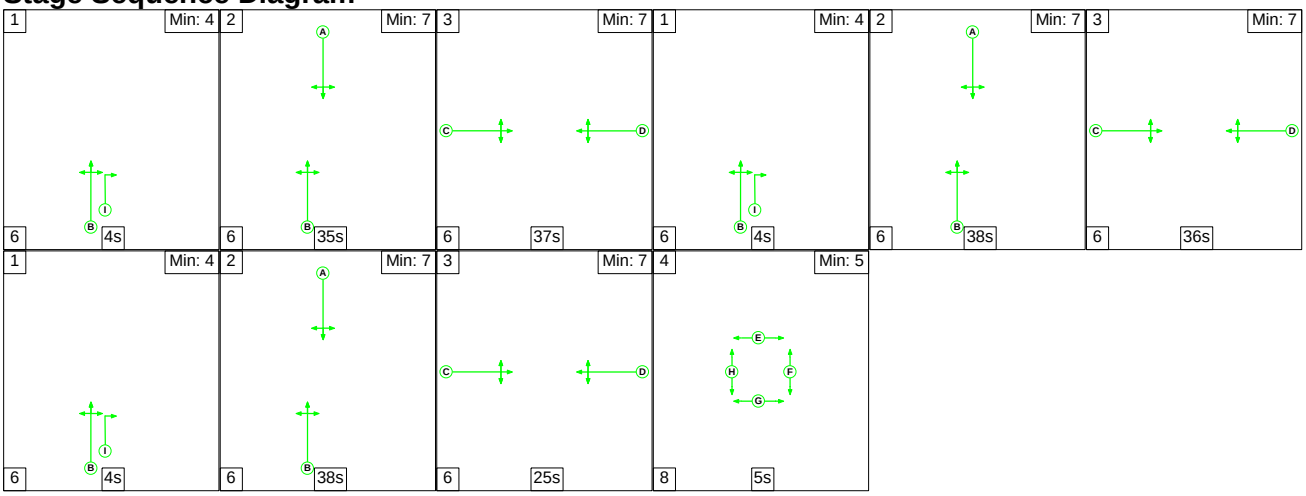
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**172**	**0**	**2**	**11.6**	**4.0**	**0.2**	**15.8**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**172**	**0**	**2**	**11.6**	**4.0**	**0.2**	**15.8**	**-**	**-**	**-**	**-**
1/1	348	348	-	-	-	1.0	0.2	-	1.2	12.4	4.8	0.2	5.1
1/2	402	402	9	0	0	1.1	0.3	0.0	1.4	12.8	5.7	0.3	6.0
2/1	282	282	-	-	-	2.6	1.1	-	3.7	47.9	6.9	1.1	8.0
3/1	797	797	-	-	-	3.1	1.2	-	4.3	19.5	15.5	1.2	16.7
3/2	618	618	163	0	2	2.5	0.8	0.2	3.5	20.5	12.2	0.8	13.0
4/1	158	158	-	-	-	1.3	0.3	-	1.6	37.0	3.6	0.3	3.8
5/1	297	297	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	399	399	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	479	479	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	124	124	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	818	818	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	488	488	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 26.7 Total Delay for Signalled Lanes (pcuHr): 15.85 Cycle Time (s): 192
PRC Over All Lanes (%): 26.7 Total Delay Over All Lanes(pcuHr): 15.85

Full Input Data And Results

Scenario 3: 'Do-Sth (Outline+Com) 2037 AM' (FG3: 'Do-Sth (Outline+Com) 2037 AM', Plan 1: 'AM SSGM')

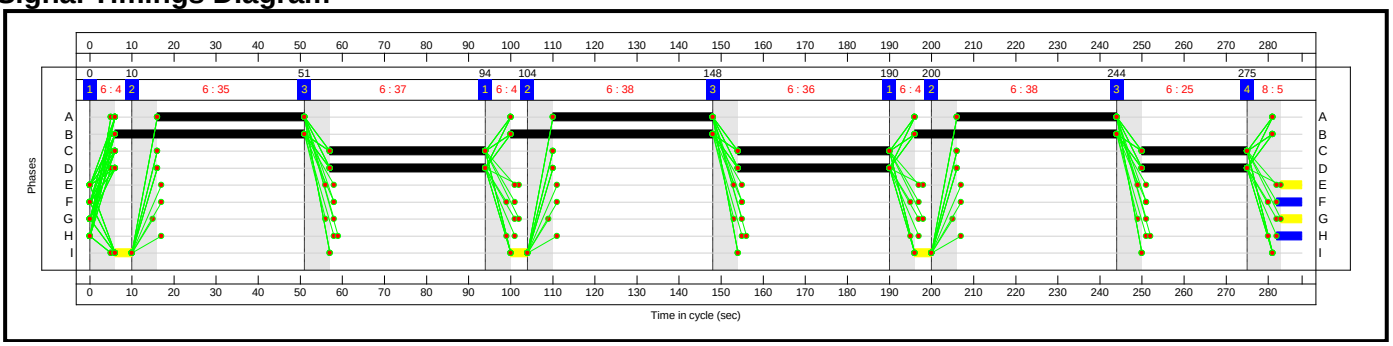
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	1	2	3	1	2	3	4
Duration	4	35	37	4	38	36	4	38	25	5
Change Point	0	10	51	94	104	148	190	200	244	275

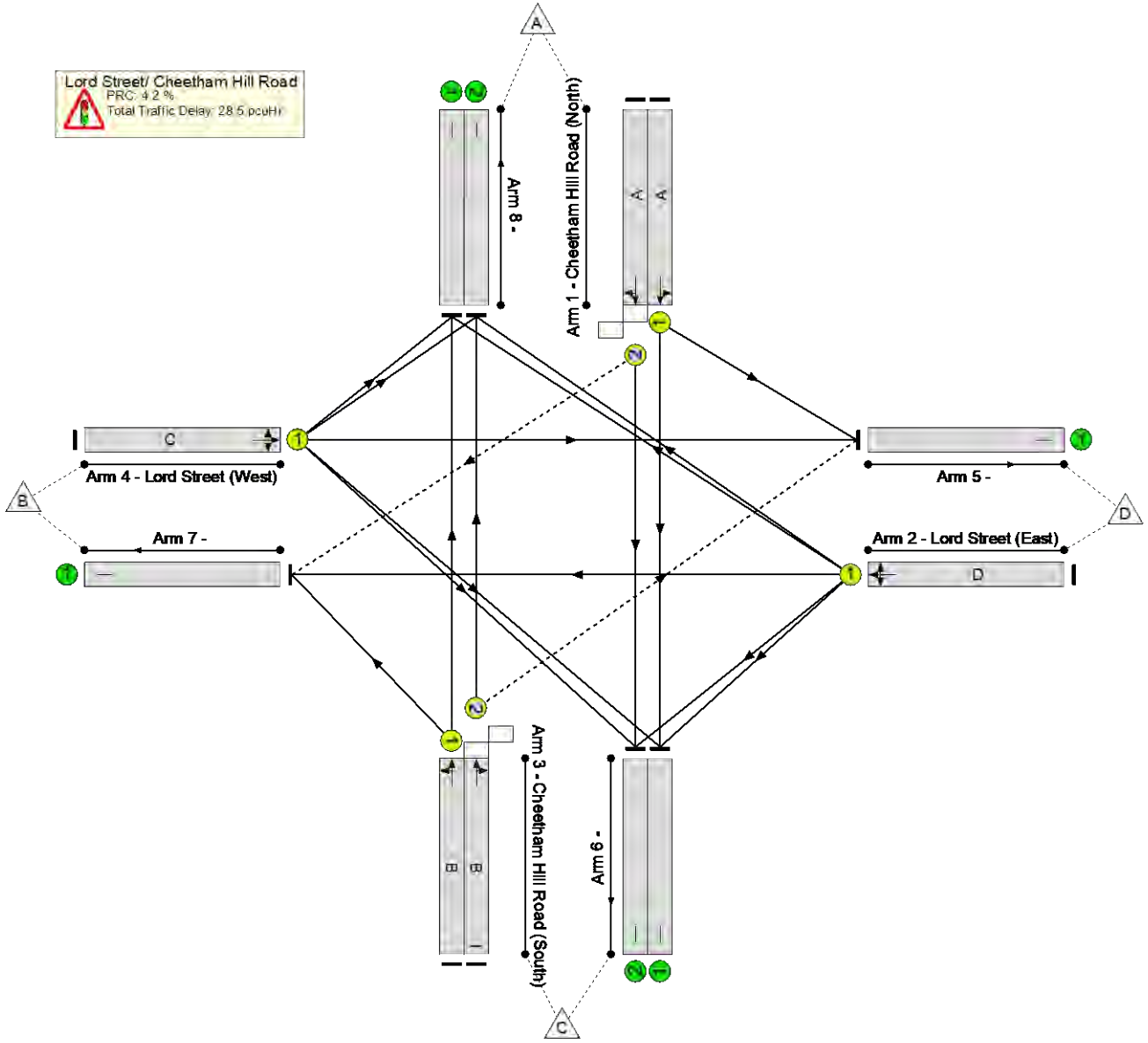
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**86.4%**
Lord Street/ Cheetham Hill Road	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**86.4%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	111	-	636	1884	746	85.3%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	111	-	702	2053	813	86.4%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	98	-	482	1599	561	86.0%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	141	-	512	1909	955	53.6%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B	I	3	141	12	188	2055	246	76.3%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	98	-	65	1879	659	9.9%
5/1		U	N/A	N/A	-		-	-	-	271	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	789	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	886	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	112	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	517	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%

Full Input Data And Results

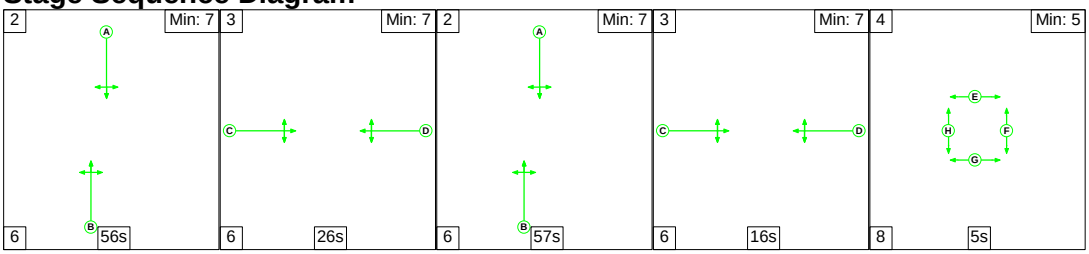
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**5**	**113**	**75**	**17.2**	**10.8**	**0.5**	**28.5**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**5**	**113**	**75**	**17.2**	**10.8**	**0.5**	**28.5**	**-**	**-**	**-**	**-**
1/1	636	636	-	-	-	4.7	2.8	-	7.4	42.1	15.7	2.8	18.5
1/2	702	702	5	0	0	5.2	3.0	0.0	8.2	42.1	17.4	3.0	20.4
2/1	482	482	-	-	-	3.9	2.9	-	6.8	50.4	13.1	2.9	16.0
3/1	512	512	-	-	-	2.3	0.6	-	2.9	20.5	9.4	0.6	10.0
3/2	188	188	0	113	75	0.7	1.5	0.5	2.7	52.6	3.0	1.5	4.5
4/1	65	65	-	-	-	0.4	0.1	-	0.4	24.1	1.3	0.1	1.3
5/1	271	271	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	789	789	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	886	886	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	112	112	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	517	517	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	10	10	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 4.2 Total Delay for Signalled Lanes (pcuHr): 28.50 Cycle Time (s): 288
PRC Over All Lanes (%): 4.2 Total Delay Over All Lanes(pcuHr): 28.50

Full Input Data And Results

Scenario 4: 'Do-Sth (Outline+Com) 2037 PM' (FG4: 'Do-Sth (Outline+Com) 2037 PM', Plan 2: 'PM SSGM')

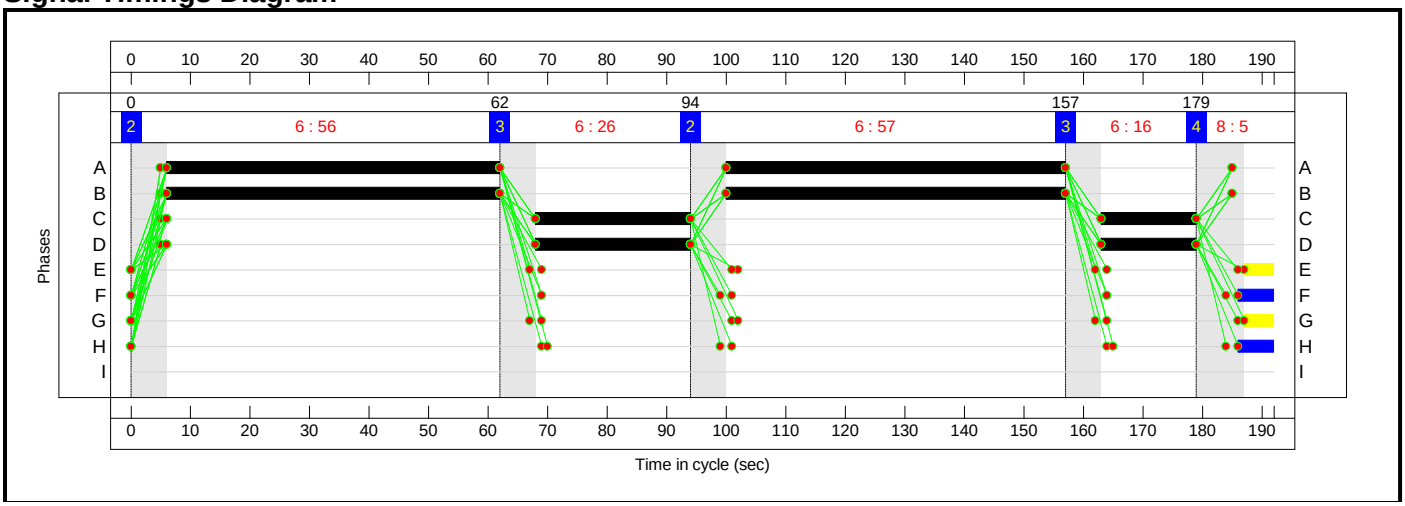
Stage Sequence Diagram



Stage Timings

Stage	2	3	2	3	4
Duration	56	26	57	16	5
Change Point	0	62	94	157	179

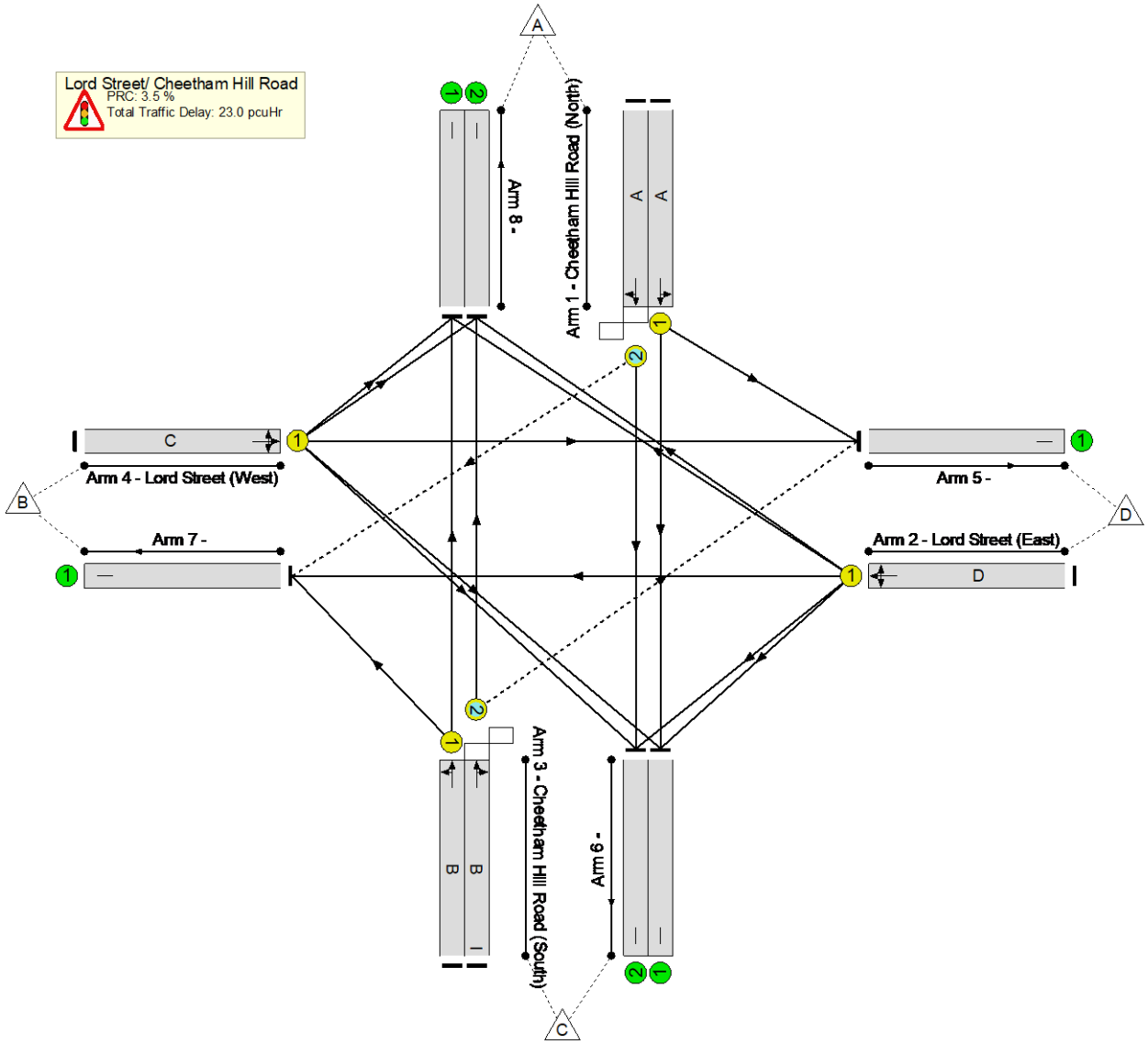
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.0%**
Lord Street/ Cheetham Hill Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.0%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		2	113	-	358	1863	1116	32.1%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		2	113	-	409	2049	1202	34.0%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		2	42	-	330	1662	381	86.6%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		2	113	-	994	1908	1143	87.0%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B	I	2	113	0	545	1929	690	78.9%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		2	42	-	162	1802	413	39.2%
5/1		U	N/A	N/A	-		-	-	-	396	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	432	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	507	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	128	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	1016	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	319	Inf	Inf	0.0%

Full Input Data And Results

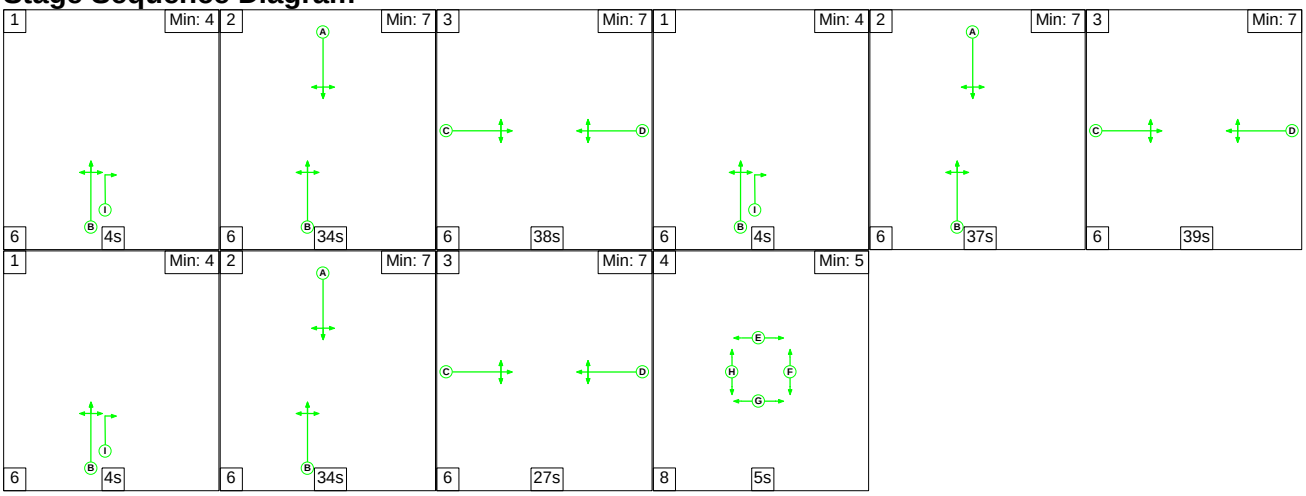
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**265**	**0**	**6**	**13.7**	**8.8**	**0.6**	**23.0**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**265**	**0**	**6**	**13.7**	**8.8**	**0.6**	**23.0**	**-**	**-**	**-**	**-**
1/1	358	358	-	-	-	1.0	0.2	-	1.2	11.9	4.9	0.2	5.1
1/2	409	409	7	0	3	1.1	0.3	0.1	1.5	12.8	5.7	0.3	5.9
2/1	330	330	-	-	-	3.3	2.9	-	6.2	67.6	9.1	2.9	12.0
3/1	994	994	-	-	-	4.5	3.2	-	7.7	27.7	22.9	3.2	26.1
3/2	545	545	258	0	3	2.5	1.8	0.5	4.8	31.6	12.0	1.8	13.8
4/1	162	162	-	-	-	1.4	0.3	-	1.7	38.7	3.9	0.3	4.2
5/1	396	396	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	432	432	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	507	507	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1016	1016	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	319	319	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 3.5 Total Delay for Signalled Lanes (pcuHr): 23.02 Cycle Time (s): 192
PRC Over All Lanes (%): 3.5 Total Delay Over All Lanes(pcuHr): 23.02

Full Input Data And Results

Scenario 5: 'Do-Sth (Detail+Out+Com) 2037 AM' (FG5: 'Do-Sth (Detail+Out+Com) 2037 AM', Plan 1: 'AM SSGM')

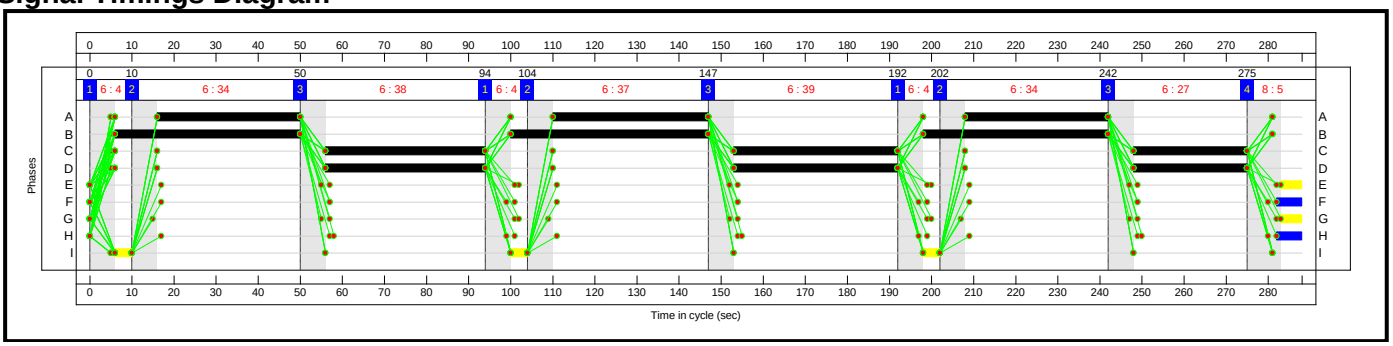
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	1	2	3	1	2	3	4
Duration	4	34	38	4	37	39	4	34	27	5
Change Point	0	10	50	94	104	147	192	202	242	275

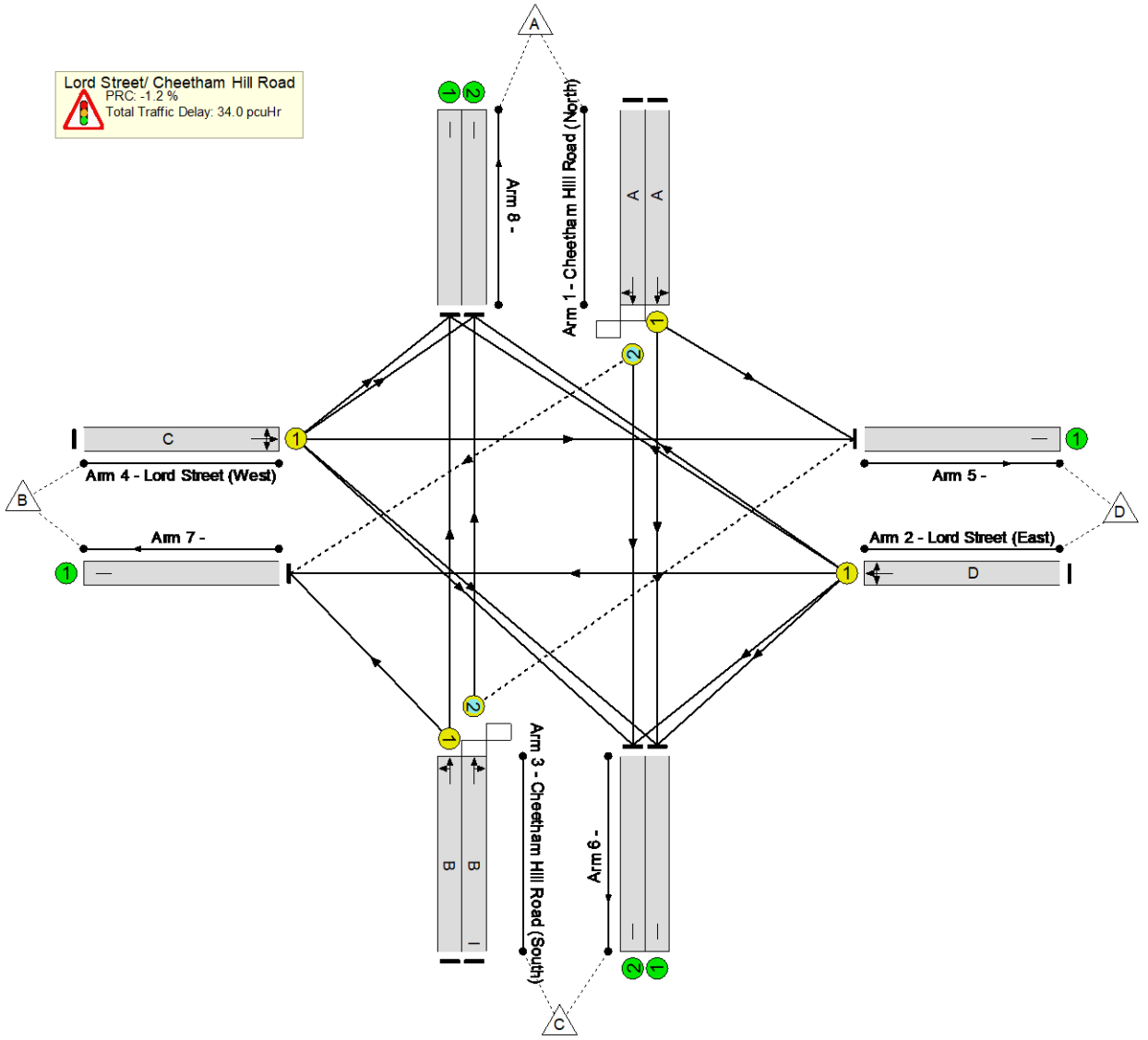
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.1%**
Lord Street/ Cheetham Hill Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.1%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		3	105	-	637	1884	707	90.2%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		3	105	-	701	2053	770	91.1%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		3	104	-	535	1589	590	90.6%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		3	135	-	512	1909	915	56.0%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B	I	3	135	12	188	2055	246	76.3%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		3	104	-	65	1879	698	9.3%
5/1		U	N/A	N/A	-		-	-	-	271	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	816	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	912	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	112	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	517	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%

Full Input Data And Results

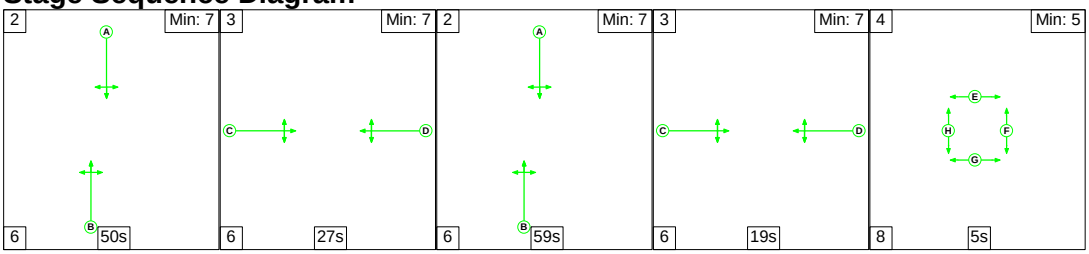
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**5**	**115**	**73**	**18.5**	**15.0**	**0.4**	**34.0**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**5**	**115**	**73**	**18.5**	**15.0**	**0.4**	**34.0**	**-**	**-**	**-**	**-**
1/1	637	637	-	-	-	5.0	4.1	-	9.1	51.5	16.3	4.1	20.4
1/2	701	701	5	0	0	5.6	4.5	0.0	10.1	51.7	17.9	4.5	22.4
2/1	535	535	-	-	-	4.3	4.2	-	8.5	57.1	15.2	4.2	19.4
3/1	512	512	-	-	-	2.5	0.6	-	3.2	22.3	9.8	0.6	10.4
3/2	188	188	0	115	73	0.8	1.5	0.4	2.7	52.2	3.0	1.5	4.5
4/1	65	65	-	-	-	0.4	0.1	-	0.4	22.7	1.3	0.1	1.3
5/1	271	271	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	816	816	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	912	912	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	112	112	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	517	517	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	10	10	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -1.2 Total Delay for Signalled Lanes (pcuHr): 33.96 Cycle Time (s): 288
PRC Over All Lanes (%): -1.2 Total Delay Over All Lanes(pcuHr): 33.96

Full Input Data And Results

Scenario 6: 'Do-Sth (Detail+Out+Com) 2037 PM' (FG6: 'Do-Sth (Detail+Out+Com) 2037 PM', Plan 2: 'PM SSGM')

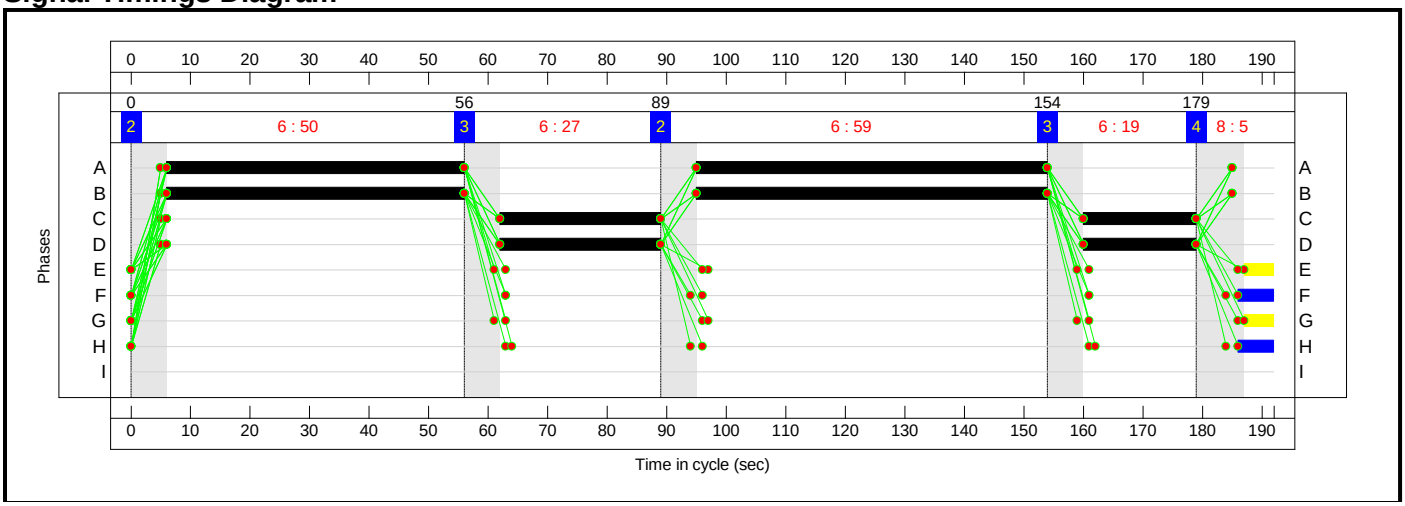
Stage Sequence Diagram



Stage Timings

Stage	2	3	2	3	4
Duration	50	27	59	19	5
Change Point	0	56	89	154	179

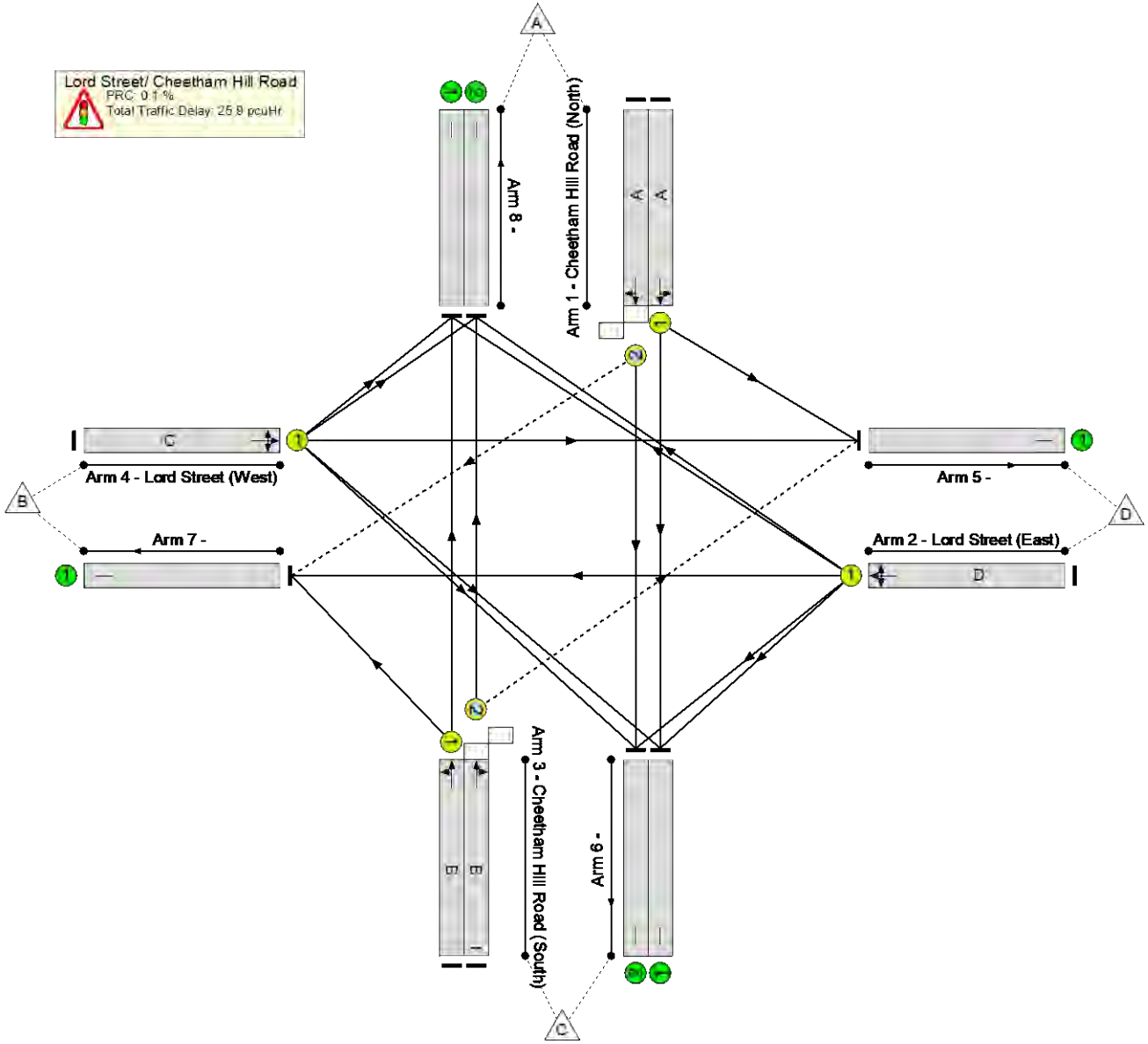
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**89.9%**
Lord Street/ Cheetham Hill Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**89.9%**
1/1	Cheetham Hill Road (North) Left Ahead	U	N/A	N/A	A		2	109	-	357	1863	1077	33.1%
1/2	Cheetham Hill Road (North) Ahead Right	O	N/A	N/A	A		2	109	-	410	2049	1164	35.2%
2/1	Lord Street (East) Left Ahead Right	U	N/A	N/A	D		2	46	-	364	1647	412	88.4%
3/1	Cheetham Hill Road (South) Left Ahead	U	N/A	N/A	B		2	109	-	991	1907	1102	89.9%
3/2	Cheetham Hill Road (South) Right Ahead	O	N/A	N/A	B	I	2	109	0	548	1929	666	82.3%
4/1	Lord Street (West) Ahead Right Left	U	N/A	N/A	C		2	46	-	162	1802	451	36.0%
5/1		U	N/A	N/A	-		-	-	-	396	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	448	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	525	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	128	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	1013	Inf	Inf	0.0%
8/2		U	N/A	N/A	-		-	-	-	322	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**258**	**0**	**13**	**14.8**	**10.5**	**0.6**	**25.9**	**-**	**-**	**-**	**-**
Lord Street/ Cheetham Hill Road	**-**	**-**	**258**	**0**	**13**	**14.8**	**10.5**	**0.6**	**25.9**	**-**	**-**	**-**	**-**
1/1	357	357	-	-	-	1.1	0.2	-	1.3	13.1	5.3	0.2	5.5
1/2	410	410	5	0	5	1.2	0.3	0.1	1.6	13.9	6.0	0.3	6.3
2/1	364	364	-	-	-	3.5	3.3	-	6.9	67.8	9.5	3.3	12.8
3/1	991	991	-	-	-	4.9	4.1	-	9.1	32.9	24.5	4.1	28.6
3/2	548	548	253	0	8	2.8	2.2	0.5	5.5	36.1	13.1	2.2	15.3
4/1	162	162	-	-	-	1.3	0.3	-	1.6	35.9	3.6	0.3	3.9
5/1	396	396	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	448	448	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	525	525	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1013	1013	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	322	322	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 0.1 Total Delay for Signalled Lanes (pcuHr): 25.91 Cycle Time (s): 192
PRC Over All Lanes (%): 0.1 Total Delay Over All Lanes(pcuHr): 25.91

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.1.1519
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Filename: Red Bank_Roger St_Lord St - Mitigation.j10
Path: \\uk.wspgroup.com\Central Data\Projects\70079xxx\70079268 - Redbank & Dantzic Street Masterplan\03 WIP\TP Transport Planning\01 Analysis & Calcs\Local Junction Modelling
Report generation date: 17/03/2023 11:32:30

»Do-Sth (Detailed+Com) 2034, AM
»Do-Sth (Detailed+Com) 2034, PM
»Do-Sth (Outline+Com) 2037, AM
»Do-Sth (Outline+Com) 2037, PM
»Do-Sth (Detail+Out+Com) 2037, AM
»Do-Sth (Detail+Out+Com) 2037, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Do-Sth (Detailed+Com) 2034									
Stream B-ACD	D19	0.0	9.95	0.03	A	D20	0.6	11.85	0.37	B
Stream A-BCD		0.1	4.22	0.04	A		0.0	4.91	0.02	A
Stream D-AB		0.1	9.66	0.08	A		0.0	9.56	0.04	A
Stream D-BC		0.6	14.92	0.39	B		3.8	47.38	0.81	E
Stream C-ABD		0.6	5.26	0.23	A		0.0	4.26	0.02	A
	Do-Sth (Outline+Com) 2037									
Stream B-ACD	D29	0.4	15.02	0.31	C	D30	1.2	18.96	0.56	C
Stream A-BCD		1.1	5.19	0.33	A		0.3	5.16	0.14	A
Stream D-AB		0.4	11.40	0.28	B		0.5	15.19	0.33	C
Stream D-BC		0.9	21.35	0.49	C		9.0	107.87	0.95	F
Stream C-ABD		0.9	5.85	0.29	A		0.3	4.52	0.12	A
	Do-Sth (Detail+Out+Com) 2037									
Stream B-ACD	D31	0.5	15.56	0.31	C	D32	1.3	19.47	0.57	C
Stream A-BCD		1.2	5.33	0.34	A		0.3	5.18	0.15	A
Stream D-AB		0.4	11.84	0.29	B		0.5	15.55	0.34	C
Stream D-BC		1.0	22.60	0.50	C		10.3	122.14	0.97	F
Stream C-ABD		1.0	5.65	0.31	A		0.3	4.41	0.12	A

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

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	18/01/2019
Version	
Status	(new file)

Identifier	
Client	
Jobnumber	
Enumerator	GLOBAL\Rachel.Cornfoot
Description	

Units

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D19	Do-Sth (Detailed+Com) 2034	AM	ONE HOUR	07:30	09:00	15
D20	Do-Sth (Detailed+Com) 2034	PM	ONE HOUR	16:30	18:00	15
D29	Do-Sth (Outline+Com) 2037	AM	ONE HOUR	07:30	09:00	15
D30	Do-Sth (Outline+Com) 2037	PM	ONE HOUR	16:30	18:00	15
D31	Do-Sth (Detail+Out+Com) 2037	AM	ONE HOUR	07:30	09:00	15
D32	Do-Sth (Detail+Out+Com) 2037	PM	ONE HOUR	16:30	18:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Do-Sth (Detailed+Com) 2034, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm D - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		2.54	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.54	A

Arms

Arms

Arm	Name	Description	Arm type
A	Red Bank (N)		Major
B	Roger Street	Roger Street	Minor
C	Red Bank (S)	Red Bank (S)	Major
D	Lord Street	Lord Street	Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	9.00	✓	1.80		150.0	✓	0.00
C	9.00	✓	1.80		95.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.10			170	40
D	Two lanes		3.00	3.00	80	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	661	-	-	-	-	-	-	0.223	0.318	0.223	-	-	-
B-A	581	0.088	0.224	0.224	-	-	-	0.141	0.319	-	0.224	0.224	0.112
B-C	656	0.087	0.221	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	581	0.088	0.224	0.224	-	-	-	0.141	0.319	0.141	-	-	-
B-D, offside lane	581	0.088	0.224	0.224	-	-	-	0.141	0.319	0.141	-	-	-
C-B	629	0.212	0.212	0.303	-	-	-	-	-	-	-	-	-
D-A	674	-	-	-	-	-	-	0.227	-	0.090	-	-	-

D-B, nearside lane	566	0.137	0.137	0.311	-	-	-	0.218	0.218	0.086	-	-	-
D-B, offside lane	566	0.137	0.137	0.311	-	-	-	0.218	0.218	0.086	-	-	-
D-C	566	-	0.137	0.311	0.109	0.218	0.218	0.218	0.218	0.086	-	-	-

The slopes and intercepts shown above include custom intercept adjustments only.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D19	Do-Sth (Detailed+Com) 2034	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	612	100.000
B		✓	9	100.000
C		✓	571	100.000
D		✓	172	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	**B**	**C**	**D**
From	**A**	0	79	521	12
	B	1	0	2	6
	C	129	69	0	373
	D	12	27	133	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	**B**	**C**	**D**
From	**A**	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.03	9.95	0.0	A
A-BCD	0.04	4.22	0.1	A
A-B				
A-C				
D-AB	0.08	9.66	0.1	A
D-BC	0.39	14.92	0.6	B
C-ABD	0.23	5.26	0.6	A
C-D				

C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	444	0.015	7	0.0	8.222	A
A-BCD	19	871	0.022	19	0.0	4.222	A
A-B	58			58			
A-C	384			384			
D-AB	21	476	0.045	21	0.0	7.912	A
D-BC	108	450	0.240	107	0.3	10.437	B
C-ABD	99	797	0.124	98	0.3	5.146	A
C-D	246			246			
C-A	85			85			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	8	414	0.020	8	0.0	8.865	A
A-BCD	26	918	0.029	26	0.0	4.037	A
A-B	69			69			
A-C	455			455			
D-AB	26	447	0.059	26	0.1	8.552	A
D-BC	128	428	0.300	128	0.4	11.975	B
C-ABD	136	835	0.163	135	0.4	5.153	A
C-D	281			281			
C-A	97			97			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	372	0.027	10	0.0	9.943	A
A-BCD	40	986	0.041	40	0.1	3.807	A
A-B	83			83			
A-C	550			550			
D-AB	34	407	0.083	33	0.1	9.638	A
D-BC	156	397	0.392	155	0.6	14.816	B
C-ABD	202	889	0.227	201	0.6	5.243	A
C-D	317			317			
C-A	110			110			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	10	372	0.027	10	0.0	9.947	A
A-BCD	40	985	0.041	40	0.1	3.811	A
A-B	83			83			
A-C	550			550			
D-AB	34	406	0.083	34	0.1	9.657	A
D-BC	156	397	0.392	156	0.6	14.915	B
C-ABD	203	890	0.228	203	0.6	5.256	A
C-D	317			317			
C-A	109			109			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service

B-ACD	8	414	0.020	8	0.0	8.874	A
A-BCD	26	918	0.029	26	0.0	4.039	A
A-B	69			69			
A-C	455			455			
D-AB	26	446	0.059	26	0.1	8.573	A
D-BC	128	428	0.300	129	0.4	12.085	B
C-ABD	136	836	0.163	137	0.4	5.172	A
C-D	280			280			
C-A	97			97			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	7	444	0.015	7	0.0	8.231	A
A-BCD	19	871	0.022	19	0.0	4.224	A
A-B	58			58			
A-C	384			384			
D-AB	21	475	0.045	22	0.0	7.938	A
D-BC	108	450	0.240	108	0.3	10.548	B
C-ABD	99	798	0.125	100	0.3	5.170	A
C-D	246			246			
C-A	85			85			

Do-Sth (Detailed+Com) 2034, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm D - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		11.49	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	11.49	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D20	Do-Sth (Detailed+Com) 2034	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	348	100.000
B		✓	160	100.000
C		✓	553	100.000
D		✓	297	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	3	337	8
	B	55	0	83	22
	C	295	6	0	252
	D	8	6	283	0

Vehicle Mix

Heavy Vehicle Percentages

	To				

		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.37	11.85	0.6	B
A-BCD	0.02	4.91	0.0	A
A-B				
A-C				
D-AB	0.04	9.56	0.0	A
D-BC	0.81	47.38	3.8	E
C-ABD	0.02	4.26	0.0	A
C-D				
C-A				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	120	525	0.229	119	0.3	8.840	A
A-BCD	9	743	0.012	9	0.0	4.905	A
A-B	2			2			
A-C	251			251			
D-AB	9	480	0.020	9	0.0	7.649	A
D-BC	214	442	0.485	211	0.9	15.352	C
C-ABD	9	854	0.010	9	0.0	4.260	A
C-D	188			188			
C-A	220			220			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	144	507	0.284	143	0.4	9.902	A
A-BCD	12	762	0.016	12	0.0	4.800	A
A-B	3			3			
A-C	298			298			
D-AB	12	444	0.026	12	0.0	8.315	A
D-BC	255	417	0.612	253	1.5	21.601	C
C-ABD	12	900	0.013	12	0.0	4.052	A
C-D	224			224			
C-A	262			262			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	176	480	0.367	175	0.6	11.778	B
A-BCD	17	790	0.021	17	0.0	4.656	A
A-B	3			3			
A-C	363			363			
D-AB	15	395	0.038	15	0.0	9.478	A

D-BC	312	384	0.813	304	3.5	41.319	E
C-ABD	18	966	0.018	18	0.0	3.793	A
C-D	272			272			
C-A	319			319			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	176	480	0.367	176	0.6	11.849	B
A-BCD	17	790	0.021	17	0.0	4.656	A
A-B	3			3			
A-C	363			363			
D-AB	15	392	0.038	15	0.0	9.558	A
D-BC	312	384	0.813	311	3.8	47.380	E
C-ABD	18	966	0.018	18	0.0	3.796	A
C-D	272			272			
C-A	319			319			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	144	506	0.284	145	0.4	9.978	A
A-BCD	12	762	0.016	12	0.0	4.802	A
A-B	3			3			
A-C	298			298			
D-AB	12	440	0.026	12	0.0	8.404	A
D-BC	255	417	0.612	264	1.7	24.683	C
C-ABD	12	900	0.013	12	0.0	4.054	A
C-D	224			224			
C-A	262			262			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	120	525	0.229	121	0.3	8.919	A
A-BCD	9	743	0.012	9	0.0	4.908	A
A-B	2			2			
A-C	251			251			
D-AB	9	477	0.020	9	0.0	7.693	A
D-BC	214	441	0.485	217	1.0	16.240	C
C-ABD	9	854	0.010	9	0.0	4.260	A
C-D	188			188			
C-A	220			220			

Do-Sth (Outline+Com) 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm D - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		4.86	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.86	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D29	Do-Sth (Outline+Com) 2037	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	767	100.000
B		✓	96	100.000
C		✓	599	100.000
D		✓	257	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	85	594	88
	B	19	0	33	44
	C	176	79	0	344
	D	82	38	137	0

Vehicle Mix

Heavy Vehicle Percentages

	To				

		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.31	15.02	0.4	C
A-BCD	0.33	5.19	1.1	A
A-B				
A-C				
D-AB	0.28	11.40	0.4	B
D-BC	0.49	21.35	0.9	C
C-ABD	0.29	5.85	0.9	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	72	432	0.167	71	0.2	9.969	A
A-BCD	152	908	0.167	150	0.4	4.746	A
A-B	53			53			
A-C	373			373			
D-AB	80	518	0.154	79	0.2	8.191	A
D-BC	114	406	0.280	112	0.4	12.196	B
C-ABD	119	783	0.152	118	0.3	5.408	A
C-D	220			220			
C-A	112			112			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	86	396	0.218	86	0.3	11.598	B
A-BCD	217	964	0.225	216	0.6	4.829	A
A-B	59			59			
A-C	413			413			
D-AB	96	486	0.199	96	0.2	9.240	A
D-BC	135	374	0.360	134	0.5	14.937	B
C-ABD	166	820	0.203	166	0.5	5.515	A
C-D	246			246			
C-A	126			126			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	106	346	0.306	105	0.4	14.905	B
A-BCD	345	1044	0.330	343	1.1	5.155	A
A-B	63			63			
A-C	437			437			
D-AB	121	438	0.276	120	0.4	11.321	B

D-BC	162	331	0.490	161	0.9	20.944	C
C-ABD	254	874	0.291	253	0.9	5.818	A
C-D	268			268			
C-A	137			137			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	106	345	0.306	106	0.4	15.022	C
A-BCD	346	1045	0.331	346	1.1	5.187	A
A-B	62			62			
A-C	436			436			
D-AB	121	437	0.277	121	0.4	11.402	B
D-BC	162	330	0.490	162	0.9	21.347	C
C-ABD	255	874	0.292	255	0.9	5.851	A
C-D	267			267			
C-A	137			137			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	86	395	0.218	87	0.3	11.707	B
A-BCD	219	965	0.227	221	0.6	4.866	A
A-B	59			59			
A-C	412			412			
D-AB	97	484	0.200	97	0.3	9.318	A
D-BC	134	373	0.360	136	0.6	15.256	C
C-ABD	167	821	0.204	169	0.5	5.552	A
C-D	246			246			
C-A	126			126			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	72	431	0.168	73	0.2	10.058	B
A-BCD	153	909	0.168	154	0.4	4.783	A
A-B	53			53			
A-C	371			371			
D-AB	80	516	0.155	80	0.2	8.258	A
D-BC	114	405	0.281	114	0.4	12.426	B
C-ABD	120	784	0.153	121	0.3	5.448	A
C-D	219			219			
C-A	112			112			

Do-Sth (Outline+Com) 2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm D - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		22.95	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	22.95	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D30	Do-Sth (Outline+Com) 2037	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	444	100.000
B		✓	219	100.000
C		✓	608	100.000
D		✓	396	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	21	373	50
	B	68	0	104	47
	C	339	36	0	233
	D	65	42	289	0

Vehicle Mix

Heavy Vehicle Percentages

	To				

		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.56	18.96	1.2	C
A-BCD	0.14	5.16	0.3	A
A-B				
A-C				
D-AB	0.33	15.19	0.5	C
D-BC	0.95	107.87	9.0	F
C-ABD	0.12	4.52	0.3	A
C-D				
C-A				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	165	493	0.334	163	0.5	10.837	B
A-BCD	62	761	0.081	61	0.2	5.141	A
A-B	15			15			
A-C	258			258			
D-AB	73	461	0.159	72	0.2	9.252	A
D-BC	225	409	0.550	220	1.2	18.618	C
C-ABD	55	853	0.064	54	0.1	4.509	A
C-D	164			164			
C-A	239			239			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	197	468	0.421	196	0.7	13.203	B
A-BCD	82	785	0.105	82	0.2	5.127	A
A-B	17			17			
A-C	300			300			
D-AB	91	419	0.216	90	0.3	10.954	B
D-BC	265	378	0.702	262	2.1	29.888	D
C-ABD	76	900	0.084	76	0.2	4.366	A
C-D	192			192			
C-A	279			279			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	241	432	0.558	239	1.2	18.488	C
A-BCD	118	820	0.143	117	0.3	5.132	A
A-B	20			20			
A-C	352			352			
D-AB	117	358	0.327	116	0.5	14.852	B

D-BC	319	335	0.951	299	7.0	75.612	F
C-ABD	114	968	0.118	114	0.3	4.216	A
C-D	226			226			
C-A	329			329			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	241	431	0.560	241	1.2	18.964	C
A-BCD	118	820	0.144	118	0.3	5.139	A
A-B	20			20			
A-C	351			351			
D-AB	118	355	0.332	118	0.5	15.191	C
D-BC	318	335	0.951	310	9.0	107.870	F
C-ABD	114	968	0.118	114	0.3	4.221	A
C-D	226			226			
C-A	329			329			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	197	466	0.423	199	0.8	13.579	B
A-BCD	82	785	0.105	83	0.2	5.137	A
A-B	17			17			
A-C	300			300			
D-AB	92	406	0.227	93	0.3	11.516	B
D-BC	264	377	0.700	289	2.6	48.617	E
C-ABD	76	900	0.084	76	0.2	4.374	A
C-D	192			192			
C-A	279			279			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	165	492	0.335	166	0.5	11.057	B
A-BCD	62	761	0.081	62	0.2	5.156	A
A-B	15			15			
A-C	258			258			
D-AB	74	457	0.161	74	0.2	9.421	A
D-BC	225	408	0.550	230	1.3	20.715	C
C-ABD	55	853	0.065	55	0.1	4.517	A
C-D	164			164			
C-A	239			239			

Do-Sth (Detail+Out+Com) 2037, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm D - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		4.91	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.91	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D31	Do-Sth (Detail+Out+Com) 2037	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	769	100.000
B		✓	96	100.000
C		✓	669	100.000
D		✓	257	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	85	596	88
	B	19	0	33	44
	C	194	79	0	396
	D	82	38	137	0

Vehicle Mix

Heavy Vehicle Percentages

	To				

		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.31	15.56	0.5	C
A-BCD	0.34	5.33	1.2	A
A-B				
A-C				
D-AB	0.29	11.84	0.4	B
D-BC	0.50	22.60	1.0	C
C-ABD	0.31	5.65	1.0	A
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	72	427	0.169	71	0.2	10.112	B
A-BCD	154	901	0.171	152	0.4	4.807	A
A-B	53			53			
A-C	372			372			
D-AB	80	511	0.156	79	0.2	8.325	A
D-BC	114	399	0.285	112	0.4	12.468	B
C-ABD	130	821	0.158	128	0.4	5.195	A
C-D	251			251			
C-A	123			123			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	86	390	0.221	86	0.3	11.840	B
A-BCD	222	956	0.232	221	0.6	4.910	A
A-B	59			59			
A-C	411			411			
D-AB	97	477	0.203	96	0.3	9.454	A
D-BC	134	366	0.367	134	0.6	15.425	C
C-ABD	185	866	0.213	184	0.6	5.291	A
C-D	280			280			
C-A	137			137			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	106	338	0.313	105	0.4	15.423	C
A-BCD	355	1036	0.343	353	1.2	5.296	A
A-B	61			61			
A-C	430			430			
D-AB	121	426	0.284	121	0.4	11.748	B

D-BC	162	321	0.503	160	1.0	22.110	C
C-ABD	290	932	0.311	288	1.0	5.616	A
C-D	300			300			
C-A	147			147			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	106	337	0.314	106	0.5	15.556	C
A-BCD	357	1037	0.344	356	1.2	5.333	A
A-B	61			61			
A-C	429			429			
D-AB	121	425	0.285	121	0.4	11.845	B
D-BC	162	321	0.504	162	1.0	22.598	C
C-ABD	291	933	0.312	291	1.0	5.653	A
C-D	299			299			
C-A	146			146			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	86	389	0.222	87	0.3	11.960	B
A-BCD	223	957	0.233	225	0.7	4.951	A
A-B	58			58			
A-C	410			410			
D-AB	97	475	0.204	97	0.3	9.544	A
D-BC	134	365	0.368	136	0.6	15.796	C
C-ABD	186	867	0.214	188	0.6	5.334	A
C-D	279			279			
C-A	137			137			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	72	426	0.170	73	0.2	10.207	B
A-BCD	155	902	0.172	156	0.4	4.844	A
A-B	53			53			
A-C	371			371			
D-AB	80	509	0.157	80	0.2	8.397	A
D-BC	114	398	0.285	114	0.4	12.713	B
C-ABD	131	822	0.159	132	0.4	5.235	A
C-D	250			250			
C-A	123			123			

Do-Sth (Detail+Out+Com) 2037, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm D - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		24.77	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	24.77	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D32	Do-Sth (Detail+Out+Com) 2037	PM	ONE HOUR	16:30	18:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	451	100.000
B		✓	219	100.000
C		✓	654	100.000
D		✓	396	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	21	380	50
	B	68	0	104	47
	C	351	36	0	267
	D	65	42	289	0

Vehicle Mix

Heavy Vehicle Percentages

	To				

		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.57	19.47	1.3	C
A-BCD	0.15	5.18	0.3	A
A-B				
A-C				
D-AB	0.34	15.55	0.5	C
D-BC	0.97	122.14	10.3	F
C-ABD	0.12	4.41	0.3	A
C-D				
C-A				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	165	490	0.336	163	0.5	10.937	B
A-BCD	63	759	0.082	62	0.2	5.168	A
A-B	15			15			
A-C	262			262			
D-AB	73	456	0.161	73	0.2	9.380	A
D-BC	225	404	0.556	220	1.2	19.088	C
C-ABD	58	876	0.066	57	0.1	4.399	A
C-D	188			188			
C-A	247			247			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	197	464	0.424	196	0.7	13.387	B
A-BCD	84	782	0.107	83	0.2	5.159	A
A-B	17			17			
A-C	305			305			
D-AB	91	412	0.220	90	0.3	11.174	B
D-BC	265	372	0.713	261	2.2	31.227	D
C-ABD	81	928	0.087	81	0.2	4.250	A
C-D	219			219			
C-A	288			288			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	241	427	0.565	239	1.2	18.940	C
A-BCD	120	817	0.148	120	0.3	5.174	A
A-B	20			20			
A-C	356			356			
D-AB	118	350	0.337	117	0.5	15.402	C

D-BC	318	328	0.971	296	7.7	82.256	F
C-ABD	124	1003	0.123	123	0.3	4.094	A
C-D	258			258			
C-A	339			339			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	241	426	0.567	241	1.3	19.468	C
A-BCD	121	817	0.148	121	0.3	5.183	A
A-B	20			20			
A-C	356			356			
D-AB	118	349	0.337	118	0.5	15.548	C
D-BC	318	327	0.972	308	10.3	122.141	F
C-ABD	124	1003	0.124	124	0.3	4.099	A
C-D	257			257			
C-A	338			338			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	197	462	0.426	199	0.8	13.798	B
A-BCD	84	782	0.107	84	0.2	5.171	A
A-B	17			17			
A-C	305			305			
D-AB	93	398	0.233	93	0.3	11.851	B
D-BC	263	371	0.710	293	2.8	56.384	F
C-ABD	81	929	0.088	82	0.2	4.256	A
C-D	219			219			
C-A	288			288			

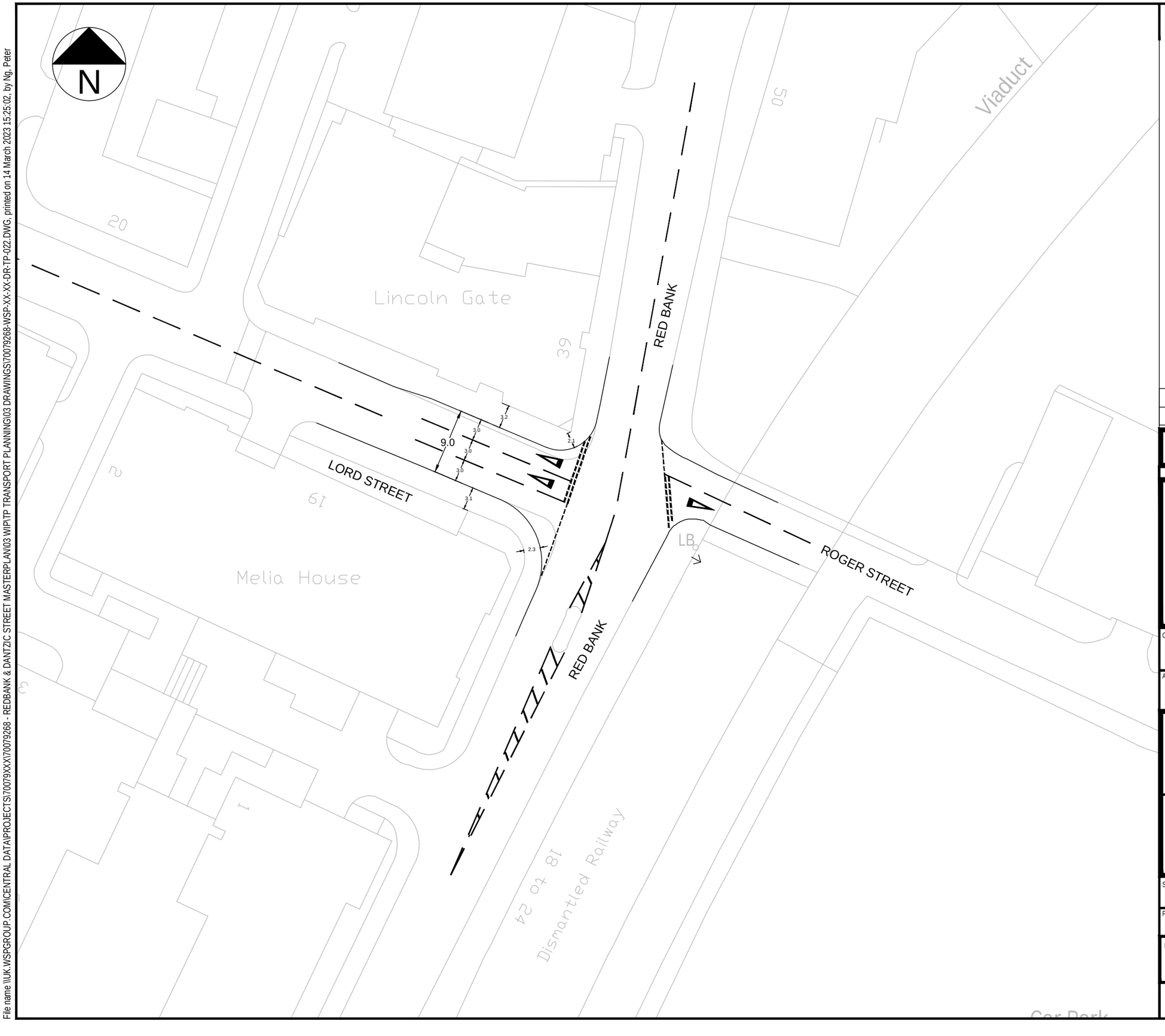
17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	165	489	0.337	166	0.5	11.168	B
A-BCD	63	759	0.083	63	0.2	5.181	A
A-B	14			14			
A-C	262			262			
D-AB	74	451	0.163	74	0.2	9.560	A
D-BC	224	404	0.556	230	1.3	21.424	C
C-ABD	58	876	0.066	58	0.1	4.408	A
C-D	188			188			
C-A	247			247			

Appendix K

MITIGATION DRAWING

PUBLIC



DO NOT SCALE

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8 First Street, Manchester, M15 4GU, UK
T+ 44 (0) 161 200 5000
wsp.com

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ARCHITECT: MACCREANOR LAVINGTON

PROJECT: REDBANK AND DANTZIC STREET

TITLE: PROPOSED JUNCTION LAYOUT
LORD STREET / RED BANK / ROGER STREET

SCALE @ A3:	CHECKED:	APPROVED:
1:500	JO	JO

PROJECT No:	DESIGNED:	DRAWN:	DATE:
70079268	PN	PN	MAR 23

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8 First Street
Manchester
M15 4RP

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