Road Safety Audit Report

Incorporating
Stage 1 Completion of Preliminary Design;

Design Organisation Response to items raised; and
Auditor's View on the Design Organisation Response.

Proposed Highway Works along Wych Lane Fareham

Client:
i-Transport

Client reference:
ITB10353-022

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Report Status 4

Job no	RSA-22-075	**Issue no**	4	**Date**	July 2022
Prepared by	JJF	**Verified by**	ZB	**Approved by**	JJF
Filename and Path	Fenley/Road Safety Audits/RSA-22/RSA-22-075-4				

1.0 PROJECT DETAILS

Report Title:	Stage 1 Road Safety Audit
Date:	July 2022
Document reference and revision:	RSA-22-075-4
Prepared by:	Fenley Road Safety Limited
On behalf of the Overseeing Organisation:	Hampshire County Council
Design Organisation:	i-Transport
Project Sponsor:	Miller Homes and Bargate Homes

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
0	Stage 1 Road Safety Audit drafted for Audit Team discussions	JJF			4th July 2022
1	Stage 1 Road Safety Audit finalised and issued to the Design Organisation	JJF	ZB	JJF	7th July 2022
2	Stage 1 Road Safety Audit Report format amended to incorporate a row for inclusion of a Design Organisation Response in order to maintain a concise record of items raised	JJF			7th July 2022
3	Design Organisation Response incorporated	Matthew Craddy on behalf of i-Transport			25th July 2022
4	Auditor's View on the Design Organisation Response	JJF			26th July 2022

Contents:

Appendices:

2.0 INTRODUCTION

2.1 This report has been prepared by Fenley Road Safety Limited and results from a Stage 1 Road Safety Audit of three options associated with highway works proposed along Wych Lane in Fareham. It is understood that the development proposals associated with the scheme that is subject to this document includes the provision of circa. 375 dwellings on a parcel of land to the west of Tukes Avenue and east of Newgate Lane East. The works proposed as part of the three options, include the following which are not compared by the Audit Team but are included within separate tables to allow for easy comparison by the Design Organisation and Overseeing Organisation;

Option 1 as illustrated on drawing ITB10353-GA-039 – Table 1

- Widening of existing footway to provide 3.0m shared surface between Tukes Avenue and Henry Court Way with a narrowed section reducing to 2.0m for circa 50m just north of Dale Drive;
- Corduroy paving in appropriate places;
- Cyclists to enter/exit proposed shared surface at junction with Tukes Avenue; and
- Cycle markings to be provided through existing junctions.

Option 2 as illustrated on drawing ITB10353-GA-040 – Table 2

- Widening of existing footway to provide 3.0m shared surface between Tukes Avenue and Dale Drive, and then for circa 35m from Henry Court Way southbound – between these points cyclists to enter/exit proposed shared surface to carry on carriageway with centreline removed and advisory cycle lanes added as per LTN 1/20 Section 6;
- Corduroy paving in appropriate places;
- Cyclists to enter/exit proposed shared surface at junction with Tukes Avenue;
- Cycle markings to be provided through existing junctions.

Option 3 as illustrated on drawing ITB10353-GA-041 – Table 3

- Cyclists to cycle on carriageway with cycle markings;
- Widening of existing footway to 3.0m for circa 35m form Henry Court Way southbound, with cyclists to enter/exit proposed shared surface in area of existing connection through to Woodside;
- Corduroy paving in appropriate places; and
- Cycle markings to be provided through existing junctions.

2.2 The Audit Brief identifies that the proposals do not include any Departures from Standard, whether related to strategic decisions or otherwise.

2.3 The Road Safety Audit was undertaken during June and July 2022 in accordance with the initial and updated Road Safety Audit Brief and provided on the 21st June and 5th July 2022 by the Design Organisation, i-Transport, on behalf of the Project Sponsor, Miller Homes and Bargate Homes. The Road Safety Audit comprised of a site visit as well as an examination of the documents provided which are identified in **Appendix A1**. The Audit Team were satisfied that that the Audit Brief was sufficient for the purpose of the Audit instructed.

2.4 The Road Safety Audit has been undertaken by an Audit Team whose qualifications and experience accord with the requirements of GG119 and have been approved by Mr George Carpenter of the Highway Development Agreements Team at Hampshire County Council to undertake Road Safety Audits of all stages within the County. The Audit Team consists of the following members:

Audit Team Leader
Jamie Fenning *BSc(Hons), MIHE, MCIHT, MSoRSA, Highways England RSA Certificate of Competency*
Road Safety / Highway Engineer

Audit Team Member
Zane Beswick *MCIHT, MSoRSA*
Road Safety / Highway Engineer

2.5 The site visit associated with this Road Safety Audit was undertaken during the afternoon of Tuesday 28th June 2022 between the hours of 18:30 and 20:00. The site visit involved walking and driving around the local highway network for a 90-minute period whilst observing the local infrastructure and current off-peak traffic and parking conditions. The weather during the site visit was overcast, the road surface was dry and visibility was good. A number of pedestrians and cyclists were observed during the site visit. Vehicular traffic was also observed to include motorcycles, cars, passenger service vehicles, light and heavy goods vehicles as well as an emergency response vehicle. The traffic flow was moderate and free flowing.

2.6 The terms of reference of this Road Safety Audit are as described in GG119. The scheme has been examined and this report compiled, only with regard to the safety implications for road users of the scheme as presented. It has not been examined or verified for compliance with any other standards or criteria. However, in order to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. All comments and recommendations are referenced to the design drawings supplied with the Audit Brief and the location of road safety concerns raised have been illustrated beneath the items along with relevant photographs for clarity, where appropriate, as well as on the Location Plan attached at **Appendix A2**.

Design Organisation Response

2.7 In accordance with national standards, this Road Safety Audit was finalised and issued to the Design Organisation as per the Road Safety Audit Report Template within Appendix D of GG119, which can be provided upon request from either the Audit Team or Design Organisation. The format of the Audit Report was subsequently revised to incorporate these paragraphs under the sub-heading as well as sufficient space beneath the items and recommendation, within Section 4, for the inclusion of a Design Organisation Response. This is generally contained within a separate Design Organisation Response Report but is included within this document in order to maintain a single record of all problems, recommendations and responses for the benefit of a concise Road Safety Audit trail to be held on file for Quality Assurance purposes.

2.8 The Design Organisation Response has been prepared by:

Name:	Matthew Craddy
Position / Organisation:	Associate, i-Transport

2.9 Any drawings or documents associated with the Design Organisation Response are listed at **Appendix A3,** if applicable.

2.10 Upon the request of the Design Organisation and following receipt of the Design Organisation Response with any associated drawings, the Road Safety Audit Team Leader has provided a further comment on the item raised. The “Auditor’s View on the Design Organisation Response” is included within a row beneath each item, for clarity.

3.0 ITEMS RAISED IN ANY PREVIOUS ROAD SAFETY AUDITS

3.1 Fenley Road Safety Limited have not been made aware of any previous road safety audits associated with the scheme subject this document The Audit Team has, however, previously undertaken a Stage 1 Road Safety Audit of a proposed roundabout along Newgate Lane East which is to form the vehicular access to the associated development as well as a series of further Stage 1 Road Safety Audits of schemes associated with proposed development; ref: RSA-22-056, 072, 073 and 074.

4.1 ITEMS RAISED AT THIS STAGE 1 ROAD SAFETY AUDIT - *Option 1 - ITB10353-GA-039*

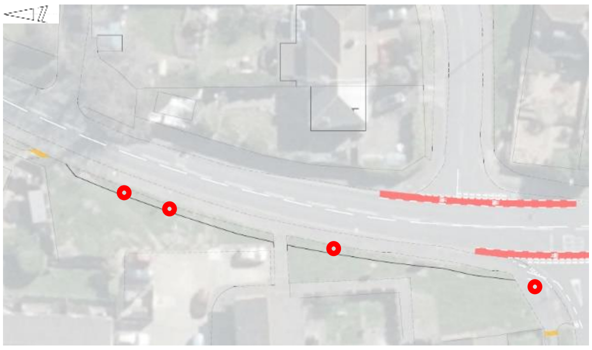
A.1	**LOCAL ALIGNMENT**
	No Road Safety Concerns regarding LOCAL ALIGNMENT have been raised at this stage
A.2	**GENERAL**
A.2.1	**PROBLEM**
Location:	Scheme
Summary:	Street furniture will be an obstruction to pedestrians and cyclists
Acc Type:	Cyclist / pedestrian collisions with street furniture

Wych Lane accommodates a number of items of street furniture, to include street lighting columns, signposts, cabinets, wooden stakes and a bin, within the verge as well as the existing facility which is signed to the north as a shared footway cycleway. The proposals include the formalisation of the shared footway cycleway along Wych Lane as well as a link to / from a cul-de-sac off Woodside. The Audit Team noted from the site visit, that a number of items of street furniture are situated within the verge and footway at the location of the proposed shared facility. Street furniture within or on the boundary of a shared footway cycleway could become an obstruction to pedestrians and cyclists which could lead to falls and personal injuries.

RECOMMENDATION:

It is recommended that all items of street furniture within the area of the proposed widening are relocated appropriately.

Location Plan: (NB: Not all items of street furniture are illustrated below, more are present)



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – street furniture within the proposed area of works to be relocated accordingly – exact details to be agreed with HCC at detailed design stage.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that all items of street furniture within the area of the proposed will be relocated if necessary, addresses the road safety concern at this stage.

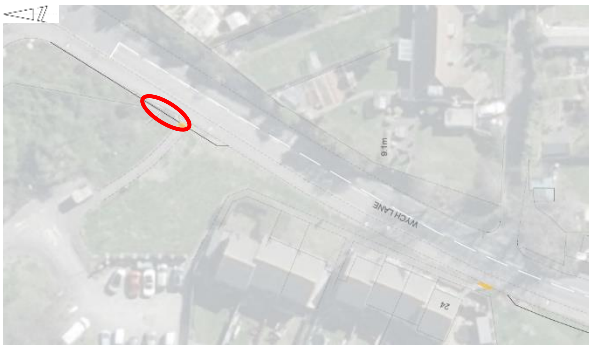
A.2.2	**PROBLEM**
Location:	Wych Lane
Summary:	Proposals will have an impact on existing watercourse
Acc Type:	Cyclist / pedestrian fall and personal injury

Wych Lane passes across a culvert to the north of a footpath link to a Woodside cul-de-sac where railings are present alongside the existing shared footway cycleway. The proposals include the widening of an existing section of shared footway cycleway along Wych Lane to the north of the footpath link. The Audit Team are concerned that the proposed widening is situated beyond the existing railing, where the ground falls away steeply and the headwall is present. The proposed scheme could have an impact on the stability of the ground / integrity of the culvert, leading to surface failure which may result in pedestrian and cyclist falls as well as personal injuries.

RECOMMENDATION:

It is recommended that the width of the existing shared facility besides the watercourse is retained.

Location Plan:




DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – proposed widening has been removed in this section and existing width retained.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that the proposed widening has been removed from the proposal, addresses the road safety concern at this stage.

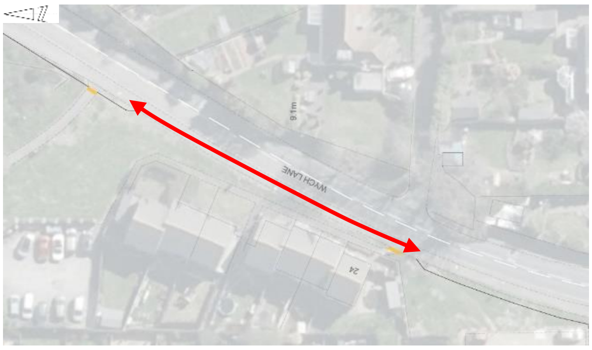
A.3	**JUNCTIONS**
	No Road Safety Concerns regarding JUNCTIONS have been raised at this stage
A.4	**WALKING, CYCLING AND HORSE RIDING**
A.4.1	**PROBLEM**
Location:	Wych Lane
Summary:	Proposed shared facility may not be adequate for the expected demand
Acc Type:	Cyclist pedestrian type collisions

Signage along Wych Lane in proximity to Henry Court Way identifies a shared footway cycleway is present to the west of the carriageway. No measures are present that identify the end of the route and therefore the Audit Team are unaware where the existing shared facility starts / finishes, however to the south of the link from / to a Woodside cul-de-sac, the width of the facility reduces to circa. 2 metres. The proposals widen the existing facility and formalise the shared facility to the north of Tukes Avenue to 3.0 metres reducing to the existing width adjacent to properties 12 to 24. Whilst a localised reduction in width of a shared footway cycleway to 2.0 metres is generally acceptable across a short lightly trafficked section, the Audit Team is concerned that the width of the proposed shared facility is not adequate to accommodate the pedestrian and cyclist traffic that can be expected, particularly as an employment zone is situated to the north and an education establishment is situated to the south. An inadequate width shared footway cycleway could lead to cyclist pedestrian collisions.

RECOMMENDATION:

It is recommended that the width of the proposed shared facility is increased.

Location Plan:



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – the width of the road has been reduced to a minimum of 5.5m and the proposed shared footway/cycleway between properties 12 and 24 widened to provide a maximum width of 2.5m. There is a good level of visibility between these points and there will be a low number of movements in this area.

It should be noted that the current widths on Wych Lane (just south of Dale Drive) is less than 5.5m and operates sufficiently. Therefore, there is the option to reduce Wych Lane further to provide a wider footway between properties 12 and 24. Exact details to be discussed with HCC at detailed design stage.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that the width of the existing facility will be increased will allow additional space for a cyclist to pass a pedestrian. It is understood that the expected pedestrian and cyclist flows are low and therefore this addresses the road safety concern at this stage. It is understood that the proposed footway cycleway can be increased further if necessary whilst ensuring adequate carriageway width similar to that to the south.

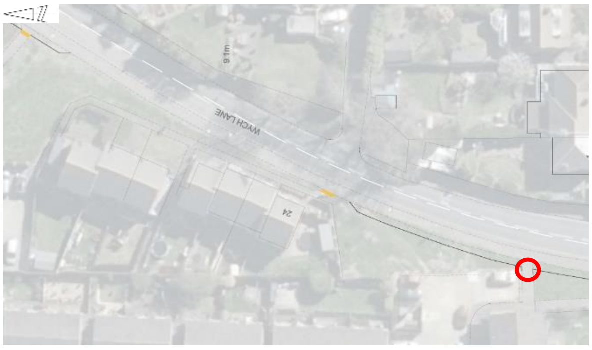
A.4.2	**PROBLEM**
Location:	Wych Lane
Summary:	Pedestrians and cyclist are not informed of the change in nature
Acc Type:	Cyclist and pedestrian type collisions

A number of links are present to the west of Wych Avenue that allow access to Woodside. The proposals include the widening of the existing facility along the western side of Wych Avenue to provide a shared footway cycleway. The Audit Team is concerned that pedestrians and cyclists travelling between the existing links and proposed shared facility are not made aware of the change in nature of the facility. A pedestrian, particularly with impaired vision, not becoming aware that the nature of their route has changed and a cyclist illegally utilising a footpath / way could cross paths leading to cyclist pedestrian collisions.

RECOMMENDATION:

It is recommended that measures are provided to highlight the transition from a footway / path to a shared facility.

Location Plan:




DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – corduroy paving to be provided to provide transition from a footway to a shared footway/cycleway

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that corduroy paving will be provided where appropriate, addresses the road safety concern at this stage.

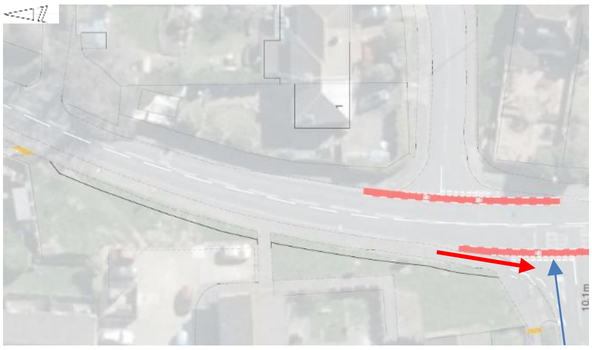
A.4.3	**PROBLEM**
Location:	Tukes Avenue J/W Wych Lane
Summary:	Cyclist may enter the junction suddenly
Acc Type:	Vehicle to cyclist type collisions

The simple priority junction of Tukes Avenue with Wych Lane accommodates dropped kerbs around the northern radius in close proximity to the give-way road markings and a grass verge with full height kerbs around the southern radius. The proposals include the formalisation of a shared footway cycleway along the western side of Wych Lane to the north of Tukes Avenue and include the provision of corduroy tactile paving where it meets the existing footway to the north of Tukes Avenue as well as a cycle on / off-slip where the existing dropped kerbs are present. The Audit Team have concerns that cyclists utilising the facility will enter the Tukes Avenue carriageway suddenly. It is acknowledged that vehicular traffic will be slowing on approach to the give-way line, however, the driver / rider could be looking to the right to observe oncoming traffic in order to proceed without stopping and may not become aware of a cyclist approaching the slip / entering the carriageway leading to a cyclist pedestrian collision.

RECOMMENDATION:

It is recommended that the on / off-slips are relocated along Tukes Avenue to ensure that traffic approaching the give-way will become aware of a cyclist wishing to enter the carriageway.

Location Plan:



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – design has been updated accordingly to relocate the on/off slips for cyclists further back along Tukes Avenue to ensure traffic approaching the give-way will become aware of a cyclist within to enter the carriageway

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that the proposed on / off-slip has been relocated, addresses the road safety concern at this stage.

A.4.4	**PROBLEM**
Location:	Wych Lane
Summary:	No level access is provided for north and southbound cyclists between the proposed facility and carriageway
Acc Type:	Cyclist fall and personal injury

Wych Lane accommodates signage to the north which denotes that a shared footway cycleway is present to the west of the carriageway. The proposals include the formalisation of a shared footway cycleway along the western side of Wych Lane to the north of Tukes Avenue and provide a cycle on / off-slip along the northern radius at the Tukes Avenue junction as well as advisory cycle lanes with red coloured surfacing across the simple priority junctions that highlight the presence of cyclists. No cyclist facilities are provided along Wych Lane to the south of Tukes

Avenue and therefore cyclists are likely to be within the carriageway. The Audit Team have concerns that no level access is provided between the carriageway and formalised footway cycleway to the north of Tukes Avenue, which could lead to a cyclist attempting to mount / dismount the shared facility where full height kerbs are present. A cyclist attempting to mount / dismount the shared facility where full height kerbs are present could result in a fall and personal injury.

RECOMMENDATION:

It is recommended that an on / off-slips is provided along Wych Lane north of the junction with Tukes Avenue.

Location Plan:

DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – Design has been revised accordingly to provide on/off slips along Wych Lane to the north of the junction with Tukes Avenue

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that on / off-slips have been provided, addresses the road safety concern at this stage.

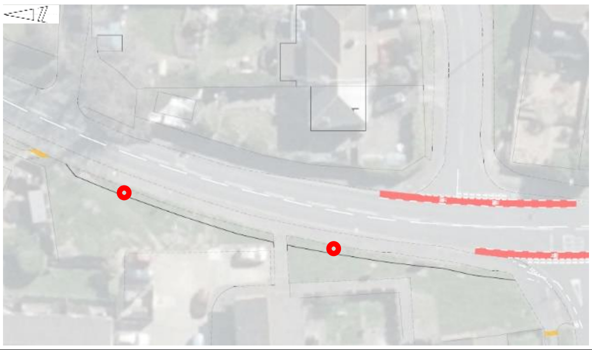
A.5	**TRAFFIC SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING**
A.5.1	**PROBLEM**
Location:	Wych Lane
Summary:	Existing street lighting columns are situated within the area of the proposed widening
Acc Type:	Vehicle to cyclist / pedestrian collisions

Wych Lane is subject to street lighting with columns situated either side of the carriageway at the back edge of an existing facility which is signed as a shared footway cycleway to the north. The proposals include works to widen of the existing facility to formalise the shared footway cycleway. A number of existing street lighting columns are situated within the area of works and may be relocated in response to item A.2.1, however, the Audit Team is concerned that the relocation of the existing street lighting column will have an adverse impact on the level of lighting should they be relocated. Vehicles are generally driven during the hours of darkness with headlights illuminated, however, a footpath is present on the eastern side of the carriageway which commences / terminates at a shared driveway known as Dale Drive where there is likely to be a pedestrian desire line across the carriageway, although no crossing point is provided. Insufficient lighting could result in a driver / rider not becoming aware of a pedestrian attempting to cross the carriageway at a safe distance and lead to a vehicle to pedestrian / cyclist collision.

RECOMMENDATION:

It is recommended that street lighting columns are relocated appropriately to ensure that the level of lighting is adequate, particularly at locations where pedestrians cross and cyclists enter the carriageway.

Location Plan: (NB: Not all street lighting columns are illustrated below, more are present)



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – Street lighting to be relocated accordingly – exact details to be agreed with HCC at detailed design stage.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that street lighting will be relocated accordingly, addresses the road safety concern at this stage.

4.2 ITEMS RAISED AT THIS STAGE 1 ROAD SAFETY AUDIT - *Option 2 - ITB10353-GA-040*

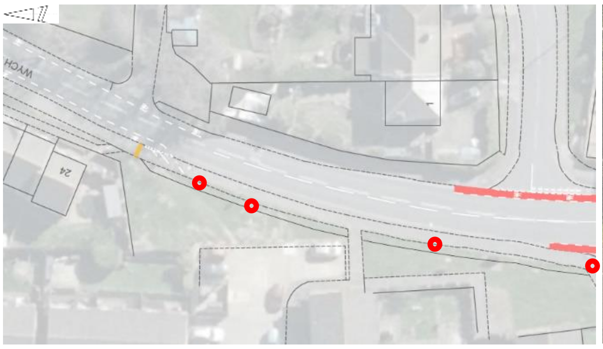
A.1	**LOCAL ALIGNMENT**
	No Road Safety Concerns regarding LOCAL ALIGNMENT have been raised at this stage
A.2	**GENERAL**
A.2.1	**PROBLEM**
Location:	Scheme
Summary:	Street furniture will be an obstruction to pedestrians and cyclists
Acc Type:	Cyclist / pedestrian collisions with street furniture

Wych Lane accommodates a number of items of street furniture, to include street lighting columns, signposts, cabinets, wooden stakes and a bin, within the verge as well as the existing facility which is signed to the north as a shared footway cycleway. The proposals include the formalisation of the shared footway cycleway along Wych Lane as well as a link to / from a cul-de-sac off Woodside. The Audit Team noted from the site visit, that a number of items of street furniture are situated within the verge and footway at the location of the proposed shared facility. Street furniture within or on the boundary of a shared footway cycleway could become an obstruction to pedestrians and cyclists which could lead to falls and personal injuries.

RECOMMENDATION:

It is recommended that all items of street furniture within the area of the proposed widening are relocated appropriately.

Location Plan: (NB: Not all street furniture are illustrated below, more are present)



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – street furniture within the proposed area of works to be relocated accordingly – exact details to be agreed with HCC at detailed design stage.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that all items of street furniture within the area of the proposed will be relocated if necessary, addresses the road safety concern at this stage.

A.2.2	**PROBLEM**
Location:	Wych Lane
Summary:	Proposals will have an impact on existing watercourse
Acc Type:	Cyclist / pedestrian fall and personal injury

Wych Lane passes across a culvert to the north of a footpath link to a Woodside cul-de-sac where railings are present alongside the existing shared footway cycleway. The proposals include the widening of an existing section of shared footway cycleway along Wych Lane to the north of the footpath link. The Audit Team are concerned that the proposed widening is situated beyond the existing railing where the ground falls away steeply and the headwall is present. The proposed scheme could have an impact on the stability of the ground / integrity of the culvert, leading to surface failure which may result in pedestrian and cyclist falls as well as personal injuries.

RECOMMENDATION:

It is recommended that the width of the existing shared facility besides the watercourse is retained.

Location Plan:

DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – proposed widening has been removed in this section and the existing width retained.

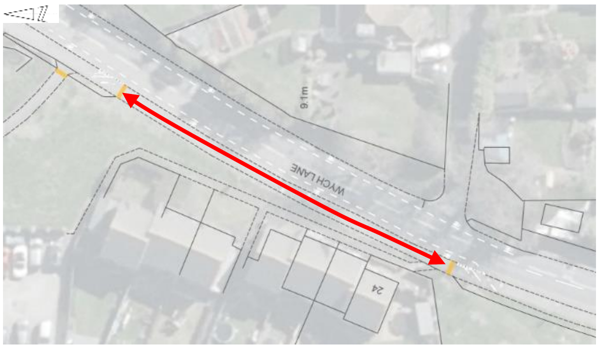
AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that the proposed widening has been removed from the proposal, addresses the road safety concern at this stage.

A.3	**JUNCTIONS**
	No Road Safety Concerns regarding JUNCTIONS have been raised at this stage
A.4	**WALKING, CYCLING AND HORSE RIDING**
A.4.1	**PROBLEM**
Location:	Wych Lane
Summary:	Cyclists are unlikely to access the proposed short section of shared footway cycleway
Acc Type:	Cyclist pedestrian type collisions

Signage along Wych Lane in proximity to Henry Court Way identifies a shared footway cycleway is present to the west of the carriageway. No measures are present that identify the end of the

route and therefore the Audit Team are unaware where the existing shared facility starts / finishes, however to the south of the link from / to a Woodside cul-de-sac, a short section of the facility reduces to circa. 2 metres. The proposals include the widening of the existing facility to the north and south of properties 12 to 24 to 3.0 metres, the formalisation of the short section as a shared facility, the provision of on / off slips and retention of the existing width as a footway adjacent to the properties, with measures provided to denote the transition. It is unlikely that cyclists will leave and enter the carriageway via the on / off slips but rather continue along the 2.0 metre wide section outside properties 12 to 24, which is not adequate enough to accommodate pedestrians and cyclists. An inadequate width shared footway cycleway could lead to cyclist pedestrian collisions.
RECOMMENDATION:
It is recommended that the existing footway is upgraded to a shared facility
Location Plan:




DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.
Disagree – Appropriate surface treatment in the form of corduroy to be provided to deter cyclists, and a coloured surface is proposed for the cycle lanes to further highlight their presence. In addition, white lining, corduroy and signage in line with TSRGD will be provided.
AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022
The revised proposal to provide a red coloured surface along the proposed advisory cycle lanes will encourage cyclists to enter the carriageway where appropriate.

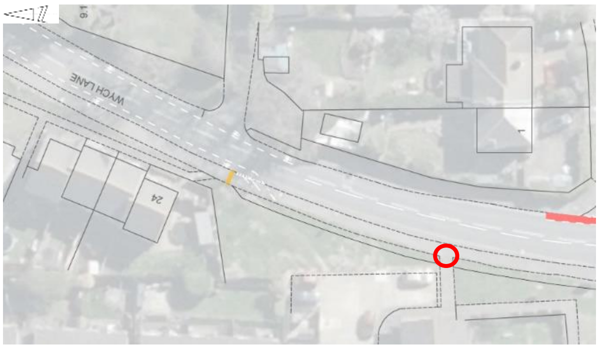
A.4.2	**PROBLEM**
Location:	Wych Lane
Summary:	Pedestrians and cyclist are not informed of the change in nature
Acc Type:	Cyclist and pedestrian type collisions

A number of links are present to the west of Wych Avenue that allow access to Woodside. The proposals include the widening of the existing facility along the western side of Wych Avenue to provide a shared footway cycleway. The Audit Team are concerned that pedestrians and cyclists travelling between the existing links and proposed shared facility will not become aware of the change in nature of the facility. A pedestrian, particularly with impaired vision, not becoming aware that the nature of their route has changed and a cyclist illegally utilising a footpath / way could cross paths leading to cyclist pedestrian collisions.

RECOMMENDATION:

It is recommended that measures are provided to highlight the transition from a footway / path to a shared facility.

Location Plan:



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – corduroy paving to be provided in appropriate locations to provide transition from a footway to a shared footway/cycleway

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that corduroy paving will be provided where appropriate, addresses the road safety concern at this stage.

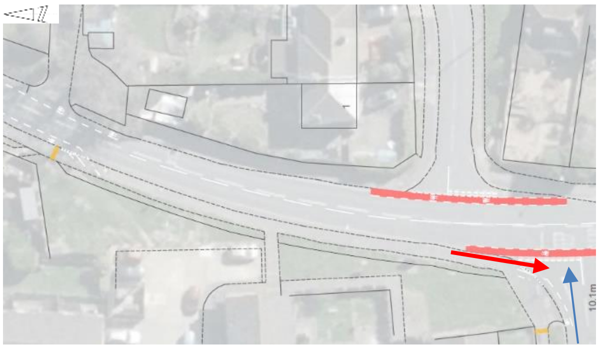
A.4.3	**PROBLEM**
Location:	Tukes Avenue J/W Wych Lane
Summary:	Cyclist may enter the junction suddenly
Acc Type:	Vehicle to cyclist type collisions

The simple priority junction of Tukes Avenue with Wych Lane accommodates dropped kerbs around the northern radius in close proximity to the give-way road markings and a grass verge with full height kerbs around the southern radius. The proposals include the formalisation of a short section of the shared footway cycleway along the western side of Wych Lane to the north of Tukes Avenue and include the provision of corduroy tactile paving where it meets the existing footway to the north of Tukes Avenue as well as a cycle on / off-slip where the existing dropped kerbs are present. The Audit Team have concerns that cyclists utilising the facility will enter the carriageway suddenly. It is acknowledged that vehicular traffic will be slowing on approach to the give-way line, however, the driver / rider could be looking to the right to observe oncoming traffic in order to proceed without stopping and may not become aware of a cyclist approaching the slip / entering the carriageway leading to a cyclist pedestrian collision.

RECOMMENDATION:

It is recommended that the on / off-slips are relocated along Tukes Avenue to ensure that traffic approaching the give-way will become aware of a cyclist wishing to enter the carriageway.

Location Plan:



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – design has been updated accordingly to relocate the on/off slips for cyclists further back along Tukes Avenue to ensure traffic approaching the give-way will become aware of a cyclist within to enter the carriageway

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that the proposed on / off-slip has been relocated, addresses the road safety concern at this stage.

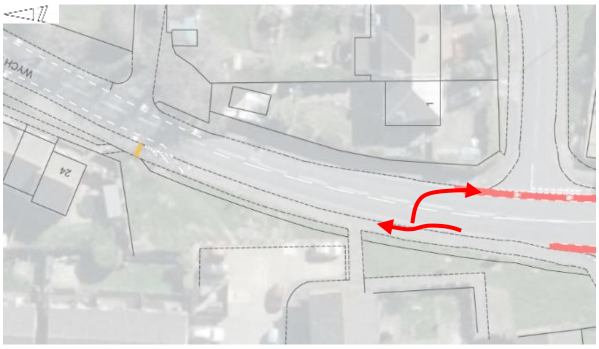
A.4.4	**PROBLEM**
Location:	Wych Lane
Summary:	No level access is provided for north and southbound cyclists between the proposed facility and carriageway
Acc Type:	Cyclist fall and personal injury

Wych Lane accommodates signage to the north which denotes that a shared footway cycleway is present to the west of the carriageway. The proposals include the formalisation of a shared footway cycleway along the western side of Wych Lane to the north of Tukes Avenue to property numbers 12 to 24 and provide a cycle on / off-slip along the northern radius at the Tukes Avenue junction as well as advisory cycle lanes with red coloured surfacing across the simple priority junctions to highlight the presence of cyclists. No cyclist facilities are provided along Wych Lane to the south of Tukes Avenue and therefore cyclists are likely to be within the carriageway. The Audit Team have concerns that no level access is provided between the carriageway and formalised footway cycleway to the north of Tukes Avenue which could lead to a cyclist attempting to mount / dismount the shared facility where full height kerbs are present. A cyclist attempting to mount / dismount the shared facility where full height kerbs are present could result in a fall and personal injury.

RECOMMENDATION:

It is recommended that an on / off-slips is provided along Wych Lane north of the junction with Tukes Avenue.

Location Plan:



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

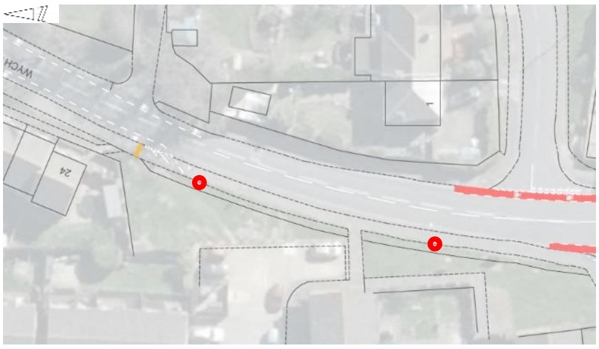
Agree – Design has been revised accordingly to provide on/off slips along Wych Lane to the north of the junction with Tukes Avenue

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that on / off-slips have been provided, addresses the road safety concern at this stage.

A.5	**TRAFFIC SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING**
A.5.1	**PROBLEM**
Location:	Wych Lane
Summary:	Existing street lighting columns are situated within the area of the proposed widening
Acc Type:	Vehicle to cyclist / pedestrian collisions

Wych Lane is subject to street lighting with columns situated either side of the carriageway at the back edge of an existing facility which is signed as a shared footway cycleway to the north. The proposals include works to widen the existing facility to formalise sections of the shared footway cycleway. A number of existing street lighting columns are situated within the area of works and may be relocated in response to item A.2.1, however, the Audit Team is concerned that the relocation of the existing street lighting column will have an adverse impact on the level of lighting should they be relocated. Vehicles are generally driven during the hours of darkness with headlights illuminated, however, a footpath is present on the eastern side of the carriageway which commences / terminates at a shared driveway known as Dale Drive where there is likely to be a pedestrian desire line across the carriageway, although no crossing point is provided and on / off-slips are proposed where cyclists access the carriageway. Insufficient lighting could result in a driver / rider not becoming aware of a pedestrian or cyclist attempting to cross / enter the carriageway at a safe distance and lead to a vehicle to pedestrian / cyclist collision.

RECOMMENDATION:	
It is recommended that street lighting columns are relocated appropriately to ensure that the level of lighting is adequate, particularly at locations where pedestrians cross and cyclists enter the carriageway.	
Location Plan: (NB: Not all street lighting columns are illustrated below, more are present)	
	
DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.	
Agree – Street lighting to be relocated accordingly – exact details to be agreed with HCC at detailed design stage.	
AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022	
Confirmation that street lighting will be relocated accordingly, addresses the road safety concern at this stage.	

4.3 ITEMS RAISED AT THIS STAGE 1 ROAD SAFETY AUDIT - *Option 3 - ITB10353-GA-041*

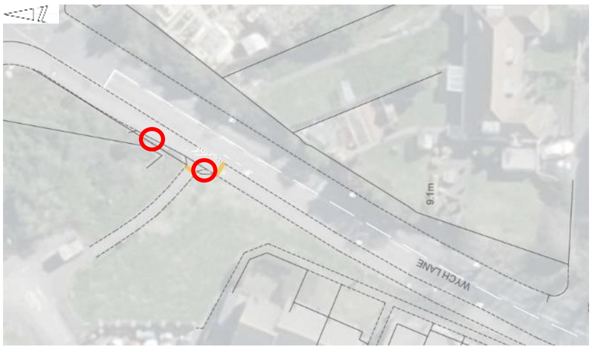
A.1	**LOCAL ALIGNMENT**
	No Road Safety Concerns regarding LOCAL ALIGNMENT have been raised at this stage
A.2	**GENERAL**
A.2.1	**PROBLEM**
Location:	Scheme
Summary:	Street furniture will be an obstruction to pedestrians and cyclists
Acc Type:	Cyclist / pedestrian collisions with street furniture

Wych Lane accommodates a number of items of street furniture, to include street lighting columns, signposts, cabinets, wooden stakes and a bin, within the verge as well as the existing facility which is signed to the north as a shared footway cycleway. The proposals include the widening of an existing section of shared footway cycleway along Wych Lane in proximity to a link to / from a cul-de-sac off Woodside. The Audit Team noted from the site visit, that a number of items of street furniture to include a signpost and street lighting column are situated within the verge and footway at the location of the proposed widening. Street furniture within or on the boundary of a shared footway cycleway could become an obstruction to pedestrians and cyclists which could lead to falls and personal injuries.

RECOMMENDATION:

It is recommended that all items of street furniture within the area of the proposed widening are relocated appropriately.

Location Plan:



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – street furniture within the proposed area of works to be relocated accordingly – exact details to be agreed with HCC at detailed design stage.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that all items of street furniture within the area of the proposed will be relocated if necessary, addresses the road safety concern at this stage.

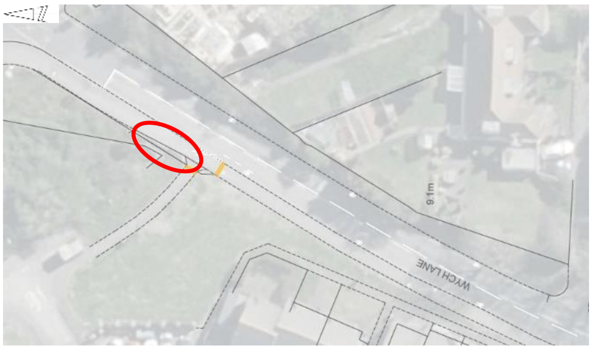
A.2.2	**PROBLEM**
Location:	Wych Lane
Summary:	Proposals will have an impact on existing watercourse
Acc Type:	Cyclist / pedestrian fall and personal injury

Wych Lane passes across a culvert to the north of a footpath link to a Woodside cul-de-sac where railings are present alongside the existing shared footway cycleway. The proposals include the widening of an existing section of shared footway cycleway along Wych Lane to the north of the footpath link. The Audit Team are concerned that the proposed widening is situated beyond the existing railing where the ground falls away steeply and the headwall is present. The proposed scheme could have an impact on the stability of the ground / integrity of the culvert, leading to surface failure which may result in pedestrian and cyclist falls as well as personal injuries.

RECOMMENDATION:

It is recommended that the width of the existing shared facility besides the watercourse is retained.

Location Plan:



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – proposed widening has been removed in this section and existing width retained.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that the proposed widening has been removed from the proposal, addresses the road safety concern at this stage.

A.3	**JUNCTIONS**
	No Road Safety Concerns regarding JUNCTIONS have been raised at this stage
A.4	**WALKING, CYCLING AND HORSE RIDING**
	No Road Safety Concerns regarding WALKING, CYCLING AND HORSE RIDING have been raised at this stage

A.5	**TRAFFIC SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING**
A.5.1	**PROBLEM**
Location:	Wych Lane
Summary:	Existing street lighting column is situated within the area of the proposed widening
Acc Type:	Vehicle to cyclist / pedestrian collisions

Wych Lane is subject to street lighting with columns situated either side of the carriageway at the back edge of an existing facility which is signed as a shared footway cycleway to the north. The proposals include works to widen a section of the existing facility to the north to accommodate pedestrians and cyclists. An existing street lighting column is situated within the area of works and may be relocated in response to item A.2.1, however, the Audit Team is concerned that the relocation of the existing street lighting column will have an adverse impact on the level of lighting should it be relocated. Vehicles are generally driven during the hours of darkness with headlights illuminated, however, the proposals include the provision of an on / off-slip in proximity of the existing column and therefore cyclists will be exiting onto the carriageway. Insufficient lighting could result in a driver / rider not becoming aware of a cyclist entering the carriageway at a safe distance, which could lead to a vehicle to pedestrian / cyclist collision.

RECOMMENDATION:

It is recommended that the street lighting column is relocated appropriately to ensure that the level of lighting is adequate.

Location Plan:

DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – existing street lighting column to be relocated accordingly – exact details to be agreed with HCC at detailed design stage.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that street lighting will be relocated accordingly, addresses the road safety concern at this stage.

5.0 STAGE 1 ROAD SAFETY AUDIT TEAM STATEMENT

5.1 We certify that this Road Safety Audit has been carried out in accordance with GG119.

Audit Team Leader

Name: **Jamie Fenning** *BSc (Hons), MIHE, MCIHT, MSoRSA, HE RSA Certificate of Competency*

Signed:

Position: Road Safety / Highway Engineer
Organisation: Fenley Road Safety Limited
Date: 26th July 2022

Audit Team Member

Name: **Zane Beswick** *MCIHT, MSoRSA*

Signed:

Position: Road Safety / Highway Engineer
Organisation: Fenley Road Safety Limited
Date: 8th July 2022

Appendix A1

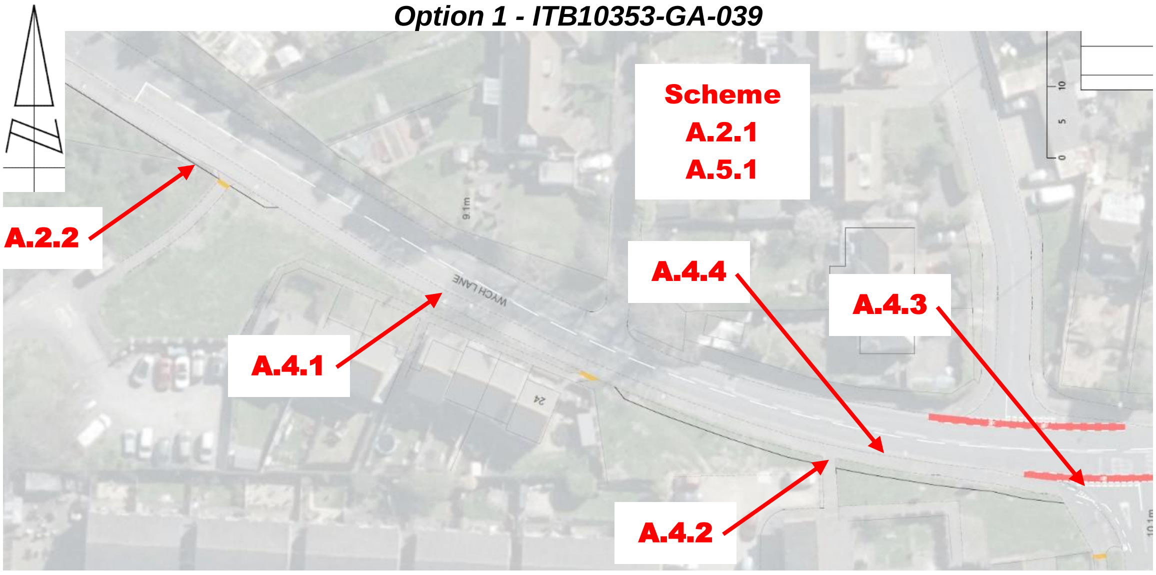
Documents and Drawings provided for this Stage 1 Road Safety Audit

Audit Stage	Doc. No.	Rev	Title
Stage 1	ITB10353-022	-	GG119 Stage 1 Road Safety Audit Brief
	ITB13747-009	A	Non-motorised User Audit
	Dwg No.	Rev	Title
	ITB10353-GA-039	-	Proposed Cycle Improvements to Wych Lane Option 1
	ITB10353-GA-040	-	Proposed Cycle Improvements to Wych Lane Option 2
	ITB10353-GA-041	-	Proposed Cycle Improvements to Wych Lane Option 3

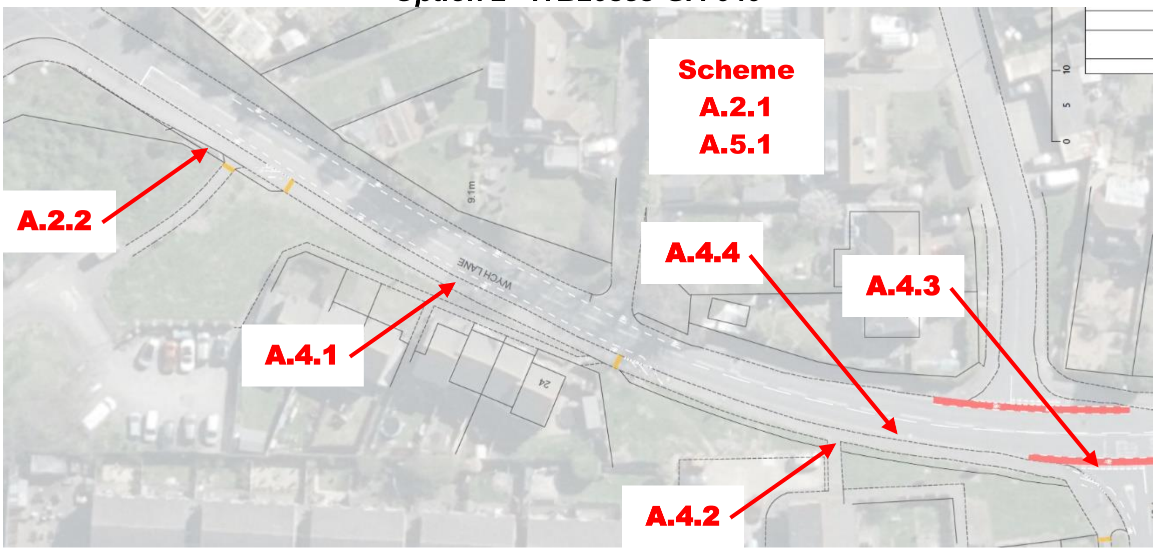
Appendix A2

Item Location Plan

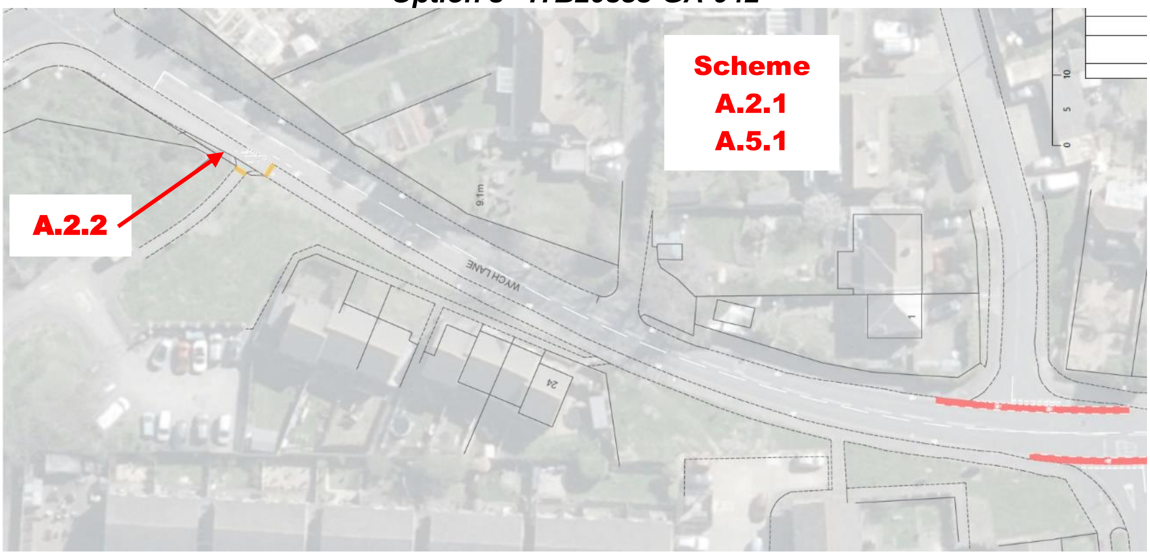
Option 1 - ITB10353-GA-039



Option 2 - ITB10353-GA-040



Option 3 - ITB10353-GA-041

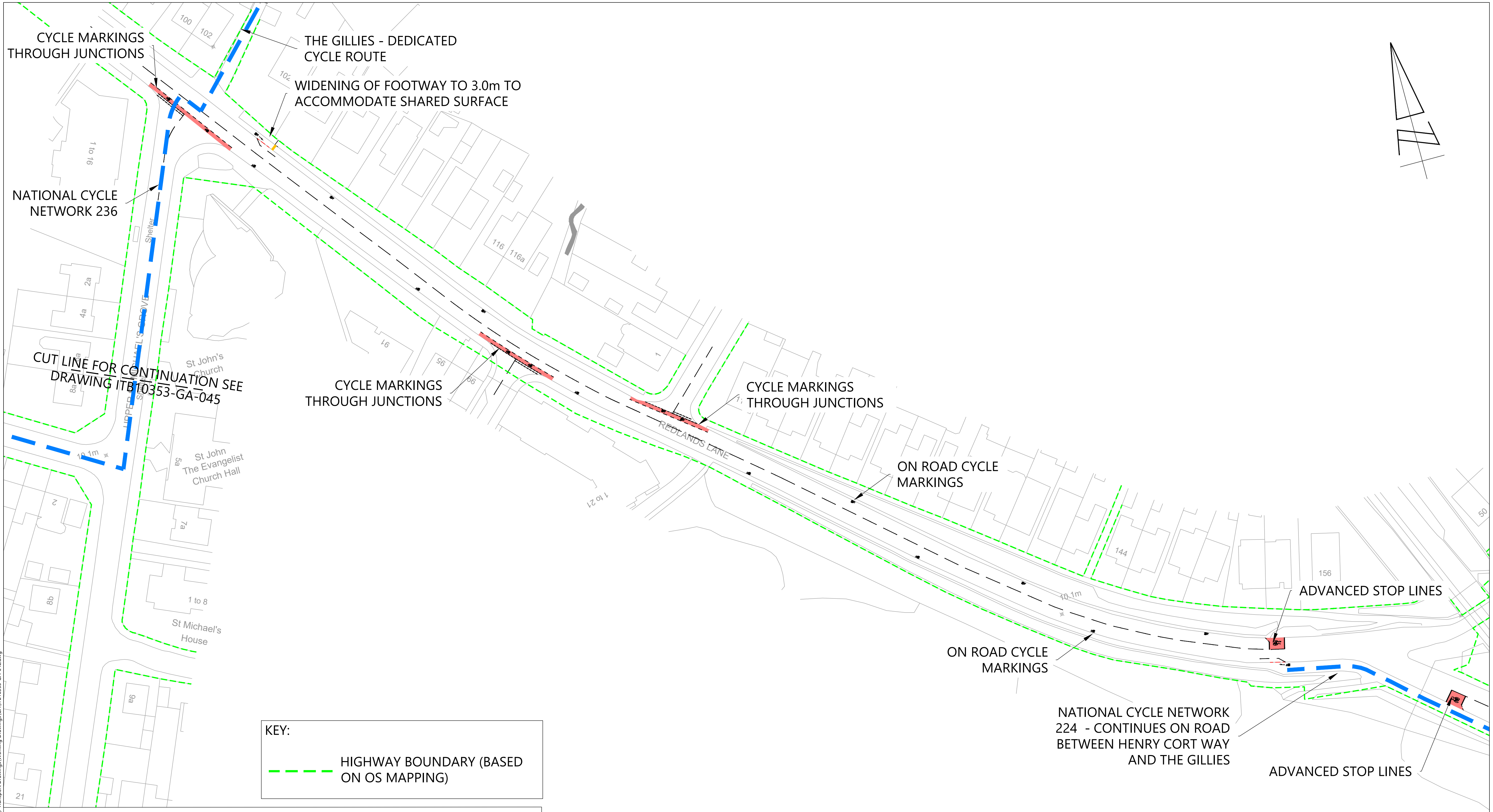


Appendix A3

Drawings associated with the Design Organisation Response

Audit Stage	Drawing No.	Rev	Title
Stage 1	ITB10353-GA-039	A	Proposed Cycle Improvements to Wych Lane Option 1
	ITB10353-GA-040	A	Proposed Cycle Improvements to Wych Lane Option 2
	ITB10353-GA-041	A	Proposed Cycle Improvements to Wych Lane Option 3

APPENDIX M. Redlands Lane Improvements and Information



DRAWING ISSUED FOR FEASIBILITY CONSIDERATION AND PLANNING PURPOSES ONLY. DRAWING NOT TO BE USED FOR CONSTRUCTION. I-TRANSPORT LLP ACCEPT NO RESPONSIBILITY FOR ERRORS MADE BY OTHERS IN SCALING FROM THIS DRAWING. MEASUREMENTS SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY. CDM REQUIREMENTS CONSIDERED AT FEASIBILITY STAGE ONLY. FURTHER CONSIDERATION REQUIRED BY DETAILED DESIGN TEAM.

SCALE BAR @ 1:1000

0 10 25 50 100

i-Transport

The Square, Basing View, Basingstoke, Hampshire, RG21 4EB

Tel: 01256 637940

www.i-transport.co.uk

REV	DATE	BY	DESCRIPTION	CHK	APD

STATUS: FOR INFORMATION

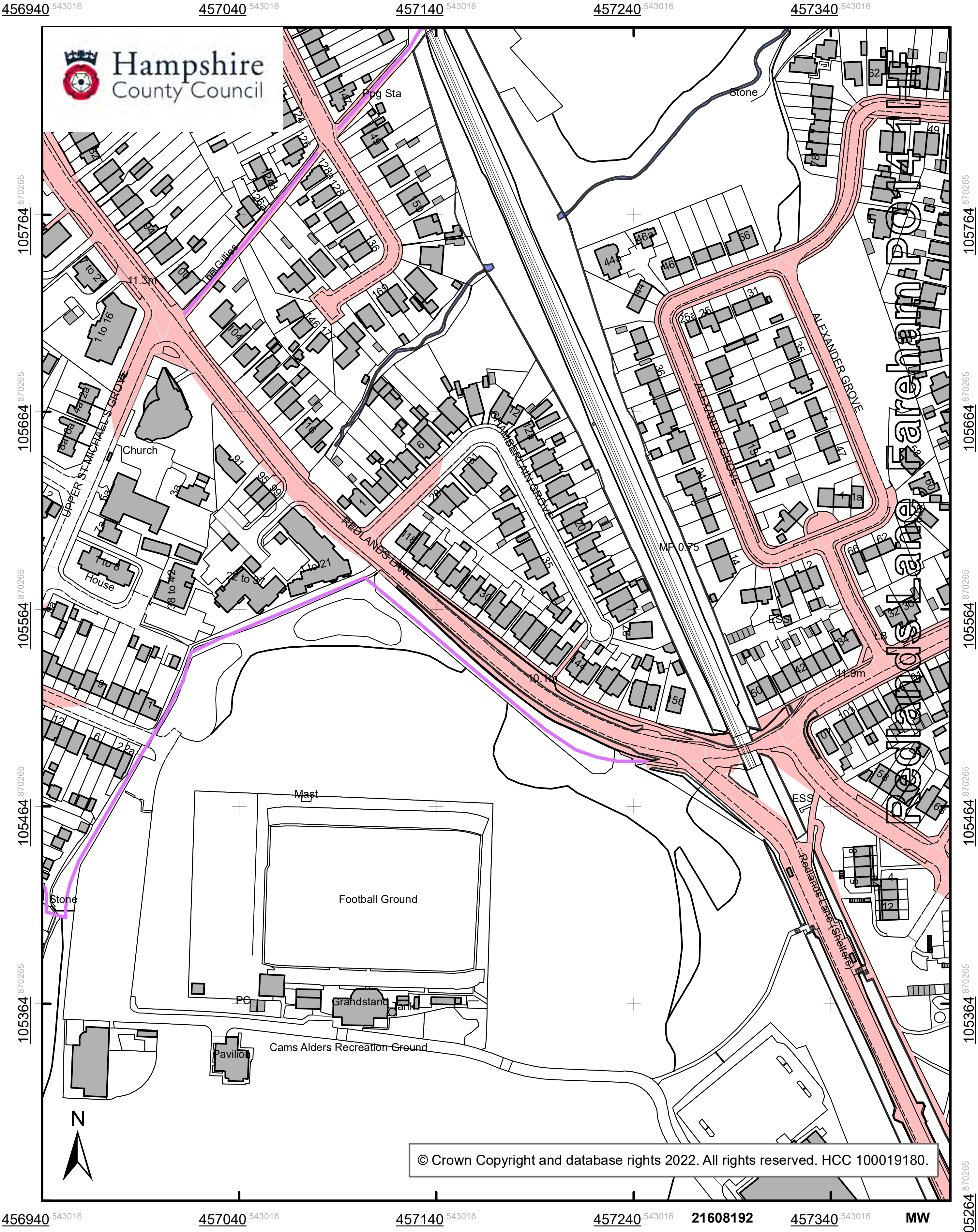
TITLE: PROPOSED CYCLE IMPROVEMENTS TO REDLANDS LANE BETWEEN THE GILLIES AND HENRY CORT WAY

PROJECT: LAND EAST OF NEWGATE LANE EAST, FAREHAM

CLIENT: MILLER HOMES AND BARGATE HOMES

DRAWN:	CHECKED:	APPROVED:
MC	MC	TW
PROJECT No: ITB10353	SCALE @ A3: 1:1000	DATE: 01.07.22

DRAWING No: ITB10353-GA-042 REV: -



Ordnance Survey maps are topographic maps and show a representation of the physical features on the ground at the time of survey, which are drawn according to specified tolerances, by the Ordnance Survey. For further information on Ordnance Survey mapping please see: http://www.ordnancesurvey.co.uk/support/property-boundaries.html

For questions about the responsibility for ditches please refer to Hampshire County Council's website at: http://documents.hants.gov.uk/flood-water-management/ditchmaintenanceposter.pdf

This plan is made on the basis of information at present available to the County Council and is made on the distinct understanding that, in the absence of negligence, neither the County Council nor I as an officer of the Council is to be held responsible should you rely on this statement and consequently suffer damage

Road Safety Audit Report

Incorporating
Stage 1 Completion of Preliminary Design;

Design Organisation Response to items raised; and
Auditor’s View on the Design Organisation Response.

Proposed Highway Works along
Redlands Lane
Fareham

Client:
i-Transport

Client reference:
ITB20353-021

Fenley
2 Blaenant
Emmer Green
READING
RG4 8PH

E: office@fenley.co.uk
www.fenley.co.uk

Report Status 4

Job no	**RSA-22-074**	Issue no	4	Date	July 2022
Prepared by	JJF	Verified by	ZB	Approved by	JJF
Filename and Path	Fenley/Road Safety Audits/RSA-22/RSA-22-074-4				

1.0 PROJECT DETAILS

Report Title:	Stage 1 Road Safety Audit
Date:	July 2022
Document reference and revision:	RSA-22-074-4
Prepared by:	Fenley Road Safety Limited
On behalf of the Overseeing Organisation:	Hampshire County Council
Design Organisation:	i-Transport
Project Sponsor:	Miller Homes and Bargate Homes

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
0	Stage 1 Road Safety Audit drafted for Audit Team discussions	JJF			4th July 2022
1	Stage 1 Road Safety Audit finalised and issued to the Design Organisation	JJF	ZB	JJF	7th July 2022
2	Stage 1 Road Safety Audit Report format amended to incorporate a row for inclusion of a Design Organisation Response in order to maintain a concise record of items raised	JJF			7th July 2022
3	Design Organisation Response incorporated	Matthew Craddy on behalf of i-Transport			25th July 2022
4	Auditor's View on the Design Organisation Response	JJF			26th July 2022

Contents:

Appendices:

2.0 INTRODUCTION

2.1 This report has been prepared by Fenley Road Safety Limited and results from a Stage 1 Road Safety Audit of proposed highway works proposed along Redlands Lane in Fareham. It is understood that the development proposals associated with the scheme that is subject to this document includes the provision of circa. 375 dwellings on a parcel of land to the west of Tukes Avenue and east of Newgate Lane East. The works proposed and presented within the Audit Brief, include the following;

- On road cycle markings through junctions along the route;
- On road cycle markings;
- Widening of footway to 3.0m to accommodate shared surface from The Gillies for circa 20m east towards Henry Court Way;
- Advance Cycle Stop Lines at the signalised junction with Henry Court Way;
- Providing additional road markings for cyclists to join Redlands Lane where the shared route ends just to the west of Henry Court Way.

2.2 The Audit Brief identifies that the proposals do not include any Departures from Standard, whether related to strategic decisions or otherwise.

2.3 The Road Safety Audit was undertaken during June and July 2022 in accordance with the initial and updated Road Safety Audit Brief and provided on the 21st June and 5th July 2022 by the Design Organisation, i-Transport, on behalf of the Project Sponsor, Miller Homes and Bargate Homes. The Road Safety Audit comprised of a site visit as well as an examination of the documents provided which are identified in **Appendix A1**. The Audit Team were satisfied that that the Audit Brief was sufficient for the purpose of the Audit instructed.

2.4 The Road Safety Audit has been undertaken by an Audit Team whose qualifications and experience accord with the requirements of GG119 and have been approved by Mr George Carpenter of the Highway Development Agreements Team at Hampshire County Council to undertake Road Safety Audits of all stages within the County. The Audit Team consists of the following members:

Audit Team Leader
Jamie Fenning *BSc(Hons), MIHE, MCIHT, MSoRSA, Highways England RSA Certificate of Competency*
Road Safety / Highway Engineer

Audit Team Member
Zane Beswick *MCIHT, MSoRSA*
Road Safety / Highway Engineer

2.5 The site visit associated with this Road Safety Audit was undertaken during the afternoon of Tuesday 28th June 2022 between the hours of 18:30 and 20:00. The site visit involved walking and driving around the local highway network for a 90-minute period whilst observing the local infrastructure and current off-peak traffic and parking conditions. The weather during the site visit was overcast, the road surface was dry and visibility was good. A number of pedestrians and cyclists were observed during the site visit. Vehicular traffic was also observed to include motorcycles, cars, passenger service vehicles, light and heavy goods vehicles as well as an emergency response vehicle. The traffic flow was moderate and free flowing.

2.6 The terms of reference of this Road Safety Audit are as described in GG119. The scheme has been examined and this report compiled, only with regard to the safety implications for road users of the scheme as presented. It has not been examined or verified for compliance with any other standards or criteria. However, in order to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. All comments and recommendations are referenced to the design drawings supplied with the Audit Brief and the location of road safety concerns raised have been illustrated beneath the items along with relevant photographs for clarity, where appropriate, as well as on the Location Plan attached at **Appendix A2**.

Design Organisation Response

2.7 In accordance with national standards, this Road Safety Audit was finalised and issued to the Design Organisation as per the Road Safety Audit Report Template within Appendix D of GG119, which can be provided upon request from either the Audit Team or Design Organisation. The format of the Audit Report was subsequently revised to incorporate these paragraphs under the sub-heading as well as sufficient space beneath the items and recommendation, within Section 4, for the inclusion of a Design Organisation Response. This is generally contained within a separate Design Organisation Response Report but is included within this document in order to maintain a single record of all problems, recommendations and responses for the benefit of a concise Road Safety Audit trail to be held on file for Quality Assurance purposes.

2.8 The Design Organisation Response has been prepared by:

Name:	Matthew Craddy
Position / Organisation:	Associate, i-Transport

2.9 Any drawings or documents associated with the Design Organisation Response are listed at **Appendix A3,** if applicable.

2.10 Upon the request of the Design Organisation and following receipt of the Design Organisation Response with any associated drawings, the Road Safety Audit Team Leader has provided a further comment on the item raised. The "Auditor's View on the Design Organisation Response" is included within a row beneath each item, for clarity.

3.0 ITEMS RAISED IN ANY PREVIOUS ROAD SAFETY AUDITS

3.1 Fenley Road Safety Limited have not been made aware of any previous road safety audits associated with the scheme subject this document The Audit Team has, however, previously undertaken a Stage 1 Road Safety Audit of a proposed roundabout along Newgate Lane East which is to form the vehicular access to the associated development as well as a series of further Stage 1 Road Safety Audits of schemes associated with proposed development; ref: RSA-22-056, 072, 073 and 075.

4.0 ITEMS RAISED AT THIS STAGE 1 ROAD SAFETY AUDIT

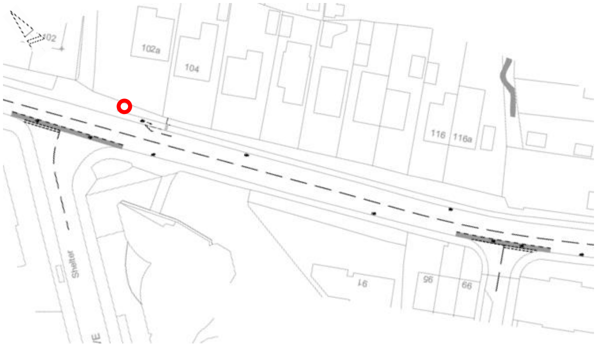
A.1	LOCAL ALIGNMENT
	No Road Safety Concerns regarding LOCAL ALIGNMENT have been raised at this stage
A.2	GENERAL
A.2.1	**PROBLEM**
Location:	Redlands Lane
Summary:	Street furniture will be an obstruction to pedestrians and cyclists
Acc Type:	Cyclist / pedestrian collisions with street furniture

Redlands Lane accommodates a number of items of street furniture to include street lighting columns, signposts, cabinets and boxes. The proposals include the widening of the footway along Redlands Lane in places to provide a shared footway cycleway as well as cycle on / off-slips. The Audit Team noted from the site visit, that a number of items of street furniture are situated within the verge where the existing footway is to be widened. Street furniture within or on the boundary of a footway cycleway could become an obstruction to pedestrians and cyclists which could lead to falls and personal injuries.

RECOMMENDATION:

It is recommended that all items of street furniture within the area of the proposed widening, is relocated appropriately.

Location Plan:



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – all street furniture within the area proposed for widening to be relocated accordingly – exact details to be agreed with HCC at detailed design stage.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that all street furniture will be relocated as necessary, addresses the road safety concern at this stage.

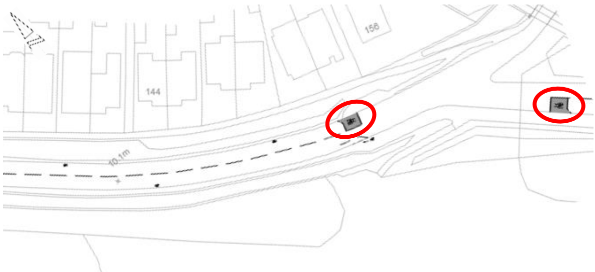
A.3	JUNCTIONS
A.3.1	**PROBLEM**
Location:	Henry Court Way junction with Redlands Lane
Summary:	Proposed Advanced Stop Line may impact on signal timings
Acc Type:	Side impact and head-on type collisions

Henry Court Way takes the form of a bus only link which meets Redlands Lane at a signalised junction that incorporates three phases due to the existing narrow one-way working underpass section of Redlands Lane beneath the rail line, to the east. The proposals include the provision of Advanced Stop Lines (ASL) on the Redlands Lane eastbound approach to the junction and Henry Court Lane which are 4.0 metres long. The Audit Team are concerned that the relocation of the stop line for general traffic, as a result of the provision of ASL, will render the signal phase times and intergreens insufficient. No queuing or congestion was observed during the site visit, however, short phase timings and intergreens could lead to additional congestion / queuing and side / rear impact collisions as well as head-on collisions through the underpass.

RECOMMENDATION:

It is recommended that the signal timings are adjusted accordingly.

Location Plan:



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – signal times to be updated accordingly – exact details to be agreed with HCC at detailed design stage

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that the signal times will be adjusted, addresses the road safety concern at this stage.

A.4	WALKING, CYCLING AND HORSE RIDING
A.4.1	**PROBLEM**
Location:	Redlands Lane
Summary:	Cyclists within the proposed Advanced Stop Line may not be visible to the driver of a Heavy Goods Vehicles at the stop line
Acc Type:	Vehicle cyclist type collisions

The section of Henry Court Lane which meets Redlands Lane is restricted to buses, cyclists and other Authorised Vehicles only and therefore any Heavy Goods Vehicle that are observed at the junction will continue straight along Redlands Lane where there is an underpass beneath the rail line which accommodates a heigh restriction of 10’6”. The proposals include the provision of Advanced Stop Lines (ASL) on the eastbound Redlands Lane and Henry Court Lane approaches to the junction. Although it is thought that minimal HGV traffic will utilise Redlands Lane, the Audit Team is concerned that the driver of a HGV at the stop lines will not have clear visibility of a cyclist within the area of the ASL which could lead to a HGV proceeding when it is not safe to do so, resulting in a collision with the rear of a cyclist.

RECOMMENDATION:

It is recommended that Advance Green Signals are provided to allow cyclists to undertake their manoeuvre prior to general traffic being released

Location Plan:


DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – as part of the scheme appropriate signage will be provided in line with TSRGD which should be sufficient to alert appropriate drivers. However, at detailed design stage it can be explored as to whether an advance green signal should be provided with HCC and can be accommodated if required.

AUDITOR’S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that measures will be provided to highlight the presence of cyclists and / or further options explored, addresses the road safety concern at this stage.

A.5	TRAFFIC SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING
	No Road Safety Concerns regarding TRAFFIC SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING have been raised at this stage

5.0 STAGE 1 ROAD SAFETY AUDIT TEAM STATEMENT

5.1 We certify that this Road Safety Audit has been carried out in accordance with GG119.

Audit Team Leader

Name: **Jamie Fenning** *BSc (Hons), MIHE, MCIHT, MSoRSA, HE RSA Certificate of Competency*

Signed:

Position: Road Safety / Highway Engineer
Organisation: Fenley Road Safety Limited
Date: 26th July 2022

Audit Team Member

Name: **Zane Beswick** *MCIHT, MSoRSA*

Signed:

Position: Road Safety / Highway Engineer
Organisation: Fenley Road Safety Limited
Date: 8th July 2022

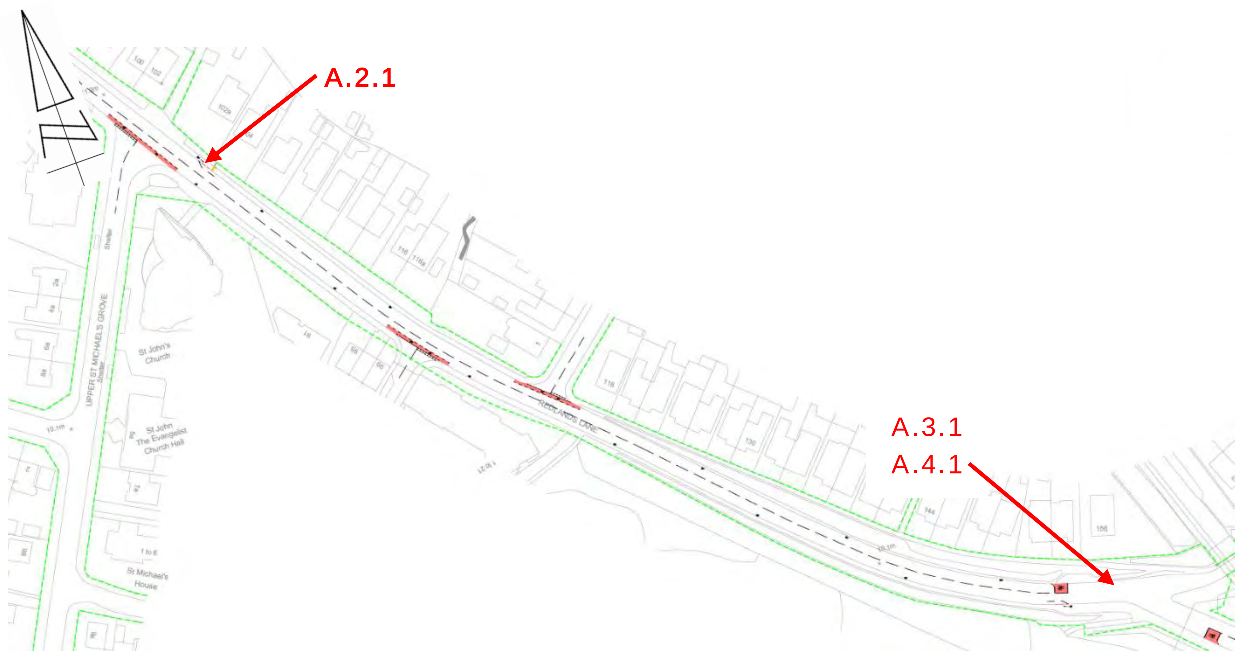
Appendix A1

Documents and Drawings provided for this Stage 1 Road Safety Audit

Audit Stage	Doc. No.	Rev	Title
Stage 1	ITB10353-021	-	GG119 Stage 1 Road Safety Audit Brief
	ITB13747-009	A	Non-motorised User Audit
	Dwg No.	Rev	Title
	ITB10353-GA-042	-	Proposed cycle improvements to Redlands Lane between The Gillies and Henry Court Lane

Appendix A2

Item Location Plan


A.2.1
A.3.1
A.4.1

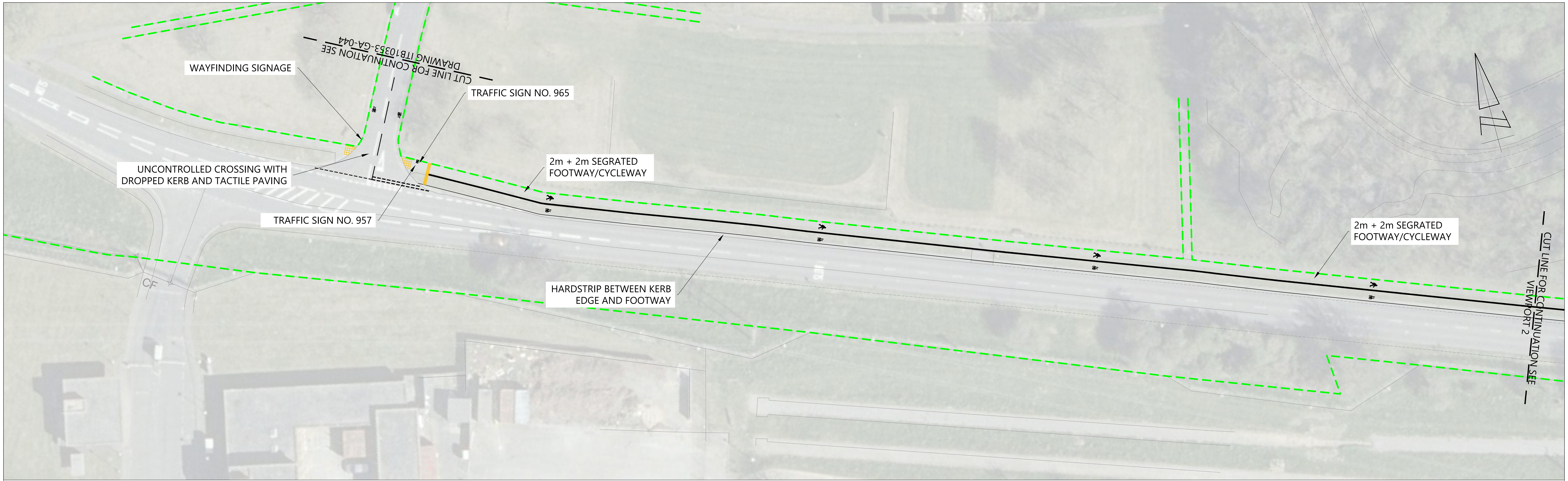
Appendix A3

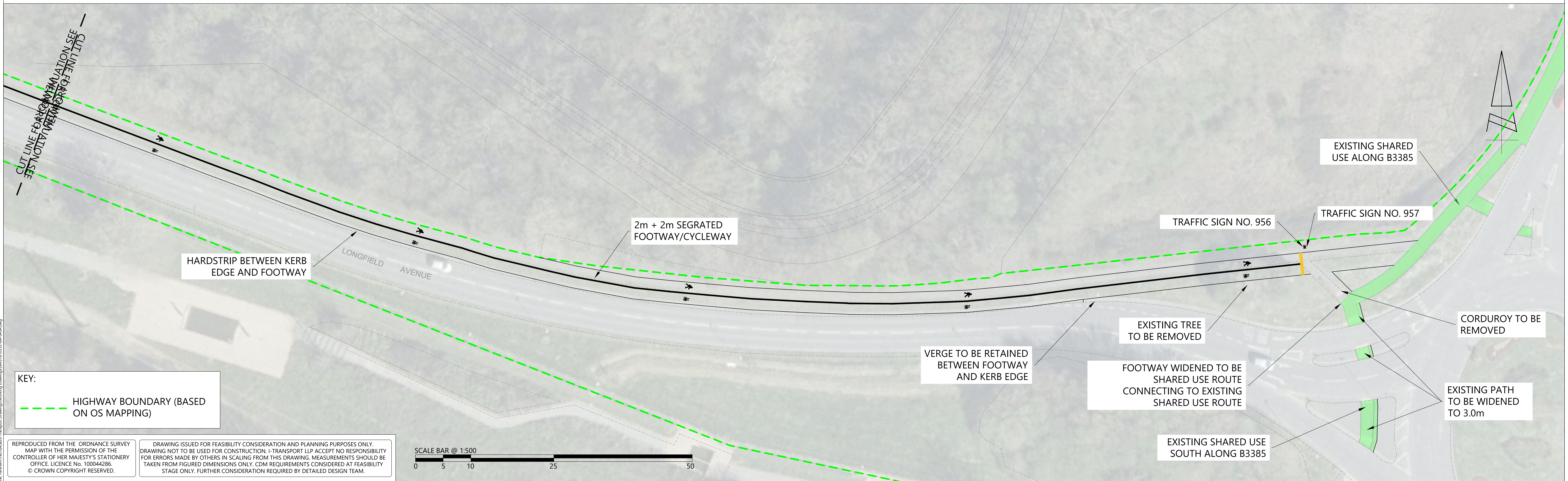
Drawings associated with the Design Organisation Response

Audit Stage	Drawing No.	Rev	Title
Stage 1	N/A	-	N/A

fenley

APPENDIX N. Longfield Avenue Improvements and Information





DRAWING ISSUED FOR FEASIBILITY CONSIDERATION AND PLANNING PURPOSES ONLY. DRAWING NOT TO BE USED FOR CONSTRUCTION. I-TRANSPORT LLP ACCEPT NO RESPONSIBILITY FOR ERRORS MADE BY OTHERS IN SCALING FROM THIS DRAWING. MEASUREMENTS SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY. CDM REQUIREMENTS CONSIDERED AT FEASIBILITY STAGE ONLY. FURTHER CONSIDERATION REQUIRED BY DETAILED DESIGN TEAM.

i-Transport
The Square, Basing View, Basingstoke, Hampshire, RG21 4EB
Tel: 01256 637940
www.i-transport.co.uk

REV	DATE	BY	DESCRIPTION	CHK	APD
A	25.07.22	MC	DESIGN UPDATED TO INCORPORATE STAGE 1 RSA	MC	TW

STATUS: FOR INFORMATION

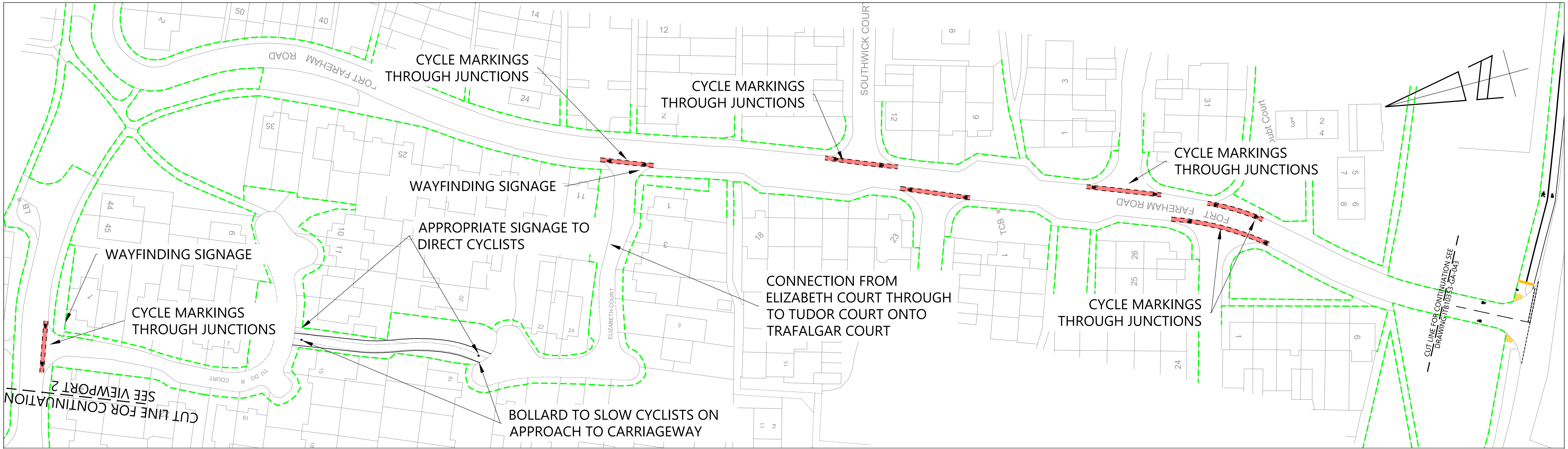
TITLE: PROPOSED CYCLE IMPROVEMENTS TO LONGFIELD AVENUE BETWEEN B3385 NEWGATE LANE AND FORT FAREHAM ROAD

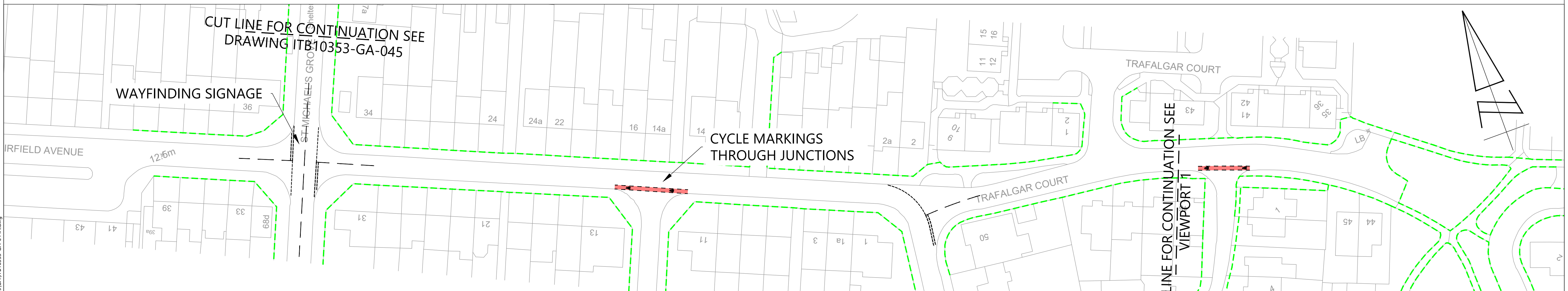
PROJECT: LAND EAST OF NEWGATE LANE EAST, FAREHAM

CLIENT: MILLER HOMES AND BARGATE HOMES

DRAWN:	CHECKED:	APPROVED:
MC	MC	TW
PROJECT No: ITB10353	SCALE @ A2: 1:500	DATE: 01.07.22

DRAWING No: ITB10353-GA-043
REV: A





KEY:

HIGHWAY BOUNDARY (BASED ON OS MAPPING)

DRAWING ISSUED FOR FEASIBILITY CONSIDERATION AND PLANNING PURPOSES ONLY. DRAWING NOT TO BE USED FOR CONSTRUCTION. I-TRANSPORT LLP ACCEPT NO RESPONSIBILITY FOR ERRORS MADE BY OTHERS IN SCALING FROM THIS DRAWING. MEASUREMENTS SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY. CDM REQUIREMENTS CONSIDERED AT FEASIBILITY STAGE ONLY. FURTHER CONSIDERATION REQUIRED BY DETAILED DESIGN TEAM.

SCALE BAR @ 1:1000

0 10 25 50 100

i-Transport

The Square, Basing View, Basingstoke, Hampshire, RG21 4EB

Tel: 01256 637940

www.i-transport.co.uk

REV	DATE	BY	DESCRIPTION	CHK	APD
A	25.07.22	MC	DESIGN UPDATED TO INCORPORATE STAGE 1 RSA	MC	TW

STATUS: FOR INFORMATION

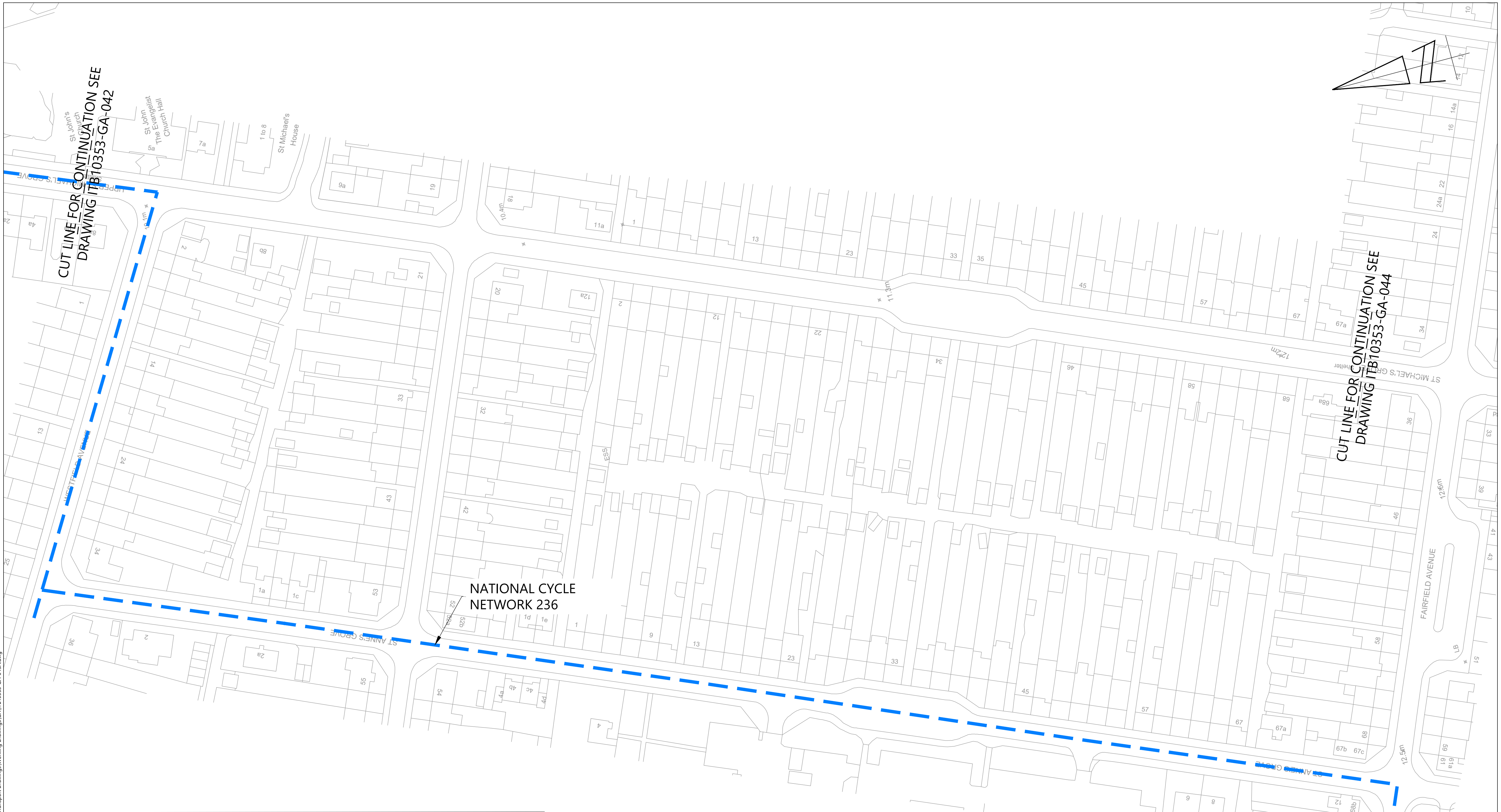
TITLE: PROPOSED CYCLE IMPROVEMENTS TO REDLANDS LANE FROM LONGFIELD AVENUE TO ST MICHAELS GROVE

PROJECT: LAND EAST OF NEWGATE LANE EAST, FAREHAM

CLIENT: MILLER HOMES AND BARGATE HOMES

DRAWN:	CHECKED:	APPROVED:
MC	MC	TW
PROJECT No:	SCALE @ A3:	DATE:
ITB10353	1:1000	01.07.22

DRAWING No: ITB10353-GA-044 REV: A



DRAWING ISSUED FOR FEASIBILITY CONSIDERATION AND PLANNING PURPOSES ONLY. DRAWING NOT TO BE USED FOR CONSTRUCTION. I-TRANSPORT LLP ACCEPT NO RESPONSIBILITY FOR ERRORS MADE BY OTHERS IN SCALING FROM THIS DRAWING. MEASUREMENTS SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY. CDM REQUIREMENTS CONSIDERED AT FEASIBILITY STAGE ONLY. FURTHER CONSIDERATION REQUIRED BY DETAILED DESIGN TEAM.

SCALE BAR @ 1:1250

0 10 25 50 100 125

i-Transport

The Square, Basing View,
Basingstoke, Hampshire, RG21 4EB

Tel: 01256 637940

www.i-transport.co.uk

REV	DATE	BY	DESCRIPTION	CHK	APD
A	25.07.22	MC	DESIGN UPDATED TO INCORPORATE STAGE 1 RSA	MC	TW

STATUS: FOR INFORMATION

TITLE: POTENTIAL CYCLE IMPROVEMENTS TO ST MICHAELS GROVE FROM FAIRFIELD AVENUE TO THE GILLIES

PROJECT: LAND EAST OF NEWGATE LANE EAST, FAREHAM

CLIENT: MILLER HOMES AND BARGATE HOMES

DRAWN:	CHECKED:	APPROVED:
MC	MC	TW
PROJECT No: ITB10353	SCALE @ A3: 1:1250	DATE: 01.07.22

DRAWING No: ITB10353-GA-045

REV: A

T:\Projects\10000 Series Project Numbers\10353 ITB Newgate Lane, Fareham\Tech\Acad\i-Transport Drawings\Working Drawings\GA\ITB10353-GA-045A.dwg

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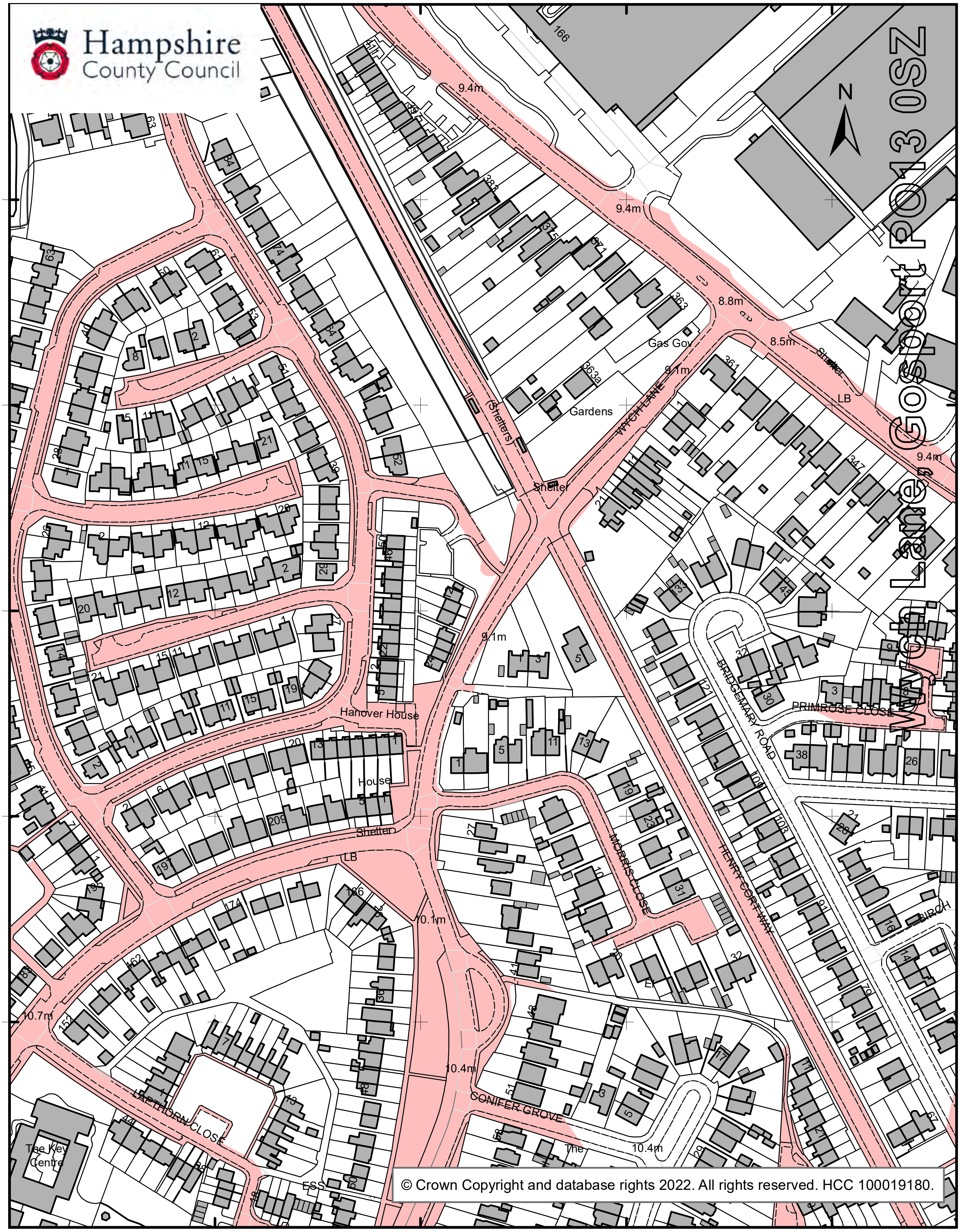
104297 104197 104097 103997 103897

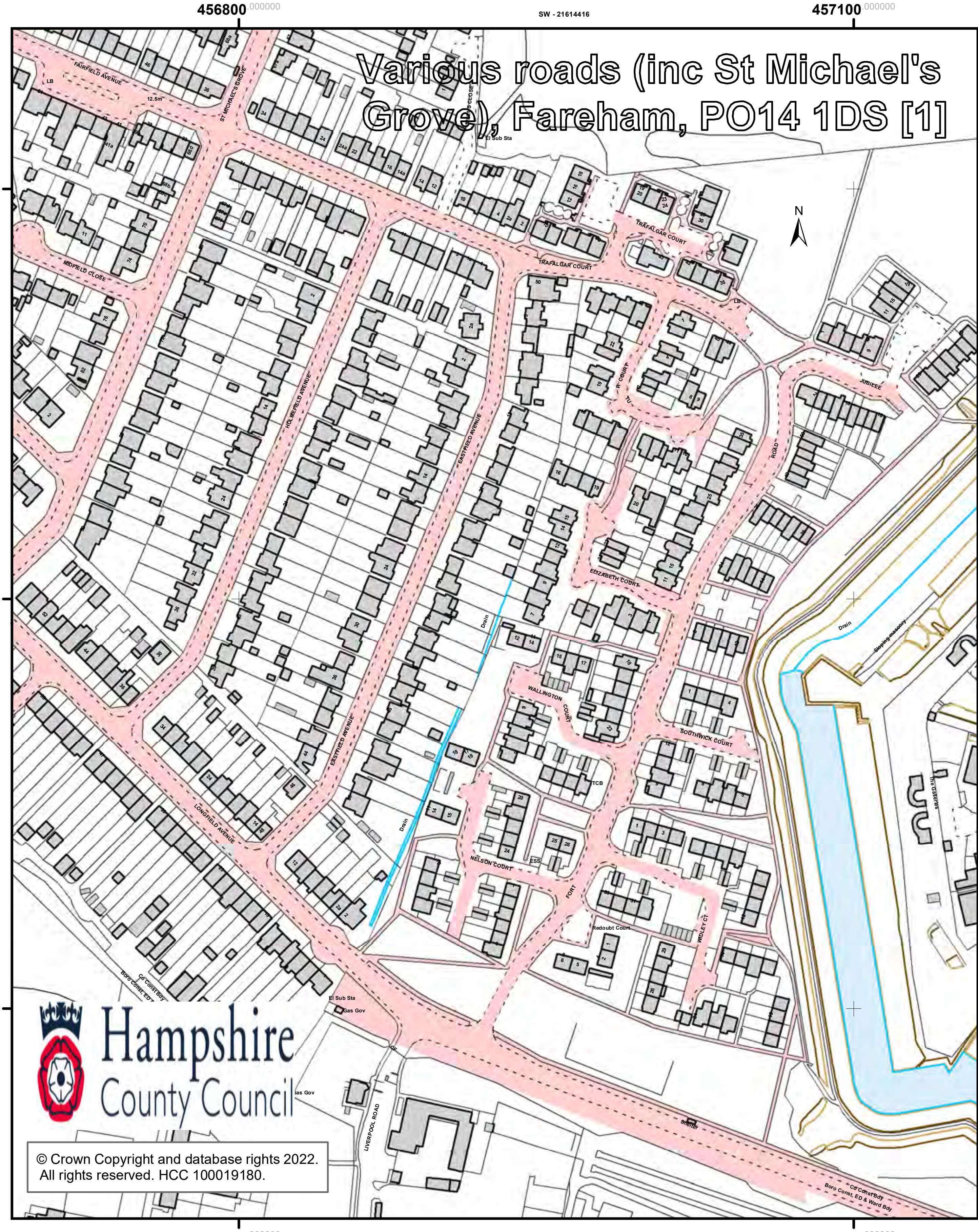


457730 457830 457930 458030 **21608195** 458130 **MW**

103797

Ordnance Survey maps are topographic maps and show a representation of the physical features on the ground at the time of survey, which are drawn according to specified tolerances, by the Ordnance Survey. For further information on Ordnance Survey mapping please see: http://www.ordnancesurvey.co.uk/support/property-boundaries.html
For questions about the responsibility for ditches please refer to Hampshire County Council's website at: http://documents.hants.gov.uk/flood-water-management/ditchmaintenanceposter.pdf

This plan is made on the basis of information at present available to the County Council and is made on the distinct understanding that, in the absence of negligence, neither the County Council nor I as an officer of the Council is to be held responsible should you rely on this statement and consequently suffer damage



The extent of the highway provided is specific to the property enquired upon and shall not be applicable to any other property.

Ordnance Survey maps are topographic maps and show a representation of the physical features on the ground at the time of survey, which are drawn according to specified tolerances, by the Ordnance Survey. For further information on Ordnance Survey mapping please see: http://www.ordnancesurvey.co.uk/support/property-boundaries.html

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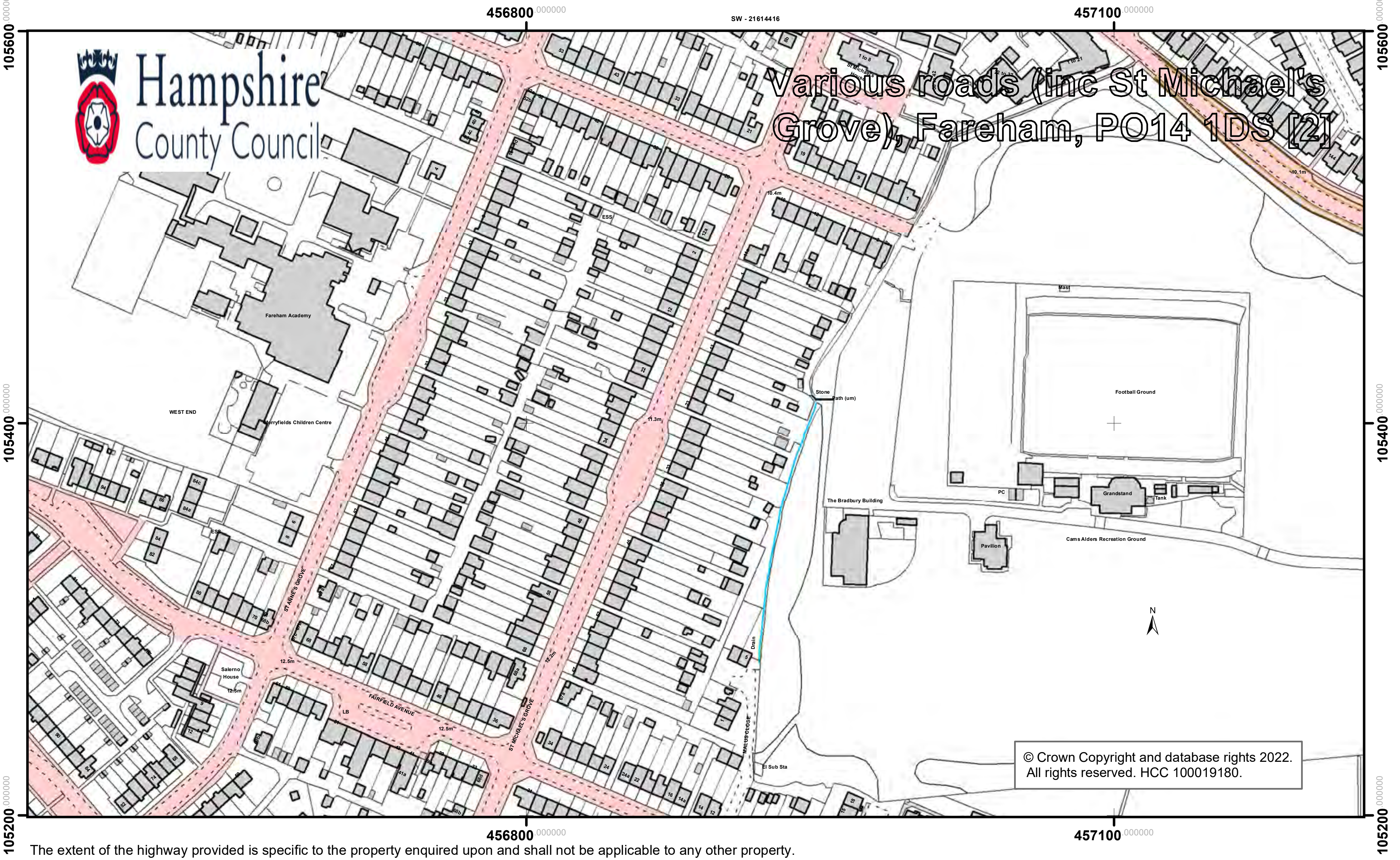

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456800 SW - 21614416 457100

105800 105600

456800 457100

The extent of the highway provided is specific to the property enquired upon and shall not be applicable to any other property.

Ordnance Survey maps are topographic maps and show a representation of the physical features on the ground at the time of survey, which are drawn according to specified tolerances, by the Ordnance Survey. For further information on Ordnance Survey mapping please see: http://www.ordnancesurvey.co.uk/support/property-boundaries.html

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This plan is made on the basis of information at present available to the County Council and is made on the distinct understanding that, in the absence of negligence, neither the County Council nor I as an officer of the Council is to be held responsible should you rely on this statement and consequently suffer damage.

Road Safety Audit Report

Incorporating
Stage 1 Completion of Preliminary Design;

Design Organisation Response to items raised; and
Auditor's View on the Design Organisation Response.

Proposed Highway Works along
Longfield Lane to Westfield Avenue
Fareham

Client:
i-Transport

Client reference:
ITB10353-020

Fenley
2 Blaenant
Emmer Green
READING
RG4 8PH

E: office@fenley.co.uk
www.fenley.co.uk

Report Status 4

Job no	RSA-22-073	Issue no	4	Date	July 2022
Prepared by	JJF	Verified by	ZB	Approved by	JJF
Filename and Path	Fenley/Road Safety Audits/RSA-22/RSA-22-073-4				

1.0 PROJECT DETAILS

Report Title:	Stage 1 Road Safety Audit
Date:	July 2022
Document reference and revision:	RSA-22-073-4
Prepared by:	Fenley Road Safety Limited
On behalf of the Overseeing Organisation:	Hampshire County Council
Design Organisation:	i-Transport
Project Sponsor:	Miller Homes and Bargate Homes

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
0	Stage 1 Road Safety Audit drafted for Audit Team discussions	JJF			4th July 2022
1	Stage 1 Road Safety Audit finalised and issued to the Design Organisation	JJF	ZB	JJF	7th July 2022
2	Stage 1 Road Safety Audit Report format amended to incorporate a row for inclusion of a Design Organisation Response in order to maintain a concise record of items raised	JJF			7th July 2022
3	Design Organisation Response incorporated	Matthew Craddy on behalf of i-Transport			25th July 2022
4	Auditor's View on the Design Organisation Response	JJF			26th July 2022

Contents:

Appendices:

2.0 INTRODUCTION

2.1 This report has been prepared by Fenley Road Safety Limited and results from a Stage 1 Road Safety Audit of proposed highway works proposed along Longfield Avenue, Fort Fareham Road, Trafalgar Court, Fairfield Avenue, St Michaels Grove in Fareham. It is understood that the development proposals associated with the scheme that is subject to this document includes the provision of circa. 375 dwellings on a parcel of land to the west of Tukes Avenue and east of Newgate Lane East. The works proposed and presented within the Audit Brief, include the following;

- Upgrade the existing footway between Fort Fareham Road and B3385 Newgate Lane to a segregated footway/cycleway (2.0m/2.0m), with a hardstrip between kerb and edge of footway/cycleway:
- At the junction with Fort Fareham Road the route will end where cyclists will join the carriageway. Appropriate road markings and traffic signs:
- The same process is to occur at the junction with B3385 Newgate Lane:
- Improvements to Fort Fareham Road and along Fairfield Avenue (which includes Trafalgar Court) in the form of on road cycle markings through junctions, Wayfinding signage at Junction of Fairfield Avenue with St Michaels Grove:
- There is a section between Fort Fareham Road (to the north) and Trafalgar Court which is joined by a footway. This is to be upgraded to a shared use route with appropriate markings and signage: and
- The existing National Cycle Network 236 along Anne's Grove and the potential to convert the existing wide footway along St Michaels Grove between Fort Fareham Road and Redlands Lane to a shared use route.

2.2 The Audit Brief identifies that the proposals do not include any Departures from Standard, whether related to strategic decisions or otherwise.

2.3 The Road Safety Audit was undertaken during June and July 2022 in accordance with the initial and updated Road Safety Audit Brief and provided on the 21st June and 5th July 2022 by the Design Organisation, i-Transport, on behalf of the Project Sponsor, Miller Homes and Bargate Homes. The Road Safety Audit comprised of a site visit as well as an examination of the documents provided which are identified in **Appendix A1**. The Audit Team were satisfied that the Audit Brief was sufficient for the purpose of the Audit instructed.

2.4 The Road Safety Audit has been undertaken by an Audit Team whose qualifications and experience accord with the requirements of GG119 and have been approved by Mr George Carpenter of the Highway Development Agreements Team at Hampshire County Council to undertake Road Safety Audits of all stages within the County. The Audit Team consists of the following members:

Audit Team Leader
Jamie Fenning *BSc(Hons), MIHE, MCIHT, MSoRSA, Highways England RSA Certificate of Competency*
Road Safety / Highway Engineer

Audit Team Member
Zane Beswick *MCIHT, MSoRSA*
Road Safety / Highway Engineer

2.5 The site visit associated with this Road Safety Audit was undertaken during the afternoon of Tuesday 28th June 2022 between the hours of 18:30 and 20:00. The site visit involved walking and driving around the local highway network for a 90-minute period whilst observing the local infrastructure and current off-peak traffic and parking conditions. The weather during the site visit was overcast, the road surface was dry and visibility was good. A number of pedestrians and cyclists were observed during the site visit. Vehicular traffic was also observed to include motorcycles, cars, passenger service vehicles, light and heavy goods vehicles as well as an emergency response vehicle. The traffic flow was moderate and free flowing.

2.6 The terms of reference of this Road Safety Audit are as described in GG119. The scheme has been examined and this report compiled, only with regard to the safety implications for road users of the scheme as presented. It has not been examined or verified for compliance with any other standards or criteria. However, in order to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. All comments and recommendations are referenced to the design drawings supplied with the Audit Brief and the location of road safety concerns raised have been illustrated beneath the items along with relevant photographs for clarity, where appropriate, as well as on the Location Plan attached at **Appendix A2**.

Design Organisation Response

2.7 In accordance with national standards, this Road Safety Audit was finalised and issued to the Design Organisation as per the Road Safety Audit Report Template within Appendix D of GG119, which can be provided upon request from either the Audit Team or Design Organisation. The format of the Audit Report was subsequently revised to incorporate these paragraphs under the sub-heading as well as sufficient space beneath the items and recommendation, within Section 4, for the inclusion of a Design Organisation Response. This is generally contained within a separate Design Organisation Response Report but is included within this document in order to maintain a single record of all problems, recommendations and responses for the benefit of a concise Road Safety Audit trail to be held on file for Quality Assurance purposes.

2.8 The Design Organisation Response has been prepared by:

Name:	Matthew Craddy
Position / Organisation:	Associate, i-Transport

2.9 Any drawings or documents associated with the Design Organisation Response are listed at **Appendix A3,** if applicable.

2.10 Upon the request of the Design Organisation and following receipt of the Design Organisation Response with any associated drawings, the Road Safety Audit Team Leader has provided a further comment on the item raised. The "Auditor's View on the Design Organisation Response" is included within a row beneath each item, for clarity.

3.0 ITEMS RAISED IN ANY PREVIOUS ROAD SAFETY AUDITS

3.1 Fenley Road Safety Limited have not been made aware of any previous road safety audits associated with the scheme subject this document The Audit Team has, however, previously undertaken a Stage 1 Road Safety Audit of a proposed roundabout along Newgate Lane East which is to form the vehicular access to the associated development as well as a series of further Stage 1 Road Safety Audits of schemes associated with proposed development; ref: RSA-22-056, 072, 074 and 075.

4.0 ITEMS RAISED AT THIS STAGE 1 ROAD SAFETY AUDIT

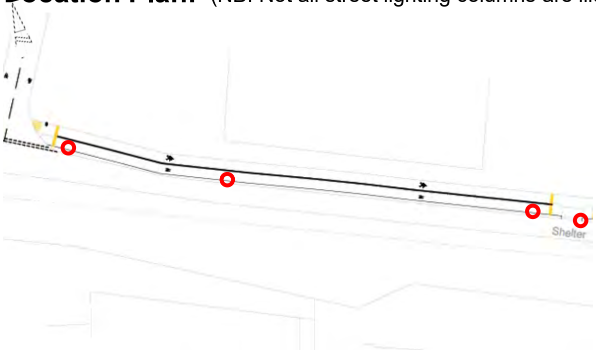
A.1	LOCAL ALIGNMENT
	No Road Safety Concerns regarding LOCAL ALIGNMENT have been raised at this stage
A.2	GENERAL
A.2.1	**PROBLEM**
Location:	Scheme
Summary:	Street furniture will be an obstruction to pedestrians and cyclists
Acc Type:	Cyclist / pedestrian collisions with street furniture

Longfield Avenue, Fort Fareham Road, Trafalgar Court, Fairfield Avenue and St Michaels Grove accommodate a number of items of street furniture to include street lighting columns, signposts, cabinets and boxes within the verge besides the carriageway as well as the existing footway. The proposals include provision of a segregated footway cycleway along Longfield Avenue and St Michaels Grove as well as between Fort Fareham Road and Trafalgar Road. The Audit Team noted from the site visit, that a number of items of street furniture are situated within the verge and footway at the location of the proposed shared facility. Street furniture within or on the boundary of a shared or segregated footway cycleway could become an obstruction to pedestrians and cyclists which could lead to falls and personal injuries.

RECOMMENDATION:

It is recommended that all items of street furniture within the area of the proposed widening, is relocated appropriately.

Location Plan: (NB: Not all street lighting columns are illustrated below, more are present)



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – all street furniture to be relocated accordingly. Exact details to be agreed at detailed design stage and agreed with HCC.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that items of street furniture will be relocated as necessary, addresses the road safety concern at this stage.

A.2.2	**PROBLEM**
Location:	Trafalgar Court
Summary:	Existing parking will restrict access to the proposed cyclepath
Acc Type:	Cyclist vehicle collisions, falls and personal injuries

Trafalgar Court is a small cul-de-sac that serves circa 50 dwellings as well as a small community centre. An existing footpath link is present between the footways of Fort Fareham Road and Trafalgar Court. The proposals include the widening of the existing footpath to upgrade the link to a footpath cyclepath and includes the provision of on / off-slips to allow level access between the facility and carriageways. The on / off-slip that is to be provided off Trafalgar Court is to be provided off the end of the existing turning head. During the site visit associated with this Audit, parking was observed to take place within the existing turning head which would obstruct the proposed on / off-slip. Parking at a location where cyclists access a carriageway, could lead to cyclist collisions with a parked vehicle or user fall and personal injuries as a cyclist diverts to a location where full height kerbs are present.

RECOMMENDATION:

It is recommended that measures are introduced to prevent vehicles from parking in proximity of the turning head

Location Plan:

DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – we have reviewed the design to take account of this comment and others identified within the Stage 1 RSA and reviewed the highway boundary data. In light of this we have revised the route to come through Elizabeth Court, through to Tudor Court and onto Trafalgar Court which is a more preferred route, which provides wayfinding and a proposed 3m section of off-road cycle route between Elizabeth Court and Tudor Court.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that an alternative route has been provided addresses the road safety concern at this stage.

A.2.3	**PROBLEM**
Location:	St Michaels Grove
Summary:	Existing parking restricts the width of the proposed footway cycleway
Acc Type:	Cyclist pedestrian collisions

St Michaels Grove accommodates a lay-by which is approximately 3.5 metres deep and is utilised for perpendicular parking as well as footways which are approximately 3 metres wide. The proposals include the upgrade of the existing footway to a shared footway cycleway along the east side of St Michaels Grove. Due to the width of the lay-by which is inadequate to accommodate perpendicular parking, observations show that vehicles overhang both the carriageway and footway. Vehicles overhanging the proposed shared footway cycleway will restrict the width available for pedestrians and cyclists which could lead to cyclist pedestrian collisions.

RECOMMENDATION:

It is recommended that the existing footway is not upgraded to a shared facility

Location Plan:

DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – existing footway to remain as a footway.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that the existing footway will not be upgraded to a shared footway cycleway, addresses the road safety concern at this stage.

A.2.4	**PROBLEM**
Location:	St Michaels Grove
Summary:	Intervisibility between cyclists and vehicles / pedestrians egressing driveways is limited
Acc Type:	Vehicle to cyclist and cyclist to pedestrian collisions

St Michaels Grove provides access to dwellings situated either side with walls and fences as well as hedgerows providing boundary treatments. The majority of property frontages along St Michaels Grove have been converted to provide off-street parking with dropped kerb vehicular crossovers. The proposals include the upgrade of the existing footway along the east side of the St Michaels Grove carriageway, to a shared footway cycleway. The provision of the shared facility will lead to cyclists travelling along the existing footway where intervisibility to / from vehicles and pedestrians egressing driveways / footpaths, is limited which could lead to a vehicle to cyclist and cyclist to pedestrian collision.

RECOMMENDATION:

It is recommended that an adequate level of intervisibility is achievable at all private accesses.

Location Plan:

DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – existing footway to remain as a footway.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that the existing footway will not be upgraded to a shared footway cycleway, addresses the road safety concern at this stage.

A.3	JUNCTIONS
A.3.1	**PROBLEM**
Location:	Trafalgar Court junction with Fairfield Avenue
Summary:	Proposed Advanced Stop Line may impact on signal timings
Acc Type:	Side impact and head-on type collisions

Trafalgar Road meets the circa. 5 metre wide Farfield Avenue at a simple priority junction off the outside of a circa 90° bend in the road where forward visibility is restricted. The proposals include the provision of a red surfaced 1 metre advisory cycle lane on Fairfield Avenue across the priority junction to highlight the potential for cyclists to be passing. Traffic generally avoids advisory cycle lanes and as such, the Audit Team are concerned that a eastbound vehicle approaching the bend in the road and avoiding the area will leave insufficient space for an opposing vehicle to pass which could lead to sideswipe or head-on type collisions.

RECOMMENDATION:

It is recommended that the existing give-way line and proposed advisory cycle lane are relocated to ensure that the existing carriageway width around the bend in the road is retained

Location Plan:

DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – The design has been revised to remove the proposed advisory cycle lane so that the existing width around the bend is retained.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that the advisory cycle lane has been removed from the proposals, addresses the road safety concern at this stage.

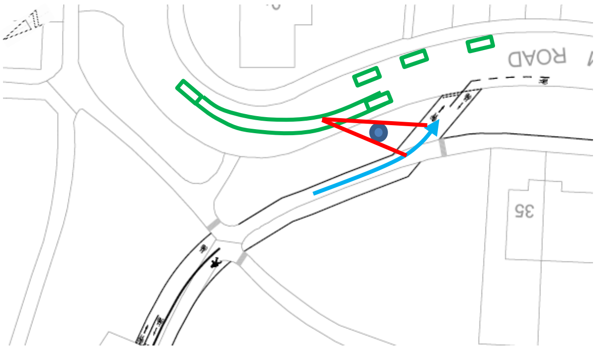
A.4	WALKING, CYCLING AND HORSE RIDING
A.4.1	**PROBLEM**
Location:	Fort Fareham Road
Summary:	Visibility between a cyclist and approaching vehicle is restricted by a mature tree
Acc Type:	Vehicle cyclist type collisions

The verge to the west of Fort Fareham Road accommodates a number of mature trees in the vicinity of where the carriageway bends by circa 120°. The proposals widen an existing footpath to the northwest of Fort Fareham Road to upgrade the existing facility to a shared footway cycleway and include the provision of a cycle on / off-slip. The proposed on / off-slip is situated to the south of a mature tree south of the existing bend in the road at a location where on-street parking takes place on the eastern side of the carriageway. The Audit Team is concerned that visibility between users of the proposed shared footpath cyclepath approaching the on / off-slip and approaching southbound traffic passing parked vehicles is limited at a critical point which could lead to a cyclist entering the carriageway when it is not safe to do so, resulting in vehicle to cyclist collisions.

RECOMMENDATION:

It is recommended that the proposed on / off-slip is relocated to maximise intervisibility

Location Plan:



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – we have reviewed the design to take account of this comment and others identified within the Stage 1 RSA and reviewed the highway boundary data. In light of this we have revised the route to come through Elizabeth Court, through to Tudor Court and onto Trafalgar Court which is a more preferred route, which provides wayfinding and a proposed 3m section of off-road cycle route between Elizabeth Court and Tudor Court.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that an alternative route has been provided, addresses the road safety concern at this stage.

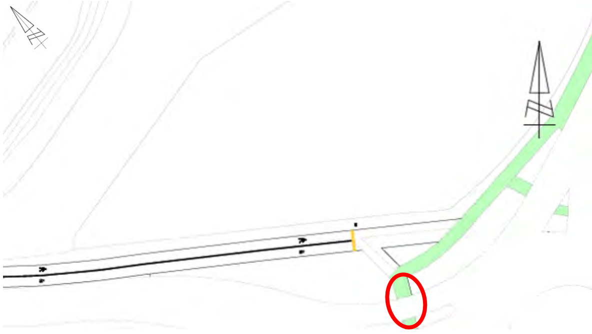
A.4.2	**PROBLEM**
Location:	Longfield Avenue
Summary:	Existing refuge island is of inadequate width to accommodate cyclists
Acc Type:	Vehicle cyclist type collisions

The Longfield Avenue arm of the roundabout junction with Newcourt Lane and Davis Lane accommodates a series of refuges that allow pedestrians and cyclists to cross the carriageway in stages. The proposals include the provision of a segregated footway cycleway along Longfield Avenue and the widening of an existing small section of shared facility leading to the uncontrolled crossing point to the north. The Audit Team is concerned that the proposed widening of the approach to the crossing point will lead to pedestrians and cyclists attempting to cross where dropper kerbs are currently provided which accommodate an upstand in excess of 6mm, mimicked across the uncontrolled crossing / refuges. An upstand in excess of 6mm along a pedestrian desire line, could be a trip hazard leading to falls and personal injuries.

RECOMMENDATION:

It is recommended that the existing dropped kerbs are extended appropriately and width of the remainder of the existing uncontrolled crossing, increased uniformly.

Location Plan:



DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.

Agree – the design has been updated to extend the existing dropped kerbs appropriately and the width of the remainder of the existing uncontrolled crossing, increased uniformly – exact details to be undertaken at detailed design stage appropriated.

AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022

Confirmation that the width of the existing uncontrolled crossing is to be increased to ensure consistency, addresses the road safety concern at this stage.

A.5	TRAFFIC SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING
A.5.1	**PROBLEM**
Location:	Longfield Avenue
Summary:	Existing street lighting columns are situated within the area of the proposed widening
Acc Type:	Vehicle to cyclist / pedestrian collisions

Longfield Avenue benefits from a footway along the northern side of the carriageway, which is offset by a grass verge, as well as street lighting with columns situated within the grass verge both sides of the carriageway. The proposals include the widening of the existing footway of Longfield Avenue to provide a segregated 2 metre footway and cycleway with a 0.5 metre hardstrip provided between the proposed facility and carriageway. A number of existing street lighting columns along Longfield Avenue are situated within the area of works and may be relocated in response to item A.2.1, however, the Audit Team is concerned that the relocation of the existing street lighting columns will have an adverse impact on the level of lighting should they be relocated 4.5 metres from the carriageway. Vehicles are generally driven during the hours of darkness with headlights illuminated, however, a bus stop is present either side of the carriageway which is where a pedestrian desire line across the carriageway is present. Insufficient lighting could result in a driver / rider not becoming aware of a pedestrian or cyclist at a safe distance and lead to a vehicle to pedestrian / cyclist collision.

RECOMMENDATION:
It is recommended that street lighting columns are relocated outside the proposed segregated facility to ensure that the level of lighting is adequate, particularly at locations where pedestrians cross and cyclists enter the carriageway.
Location Plan: (NB: Not all street lighting columns are illustrated below, more are present)  
DESIGN ORGANISATION RESPONSE provided by i-Transport on the 25th July 2022 following formal issue of this Stage 1 Road Safety Audit on the 8th July 2022.
Agree – existing street lighting columns to be positioned appropriately – exact details to be agreed with HCC at detailed design stage.
AUDITOR'S VIEW OF DESIGN ORGANISATION RESPONSE dated 26th July 2022
Confirmation that the existing street lighting columns are to be relocated appropriately, addresses the road safety concern at this stage.

5.0 STAGE 1 ROAD SAFETY AUDIT TEAM STATEMENT

5.1 We certify that this Road Safety Audit has been carried out in accordance with GG119.

Audit Team Leader

Name: **Jamie Fenning** *BSc (Hons), MIHE, MCIHT, MSoRSA, HE RSA Certificate of Competency*

Signed:

Position: Road Safety / Highway Engineer
Organisation: Fenley Road Safety Limited
Date: 26th July 2022

Audit Team Member

Name: **Zane Beswick** *MCIHT, MSoRSA*

Signed:

Position: Road Safety / Highway Engineer
Organisation: Fenley Road Safety Limited
Date: 8th July 2022

Appendix A1

Documents and Drawings provided for this Stage 1 Road Safety Audit

Audit Stage	Doc. No.	Rev	Title
Stage 1	ITB10353-020	-	GG119 Stage 1 Road Safety Audit Brief
	ITB13747-009	A	Non-motorised User Audit
	Dwg No.	Rev	Title
	ITB10353-GA-043	-	Proposed cycle improvements to Longfield Avenue between B3393 Newgate lane and Fort Fareham Road
	ITB10353-GA-044	-	Proposed cycle improvements to Redlands Lane from Longfield Avenue to St Michaels Grove
	ITB10353-GA-045	-	Potential cycle improvements to St Michaels Grove between Fairfield Avenue to The Gillies

Appendix A2

Item Location Plan


Scheme
A.2.1
A.5.1
A.4.2
A.4.2
A.4.2
A.3.1
A.2.2
KEY:
A.2.3

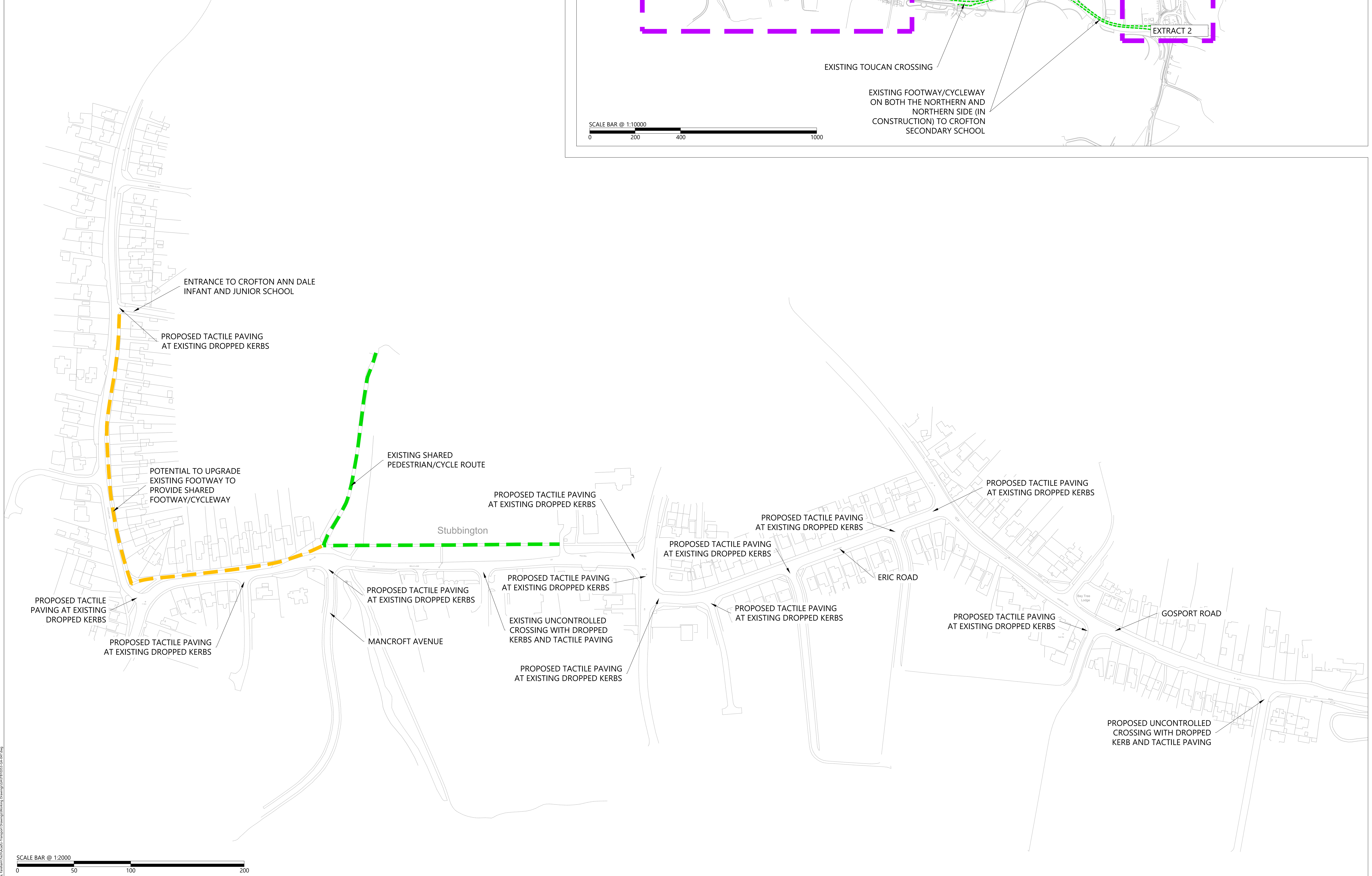
Appendix A3

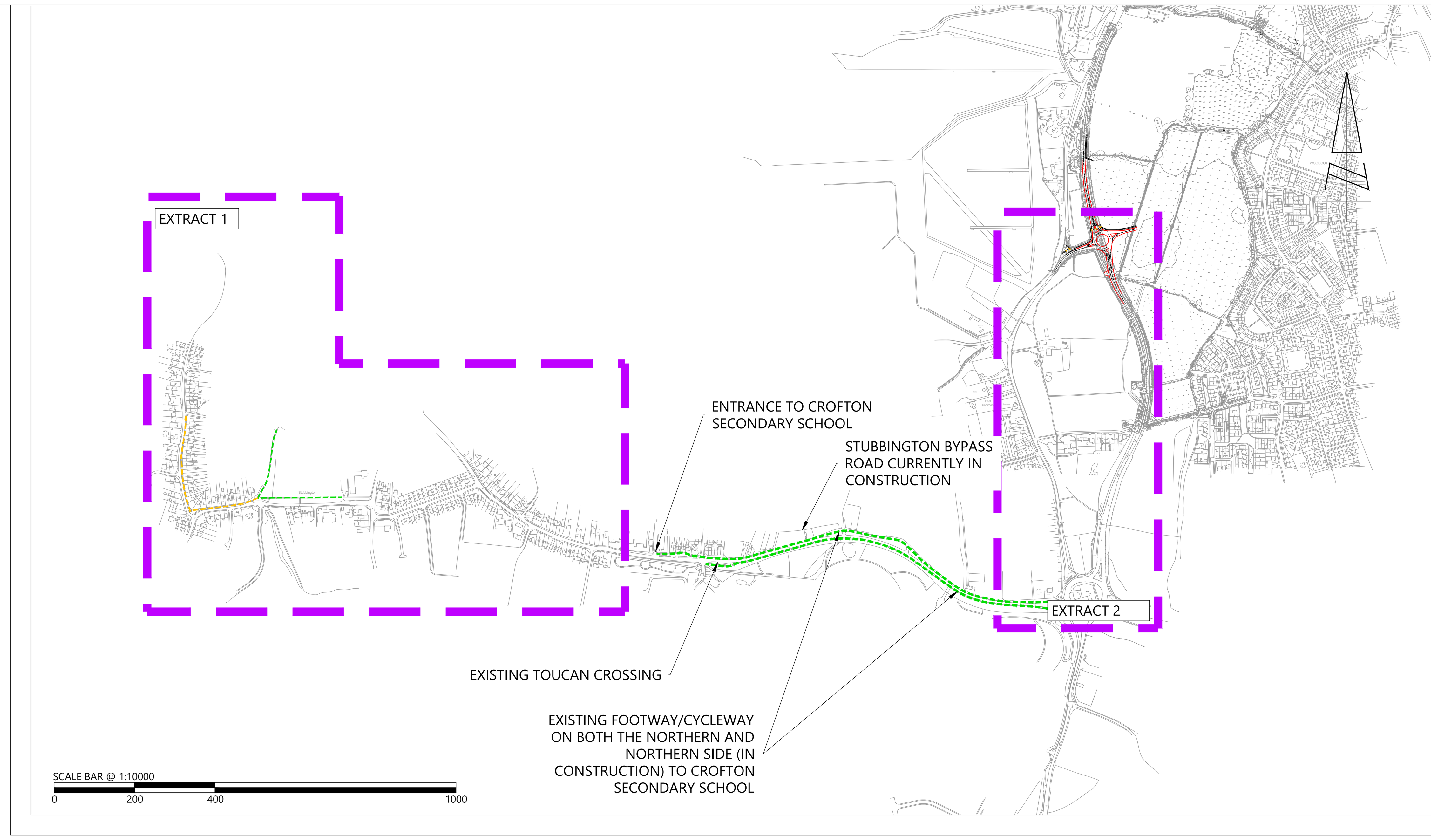
Drawings associated with the Design Organisation Response

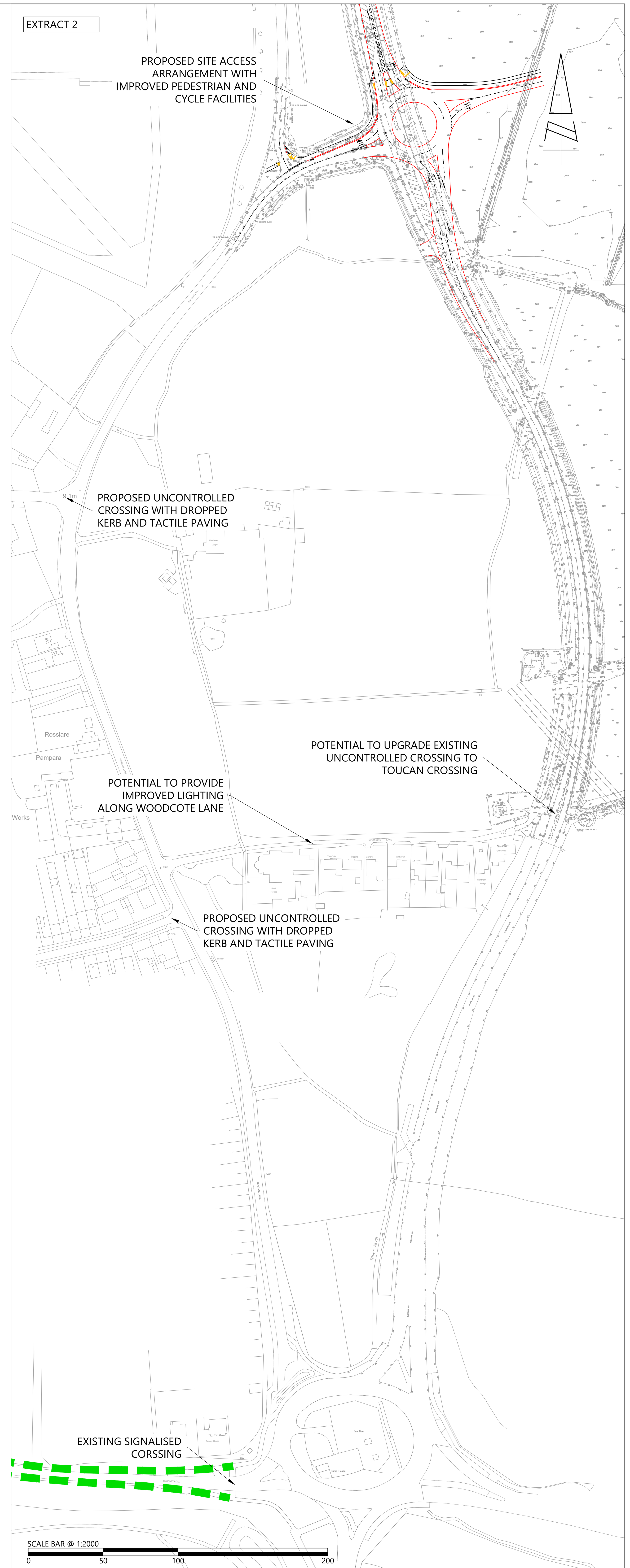
Audit Stage	Drawing No.	Rev	Title
Stage 1	ITB10353-GA-043	A	Proposed cycle improvements to Longfield Avenue between B3393 Newgate lane and Fort Fareham Road
	ITB10353-GA-044	A	Proposed cycle improvements to Redlands Lane from Longfield Avenue to St Michaels Grove
	ITB10353-GA-045	A	Potential cycle improvements to St Michaels Grove between Fairfield Avenue to The Gillies

fenley

APPENDIX O. Stubbington Pedestrian and Cycle Improvements







i-Transport

The Square, Basing View, Basingstoke, Hampshire, RG21 4EB
Tel: 01256 637940
www.i-transport.co.uk

DRAWING ISSUED FOR FEASIBILITY CONSIDERATION AND PLANNING PURPOSES ONLY. DRAWING NOT TO BE USED FOR CONSTRUCTION. I-TRANSPORT LLP ACCEPT NO RESPONSIBILITY FOR ERRORS MADE BY OTHERS IN SCALING FROM THIS DRAWING. MEASUREMENTS SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY. CDM REQUIREMENTS CONSIDERED AT FEASIBILITY STAGE ONLY. FURTHER CONSIDERATION REQUIRED BY DETAILED DESIGN TEAM.

REV	DATE	BY	DESCRIPTION	CHK	APD

STATUS: FOR INFORMATION

TITLE: PROPOSED FOOTWAY/CYCLEWAY IMPROVEMENTS TO NEWGATE LANE, B3334 GOSPORT ROAD, ERIC ROAD, BELLS LANE AND CUCKOO LANE

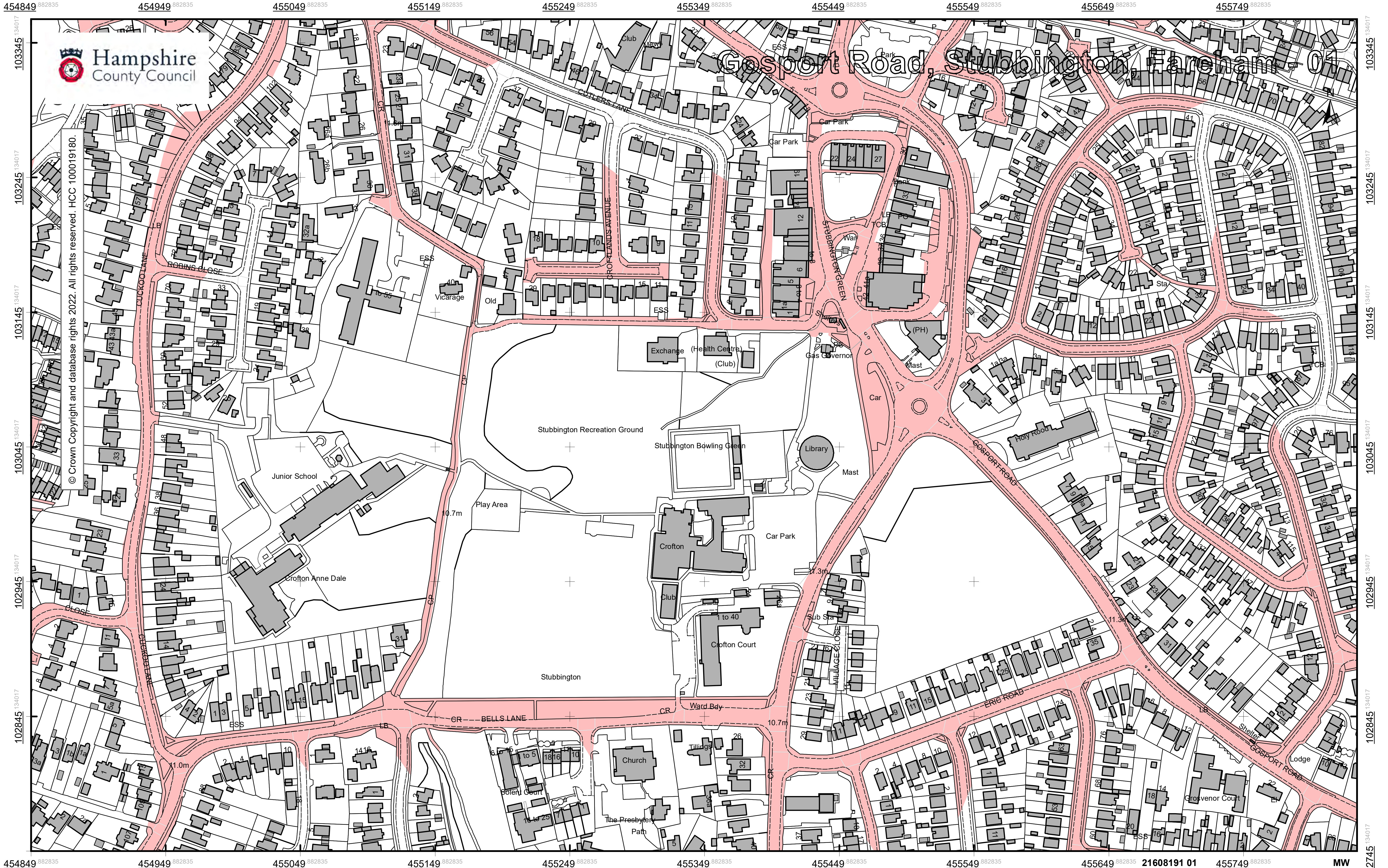
PROJECT: LAND EAST OF NEWGATE LANE EAST, FAREHAM

CLIENT: MILLER HOMES AND BARGATE HOMES

DRAWN:	CHECKED:	APPROVED:
MC	MC	TW
PROJECT No: ITB10353	SCALE @ A1: AS SHOWN	DATE: 26.07.22

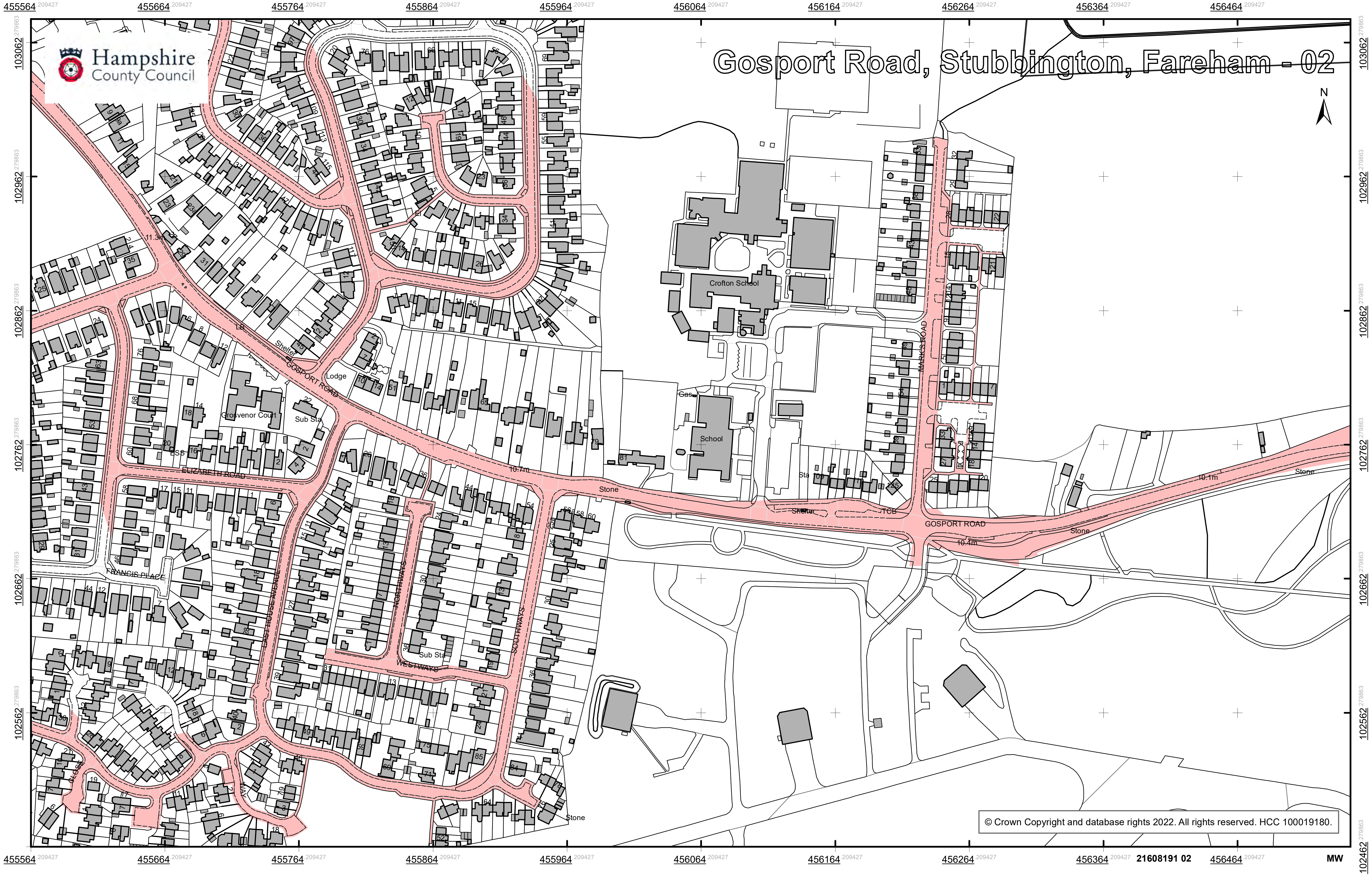
DRAWING No: ITB10353-GA-047 | REV: -

Hampshire County Council



Ordnance Survey maps are topographic maps and show a representation of the physical features on the ground at the time of survey, which are drawn according to specified tolerances, by the Ordnance Survey. For further information on Ordnance Survey mapping please see: http://www.ordnancesurvey.co.uk/support/property-boundaries.html
For questions about the responsibility for ditches please refer to Hampshire County Council's website at: http://documents.hants.gov.uk/flood-water-management/ditchmaintenanceposter.pdf

This plan is made on the basis of information at present available to the County Council and is made on the distinct understanding that, in the absence of negligence, neither the County Council nor I as an officer of the Council is to be held responsible should you rely on this statement and consequently suffer damage



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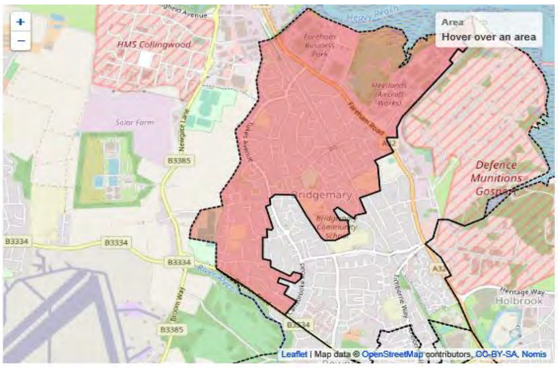
APPENDIX P. Revised Traffic Distribution Model

Gosport 001 MSOA & Fareham 013 MSOA Combined Raw Data Destinations

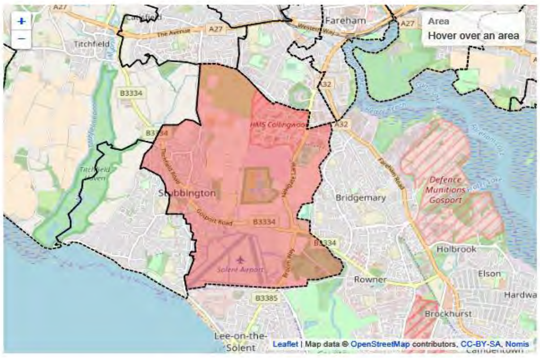
Destination	Proportion by all modes- Gosport 001	Proportion by all modes - Fareham 013	Average
Fareham	13.66%	13.08%	13.37%
Portsmouth	13.63%	15.46%	14.54%
Bridgemary	10.84%	2.45%	6.65%
Stubbington	7.88%	13.90%	10.89%
Gosport	7.26%	3.23%	5.24%
Winchester	5.94%	8.76%	7.35%
Swanwick	5.25%	7.94%	6.60%
Brockhurst	3.84%	1.87%	2.86%
Eastleigh	3.71%	5.26%	4.48%
Havant	3.09%	2.73%	2.91%
Other North	3.09%	2.69%	2.89%
Southampton	2.96%	5.45%	4.20%
Clayhall	2.69%	1.29%	1.99%
Holbrook	2.13%	0.93%	1.53%
Rowner	1.97%	0.62%	1.30%
Lee-on-the-Solent	1.81%	1.87%	1.84%
Privett	1.44%	0.93%	1.19%
Other West	1.35%	1.99%	1.67%
Chichester	0.95%	0.62%	0.79%
Camdentown	0.89%	0.23%	0.56%
Catisfield	0.79%	0.97%	0.88%
Titchfield	0.79%	1.29%	1.04%
Portchester	0.66%	0.47%	0.56%
London	0.62%	1.64%	1.13%
Basingstoke	0.56%	0.82%	0.69%
Other East	0.56%	0.66%	0.61%
Romsey	0.56%	0.55%	0.55%
Warsash	0.46%	1.13%	0.79%
Petersfield	0.23%	0.31%	0.27%
Waterlooville	0.16%	0.31%	0.24%
Isle of Wight	0.13%	0.04%	0.09%
Andover	0.07%	0.27%	0.17%
Reading	0.03%	0.23%	0.13%
	100.00%	**100.00%**	100.00%

Destination	Proportion by Car- Gosport 001	Proportion by Car - Fareham 013	Average
Andover	0.10%	0.36%	0.23%
Basingstoke	0.79%	0.98%	0.88%
Bridgemary	7.02%	2.47%	4.75%
Brockhurst	3.67%	1.75%	2.71%
Camdentown	0.58%	0.21%	0.39%
Catisfield	0.94%	0.98%	0.96%
Chichester	0.79%	0.77%	0.78%
Clayhall	2.78%	1.60%	2.19%
Eastleigh	4.87%	6.34%	5.61%
Fareham	11.68%	12.27%	11.97%
Gosport	6.60%	3.66%	5.13%
Havant	4.40%	3.09%	3.75%
Holbrook	2.25%	0.88%	1.56%
Isle of Wight	0.00%	0.05%	0.03%
Lee-on-the-Solent	1.94%	1.65%	1.79%
London	0.52%	0.67%	0.60%
Other East	0.73%	0.62%	0.68%
Other North	4.09%	3.04%	3.56%
Other West	1.62%	2.06%	1.84%
Petersfield	0.37%	0.36%	0.36%
Portchester	0.84%	0.52%	0.68%
Portsmouth	14.88%	16.03%	15.45%
Privett	1.52%	1.03%	1.28%
Reading	0.00%	0.26%	0.13%
Romsey	0.63%	0.62%	0.62%
Rowner	1.94%	0.62%	1.28%
Southampton	3.72%	6.24%	4.98%
Stubbington	4.82%	8.92%	6.87%
Swanwick	6.86%	8.71%	7.79%
Titchfield	1.10%	1.55%	1.32%
Warsash	0.63%	1.24%	0.93%
Waterlooville	0.26%	0.41%	0.34%
Winchester	7.07%	10.05%	8.56%
	100.00%	**100.00%**	100.00%



☑ E02004741 : Gosport 001

Selection of areas



☐ E02004727 : Fareham 001
☐ E02004728 : Fareham 002
☐ E02004729 : Fareham 003
☐ E02004730 : Fareham 004
☐ E02004731 : Fareham 005
☐ E02004732 : Fareham 006
☐ E02004733 : Fareham 007
☐ E02004734 : Fareham 008
☐ E02004735 : Fareham 009
☐ E02004736 : Fareham 010
☐ E02004737 : Fareham 011
☐ E02004738 : Fareham 012
☑ E02004739 : Fareham 013
☐ E02004740 : Fareham 014

ITB10353 Newgate Lane, Fareham
Census 2011 Journey to Work Analysis and Distribution Model

Destination	% Car by Destination	Proportion by Car	Route 1	Route 2	Route 3	Route 4	Route 5	Peak Journey Time (Mins)	Peak Journey Distance (KM)	Proportion by Route	Proportion By Car
Andover	100%	0.23%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Westbound	67	69	15%	0.035%
			Newgate Lane North	Longfield Avenue	A27 Southampton Road	M27 Junction 9	M27 Westbound	66	66	50%	0.116%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	M27 Junction 9	M27 Westbound	66	68	35%	0.081%
Basingstoke	88%	0.88%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Westbound	62	73	25%	0.221%
			Newgate Lane North	Longfield Avenue	A27 Southampton Road	M27 Junction 9	M27 Westbound	64	70	50%	0.441%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	M27 Junction 9	M27 Westbound	66	72	25%	0.221%
Bridgemary	41%	4.75%	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	5	3	100%	4.747%
Brockhurst	60%	2.71%	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	10	5	100%	2.710%
Camdentown	41%	0.39%	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	13	6	100%	0.391%
Catisfield	75%	0.96%	Newgate Lane North	Longfield Avenue	A27 Southampton Road	Highlands Road	Highlands Road	11	5	85%	0.817%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	Highlands Road	Highlands Road	16	8	15%	0.144%
Chichester	52%	0.78%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Eastbound	45	35	100%	0.779%
Clayhall	65%	2.19%	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	15	9	100%	2.187%
Eastleigh	82%	5.61%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Westbound	34	27	25%	1.401%
			Newgate Lane North	Longfield Avenue	A27 Southampton Road	M27 Junction 9	M27 Westbound	34	24	50%	2.803%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	M27 Junction 9	M27 Westbound	36	26	25%	1.401%
Fareham	54%	11.97%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	A27 Gosport Road	A27 Gosport Road	12	4	50%	5.987%
			Newgate Lane North	Longfield Avenue	A27 Southampton Road	A27 Southampton Road	A27 Southampton Road	12	4	50%	5.987%
Gosport	57%	5.13%	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	13	7	100%	5.130%
Havant	89%	3.75%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Eastbound	27	19	100%	3.746%
Holbrook	66%	1.56%	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	10	5	100%	1.564%
Isle of Wight	0%	0.03%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Eastbound	105	33.5	100%	0.026%
Lee-on-the-Solent	67%	1.79%	Newgate Lane South	Broom Way	Broom Way	Broom Way	Broom Way	7	3	100%	1.794%
London	53%	0.60%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Eastbound	N/A	N/A	100%	0.597%
Other East	82%	0.68%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Eastbound	N/A	N/A	100%	0.676%
Other North	83%	3.56%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Westbound	N/A	N/A	15%	0.535%
			Newgate Lane North	Longfield Avenue	A27 Southampton Road	M27 Junction 9	M27 Westbound	N/A	N/A	50%	1.782%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	M27 Junction 9	M27 Westbound	N/A	N/A	35%	1.247%
Other West	76%	1.84%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Westbound	N/A	N/A	15%	0.276%
			Newgate Lane North	Longfield Avenue	A27 Southampton Road	M27 Junction 9	M27 Westbound	N/A	N/A	50%	0.921%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	M27 Junction 9	M27 Westbound	N/A	N/A	35%	0.645%
Petersfield	100%	0.36%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Eastbound	37	37	100%	0.364%
Portchester	80%	0.68%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	A27 Portchester Road	A27 Portchester Road	16	6	100%	0.677%
Portsmouth	68%	15.45%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Eastbound	27	16	60%	9.272%
			Newgate Lane North	A32 Gosport Road	A27 Gosport Road	A27 Portchester Road	A27 Portchester Road	34	16	40%	6.182%
Privett	66%	1.28%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	A32 North	10	6	100%	1.275%
Reading	0%	0.13%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Westbound	102	99	15%	0.019%
			Newgate Lane North	Longfield Avenue	A27 Southampton Road	M27 Junction 9	M27 Westbound	101	96	40%	0.052%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	M27 Junction 9	M27 Westbound	98	97	45%	0.058%
Romsey	71%	0.62%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Westbound	45	39	20%	0.125%
			Newgate Lane North	Longfield Avenue	A27 Southampton Road	M27 Junction 9	M27 Westbound	44	36	50%	0.312%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	M27 Junction 9	M27 Westbound	45	38	30%	0.187%
Rowner	62%	1.28%	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	5	3	100%	1.278%
Southampton	79%	4.98%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Westbound	43	30	15%	0.747%
			Newgate Lane North	Longfield Avenue	A27 Southampton Road	M27 Junction 9	M27 Westbound	41	27	60%	2.987%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	M27 Junction 9	M27 Westbound	45	29	25%	1.245%
Stubbington	38%	6.87%	Newgate Lane South	B3334 Gosport Road	B3334 Gosport Road	B3334 Gosport Road	B3334 Gosport Road	5	3	100%	6.868%
Swanwick	82%	7.79%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Westbound	24	14	10%	0.779%
			Newgate Lane North	Longfield Avenue	A27 Southampton Road	M27 Junction 9	M27 Westbound	21	10	50%	3.893%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	M27 Junction 9	M27 Westbound	22	12	40%	3.115%
Titchfield	88%	1.32%	Newgate Lane North	Longfield Avenue	A27 Southampton Road	B3334	Bridge Street	14	7	40%	0.529%
			Newgate Lane South	B3334 Gosport Road	Bridge Street	Bridge Street	Bridge Street	13	7	60%	0.794%
Warsash	86%	0.93%	Newgate Lane North	Longfield Avenue	A27 Southampton Road	Warsash Road	Warsash Road	20	11	50%	0.466%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	Warsash Road	Warsash Road	20	11	50%	0.466%
Waterlooville	100%	0.34%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Eastbound	28	22	100%	0.337%
Winchester	75%	8.56%	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Westbound	46	42	25%	2.140%
			Newgate Lane North	Longfield Avenue	A27 Southampton Road	M27 Junction 9	M27 Westbound	47	39	50%	4.281%
			Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	M27 Junction 9	M27 Westbound	48	40	25%	2.140%
Total		**100.00%**									**100.00%**

Route 1	Proportion by Car	
	100%	**50%**
Brookers Lane East	0.0%	0.0%
Newgate Lane North	61.6%	31.0%
Newgate Lane South	38.4%	19.4%
	100.0%	**50.4%**

Route 2	Proportion by Car	
	100%	**50%**
Wych Lane South	0.0%	0.0%
A32 Gosport Road	36.2%	18.2%
Longfield Avenue	25.4%	12.8%
B3334 Gosport Road	18.6%	9.4%
B3334 Gosport Road East	18.0%	9.1%
Broom Way	1.8%	0.9%
	100.0%	**50.4%**

Route 3	Proportion by Car	
	100%	**50%**
Rowners lane South	0.0%	0.0%
A27 Gosport Road	36.2%	18.2%
A27 Southampton Road	36.3%	18.3%
B3334 Gosport Road	6.9%	3.5%
B3334 Gosport Road East	18.0%	9.1%
Broom Way	1.8%	0.9%
Bridge Street	0.8%	0.4%
Mill Lane	0.0%	0.0%
	100.0%	**50.4%**

Route 4	Proportion by Car	
	100%	**50%**
B3345 East	0.0%	0.0%
A27 Gosport Road	6.0%	3.0%
A27 Southampton Road	6.0%	3.0%
M27 Junction 11	23.4%	11.8%
M27 Junction 9	27.9%	14.1%
A27 Portchester Road	6.9%	3.5%
B3334	0.5%	0.3%
B3334 Gosport Road	6.9%	3.5%
B3345 West	0.0%	0.0%
B3334 Gosport Road East	18.0%	9.1%
B2177 Winchester Rd	0.0%	0.0%
Broom Way	1.8%	0.9%
Bridge Street	0.8%	0.4%
Highlands Road	1.0%	0.5%
Warsash Road	0.9%	0.5%
	100.0%	**50.4%**

Route 5	Proportion by Car	
	100%	**50%**
B3345 East	0.0%	0.0%
A32 North	1.3%	0.6%
A27 Gosport Road	6.0%	3.0%
A27 Southampton Road	6.0%	3.0%
M27 Westbound	34.2%	17.2%
M27 Eastbound	15.8%	8.0%
A27 Portchester Road	6.9%	3.5%
B3334 Gosport Road	6.9%	3.5%
Manor Way South	0.0%	0.0%
B3334 Gosport Road East	18.0%	9.1%
B2177 Winchester Rd	0.0%	0.0%
Broom Way	1.8%	0.9%
Bridge Street	1.3%	0.7%
Highlands Road	1.0%	0.5%
Warsash Road	0.9%	0.5%
	100.0%	**50.4%**

ITB10353 Newgate Lane, Fareham
Gravity Model
20 Minute Travel Time

	Location	verage Journey Time (min	2011 Census Pop	P/T	P/T^2	% of total	Car driver mode split	% Total * Modal Split	% of Car Driver Split	Journey time by Route	Route 1	Route 2	Route 3	Route 4	Route 5	Proportion	%	49.60%
Gosport	Bridgemary	5	15,249	3049.8	9301280.04	25.72%	41%	10.44%	20.44%	5	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	100%	20.44%	10.14%
	Brockhurst	10	6,591	659.1	434412.81	1.20%	60%	0.72%	1.41%	10	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	100%	1.41%	0.70%
	Camdentown	13	9,024	694.1538462	481849.5621	1.33%	41%	0.54%	1.06%	13	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	100%	1.06%	0.53%
	Clayhall	15	7,857	523.8	274366.44	0.76%	65%	0.49%	0.96%	15	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	100%	0.96%	0.48%
	Gosport	13	9,594	738	544644	1.51%	57.0%	0.86%	1.68%	13	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	100%	1.68%	0.83%
	Holbrook	10	7,631	763.1	582321.61	1.61%	66%	1.07%	2.09%	10	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	100%	2.09%	1.03%
	Lee-on-the-Solent	7	10,860	1551.428571	2406930.612	6.66%	67.3%	4.48%	8.76%	7	Newgate Lane South	Broom Way	Broom Way	Broom Way	Broom Way	100%	8.76%	4.35%
	Privett	10	7,149	714.9	511082.01	1.41%	66%	0.93%	1.82%	10	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	A32 North	100%	1.82%	0.90%
	Rowner	5	8,667	1733.4	3004675.56	8.31%	62%	5.12%	10.03%	5	Newgate Lane South	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	B3334 Gosport Road East	100%	10.03%	4.97%
Fareham	Catisfield	14	7,518	556.8888889	310125.2346	0.86%	75.0%	0.64%	1.26%	11	Newgate Lane North	Longfield Avenue	A27 Southampton Road	Highlands Road	Highlands Road	85%	1.07%	0.53%
										16	Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	Highlands Road	Highlands Road	15%	0.19%	0.09%
	Fareham	12	33,773	2814.416667	7920941.174	21.90%	53.6%	11.74%	22.98%	12	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	A27 Gosport Road	A27 Gosport Road	50%	11.49%	5.70%
										12	Newgate Lane North	Longfield Avenue	A27 Southampton Road	A27 Southampton Road	A27 Southampton Road	50%	11.49%	5.70%
	Portchester	16	15,209	950.5625	903569.0664	2.50%	80.0%	2.00%	3.91%	16	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	A27 Portchester Road	A27 Portchester Road	100%	3.91%	1.94%
	Stubbington	5	14,077	2815.4	7926477.16	21.92%	38.3%	8.40%	16.45%	5	Newgate Lane South	B3334 Gosport Road	B3334 Gosport Road	B3334 Gosport Road	B3334 Gosport Road	100%	16.45%	8.16%
	Swanwick	22	17,572	786.8059701	619063.6347	1.71%	81.9%	1.40%	2.74%	24	Newgate Lane North	A32 Gosport Road	A27 Gosport Road	M27 Junction 11	M27 Westbound	10%	0.27%	0.14%
										21	Newgate Lane North	Longfield Avenue	A27 Southampton Road	M27 Junction 9	M27 Westbound	50%	1.37%	0.68%
										22	Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	M27 Junction 9	M27 Westbound	40%	1.10%	0.54%
	Titchfield	14	7,364	545.4814815	297550.0466	0.82%	87.5%	0.72%	1.41%	14	Newgate Lane North	Longfield Avenue	A27 Southampton Road	B3334	Bridge Street	40%	0.56%	0.28%
										13	Newgate Lane South	B3334 Gosport Road	Bridge Street	Bridge Street	Bridge Street	60%	0.85%	0.42%
	Warsash	20	16,068	803.4	645451.56	1.78%	85.7%	1.53%	2.99%	20	Newgate Lane North	Longfield Avenue	A27 Southampton Road	Warsash Road	Warsash Road	50%	1.50%	0.74%
										20	Newgate Lane South	B3334 Gosport Road	A27 Southampton Road	Warsash Road	Warsash Road	50%	1.50%	0.74%
			194,203	19,701	36,164,741	100.0%	1025.9%	51.1%	100.0%								100.00%	49.60%

NOTE: All destinations expected to use Stubbington Bypass has 3.5 minutes removed from average journey time to allow for the benefits of the bypass

Route 1	Proportion by Car	
	100%	**50%**
Brookers Lane East	0.0%	0.0%
Newgate Lane North	33.5%	16.6%
Newgate Lane South	66.5%	33.0%
	100.0%	**49.6%**

Route 2	Proportion by Car	
	100%	**50%**
Wych Lane South	0.0%	0.0%
A32 Gosport Road	17.5%	8.7%
Longfield Avenue	16.0%	7.9%
B3334 Gosport Road	20.1%	10.0%
B3334 Gosport Road East	37.7%	18.7%
Broom Way	8.8%	4.3%
	100.0%	**49.6%**

Route 3	Proportion by Car	
	100%	**50%**
Rowners lane South	0.0%	0.0%
A27 Gosport Road	17.5%	8.7%
A27 Southampton Road	18.8%	9.3%
B3334 Gosport Road	16.4%	8.2%
B3334 Gosport Road East	37.7%	18.7%
Broom Way	8.8%	4.3%
Bridge Street	0.8%	0.4%
Mill Lane	0.0%	0.0%
	100.0%	**49.6%**

Route 4	Proportion by Car	
	100%	**50%**
B3345 East	0.0%	0.0%
A27 Gosport Road	11.5%	5.7%
A27 Southampton Road	11.5%	5.7%
M27 Junction 11	2.1%	1.0%
M27 Junction 9	2.5%	1.2%
A27 Portchester Road	3.9%	1.9%
B3334	0.6%	0.3%
B3334 Gosport Road	16.4%	8.2%
B3345 West	0.0%	0.0%
B3334 Gosport Road East	37.7%	18.7%
B2177 Winchester Rd	0.0%	0.0%
Broom Way	8.8%	4.3%
Bridge Street	0.8%	0.4%
Highlands Road	1.3%	0.6%
Warsash Road	3.0%	1.5%
	100.0%	**49.6%**

Route 5	Proportion by Car	
	100%	**50%**
B3345 East	0.0%	0.0%
A32 North	1.8%	0.9%
A27 Gosport Road	11.5%	5.7%
A27 Southampton Road	11.5%	5.7%
M27 Westbound	2.7%	1.4%
M27 Eastbound	0.0%	0.0%
A27 Portchester Road	3.9%	1.9%
B3334 Gosport Road	16.4%	8.2%
Manor Way South	0.0%	0.0%
B3334 Gosport Road East	37.7%	18.7%
B2177 Winchester Rd	0.0%	0.0%
Broom Way	8.8%	4.3%
Bridge Street	1.4%	0.7%
Highlands Road	1.3%	0.6%
Warsash Road	3.0%	1.5%
	100.0%	**49.6%**

Combined Distribution

	Work	Non Work	Total Combined
Andover	0.12%		0.12%
Basingstoke	0.44%		0.44%
Bridgemary	2.39%	10.1%	12.53%
Brockhurst	1.37%	0.7%	2.06%
Camdentown	0.20%	0.5%	0.72%
Catisfield	0.48%	0.6%	1.11%
Chichester	0.39%		0.39%
Clayhall	1.10%	0.5%	1.58%
Eastleigh	2.83%		2.83%
Fareham	6.04%	11.4%	17.43%
Gosport	2.59%	0.8%	3.42%
Havant	1.89%		1.89%
Holbrook	0.79%	1.0%	1.82%
Isle of Wight	0.01%		0.01%
Lee-on-the-Solent	0.90%	4.3%	5.25%
London	0.30%		0.30%
Other East	0.34%		0.34%
Other North	1.80%		1.80%
Other West	0.93%		0.93%
Petersfield	0.18%		0.18%
Portchester	0.34%	1.9%	2.28%
Portsmouth	7.79%		7.79%
Privett	0.64%	0.9%	1.55%
Reading	0.06%		0.06%
Romsey	0.31%		0.31%
Rowner	0.64%	5.0%	5.62%
Southampton	2.51%		2.51%
Stubbington	3.46%	8.2%	11.62%
Swanwick	3.92%	1.4%	5.29%
Titchfield	0.67%	0.7%	1.37%
Warsash	0.47%	1.5%	1.96%
Waterlooville	0.17%		0.17%
Winchester	4.32%		4.32%
	50.40%	49.60%	100.00%

Route 1	50.40%	49.60%	100.00%
Brookers Lane East	0.00%	0.00%	0.00%
Newgate Lane North	31.04%	16.61%	47.65%
Newgate Lane South	19.36%	32.99%	52.35%
	50.40%	49.60%	100.00%

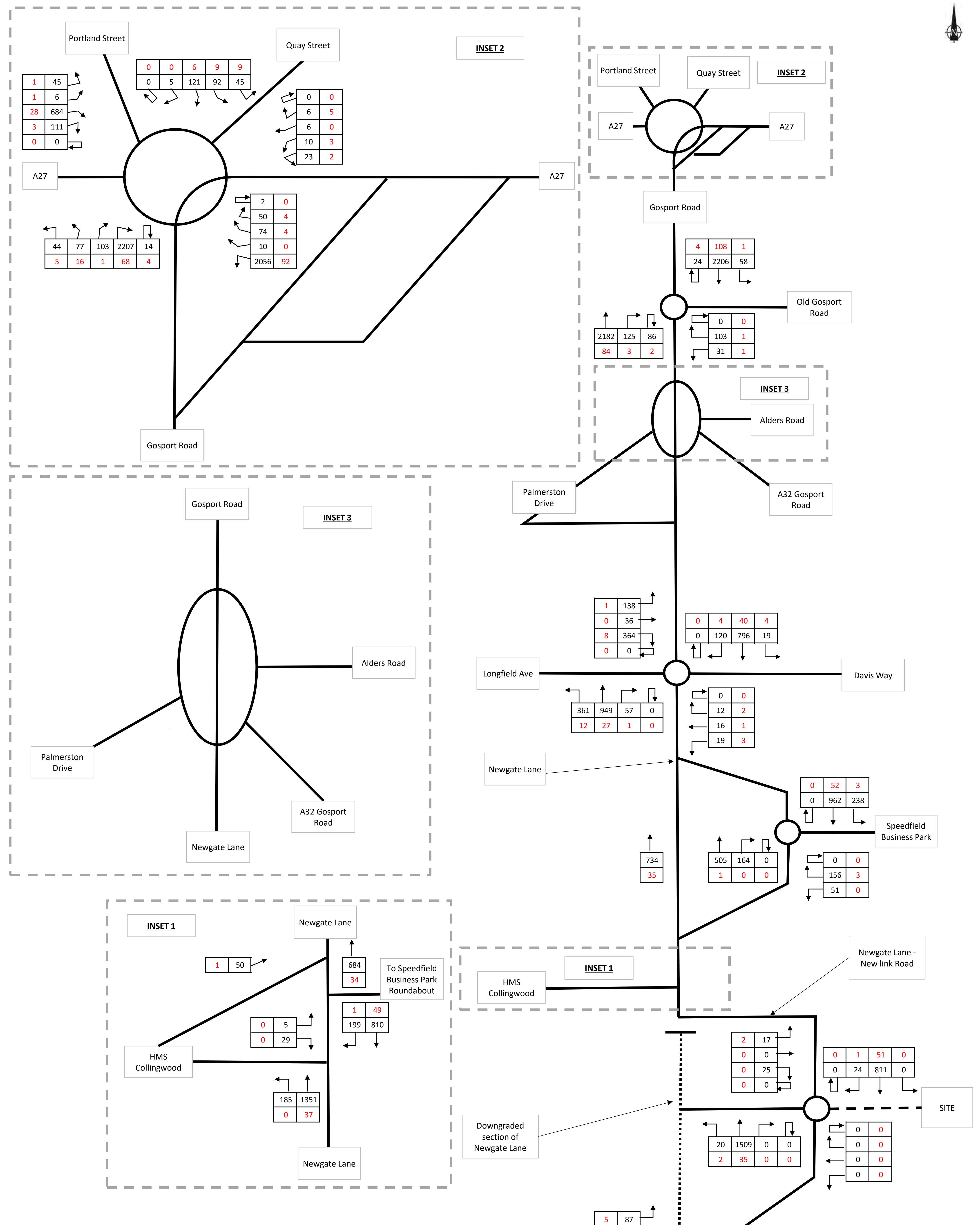
Route 2	50.40%	49.60%	100.00%
Wych Lane South	0.00%	0.00%	0.00%
A32 Gosport Road	18.24%	8.68%	26.92%
Longfield Avenue	12.80%	7.93%	20.73%
B3334 Gosport Road	9.38%	9.96%	19.34%
B3334 Gosport Road East	9.08%	18.68%	27.76%
Broom Way	0.90%	4.35%	5.25%
	50.40%	49.60%	100.00%

Route 3	50.40%	49.60%	100.00%
Rowners lane South	0.00%	0.00%	0.00%
A27 Gosport Road	18.24%	8.68%	26.92%
A27 Southampton Road	18.32%	9.31%	27.63%
B3334 Gosport Road	3.46%	8.16%	11.62%
B3334 Gosport Road East	9.08%	18.68%	27.76%
Broom Way	0.90%	4.35%	5.25%
Bridge Street	0.40%	0.42%	0.82%
Mill Lane	0.00%	0.00%	0.00%
	50.40%	49.60%	100.00%

Route 4	50.40%	49.60%	100.00%
B3345 East	0.00%	0.00%	0.00%
A27 Gosport Road	3.02%	5.70%	8.72%
A27 Southampton Road	3.02%	5.70%	8.72%
M27 Junction 11	11.77%	1.04%	12.81%
M27 Junction 9	14.08%	1.22%	15.30%
A27 Portchester Road	3.46%	1.94%	5.40%
B3334	0.27%	0.28%	0.55%
B3334 Gosport Road	3.46%	8.16%	11.62%
B3345 West	0.00%	0.00%	0.00%
B3334 Gosport Road East	9.08%	18.68%	27.76%
B2177 Winchester Rd	0.00%	0.00%	0.00%
Broom Way	0.90%	4.35%	5.25%
Bridge Street	0.40%	0.42%	0.82%
Highlands Road	0.48%	0.62%	1.11%
Warsash Road	0.93%	1.49%	2.42%
	50.86%	49.60%	100.46%

Route 5	50.40%	49.60%	100.00%
B3345 East	0.00%	0.00%	0.00%
A32 North	0.64%	0.90%	1.55%
A27 Gosport Road	3.02%	5.70%	8.72%
A27 Southampton Road	3.02%	5.70%	8.72%
M27 Westbound	17.24%	1.36%	18.60%
M27 Eastbound	7.96%	0.00%	7.96%
A27 Portchester Road	3.46%	1.94%	5.40%
B3334 Gosport Road	3.46%	8.16%	11.62%
Manor Way South	0.00%	0.00%	0.00%
B3334 Gosport Road East	9.08%	18.68%	27.76%
B2177 Winchester Rd	0.00%	0.00%	0.00%
Broom Way	0.90%	4.35%	5.25%
Bridge Street	0.67%	0.70%	1.37%
Highlands Road	0.48%	0.62%	1.11%
Warsash Road	0.47%	1.49%	1.96%
	50.40%	49.60%	100.00%

APPENDIX Q. Updated Traffic Flow Diagrams



i-Transport

The Square, Basing View,
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Tel: 01256 637940
www.i-transport.co.uk

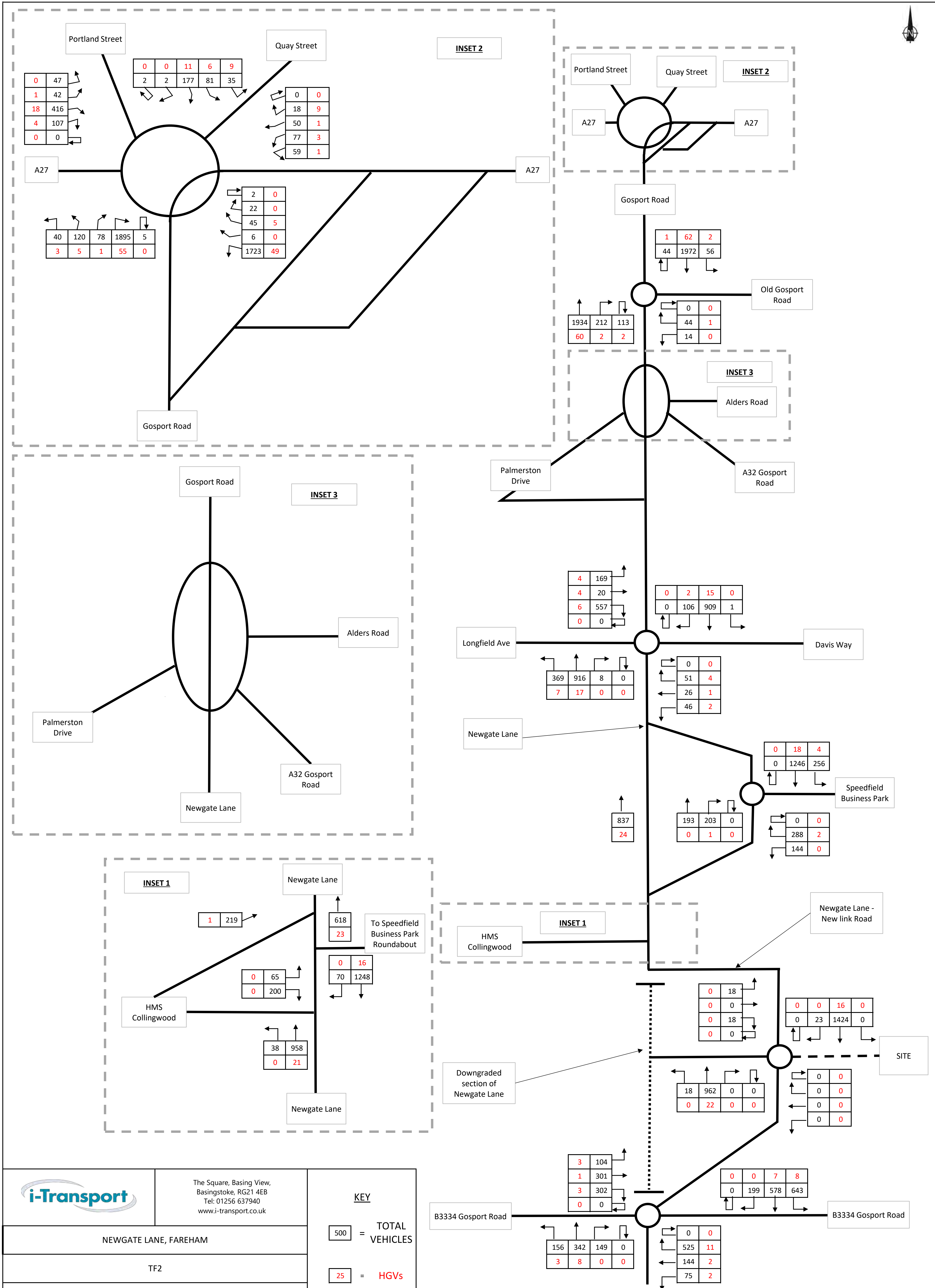
NEWGATE LANE, FAREHAM

TF1

2019 Observed Traffic Flows - AM Peak Hour (0745-0845) - DS1

KEY

500	=	TOTAL VEHICLES
25	=	HGVs



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NEWGATE LANE, FAREHAM

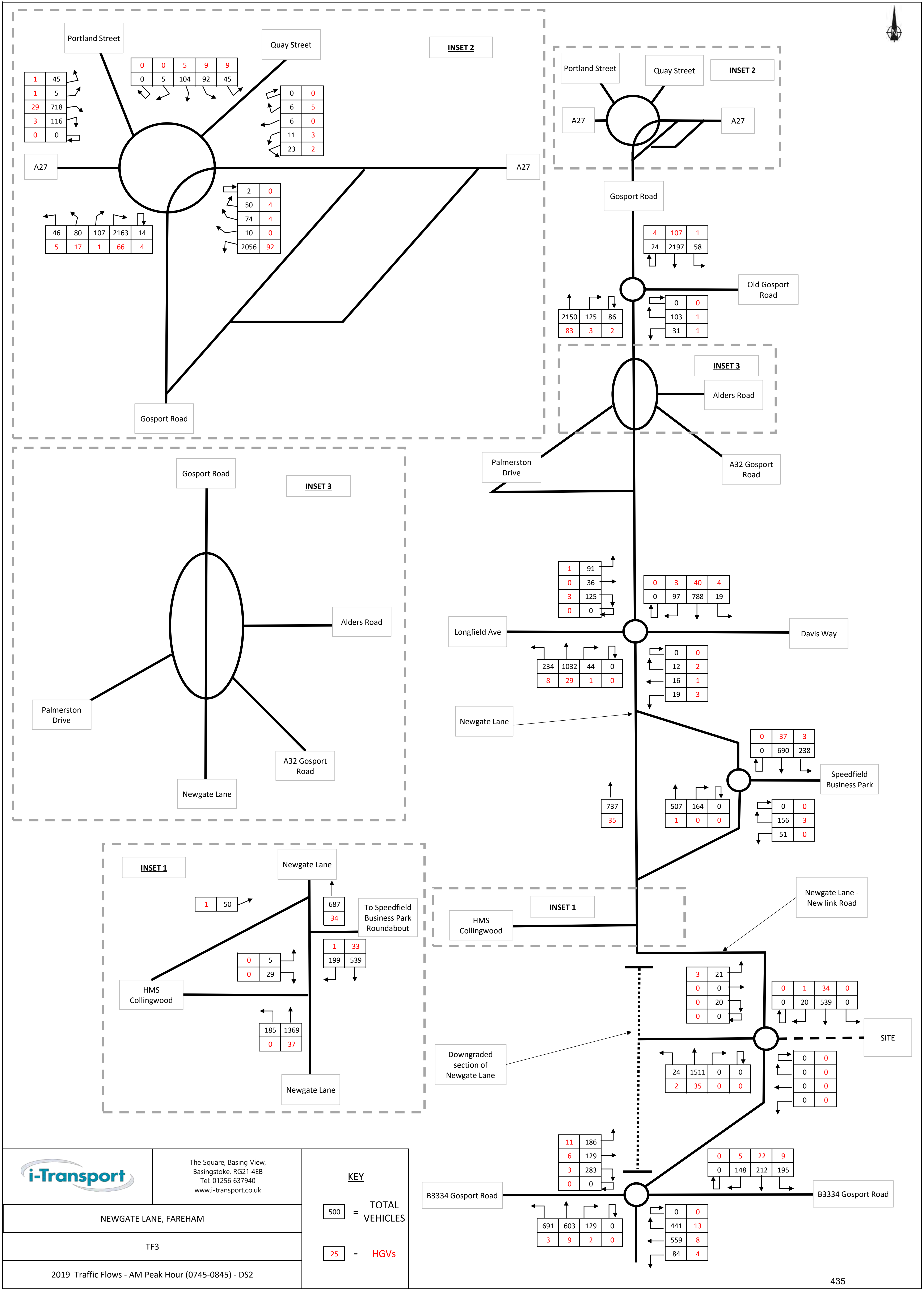
TF2

2019 Observed Traffic Flows - PM Peak Hour (1600-1700) - DS1

KEY

500 = TOTAL VEHICLES

25 = HGVs



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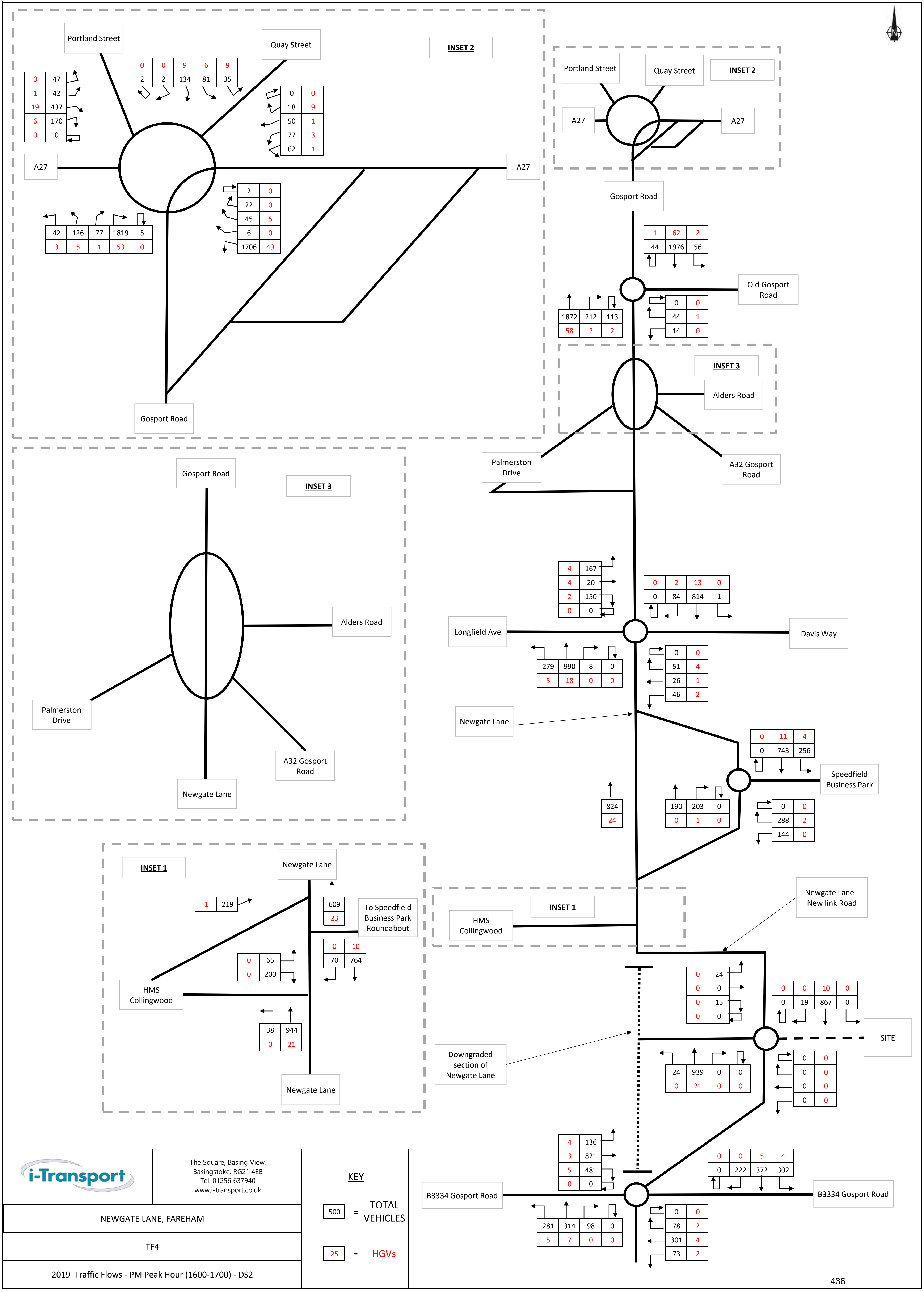
NEWGATE LANE, FAREHAM

TF3

2019 Traffic Flows - AM Peak Hour (0745-0845) - DS2



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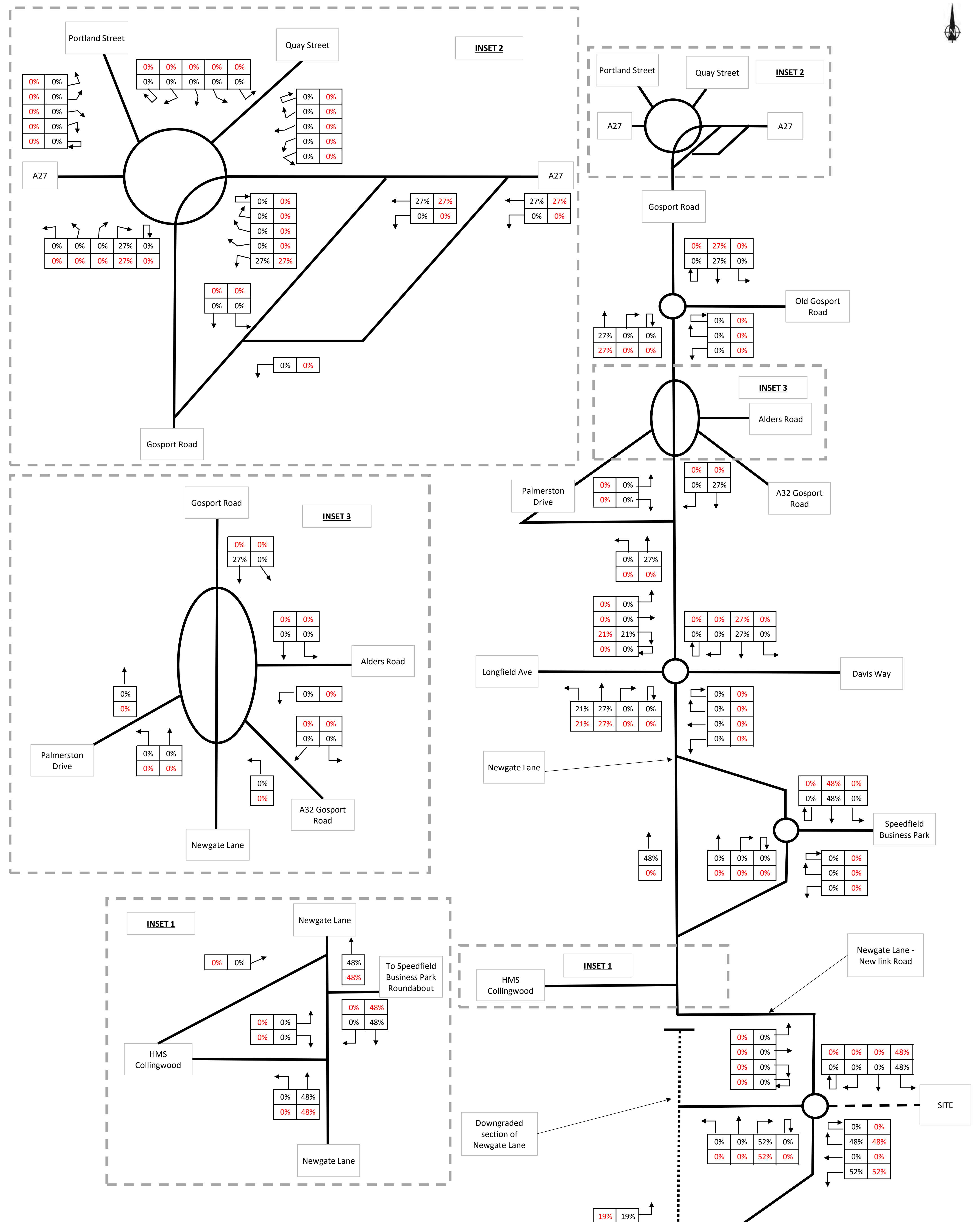
NEWGATE LANE, FAREHAM

TF4

2019 Traffic Flows - PM Peak Hour (1600-1700) - DS2



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NEWGATE LANE, FAREHAM

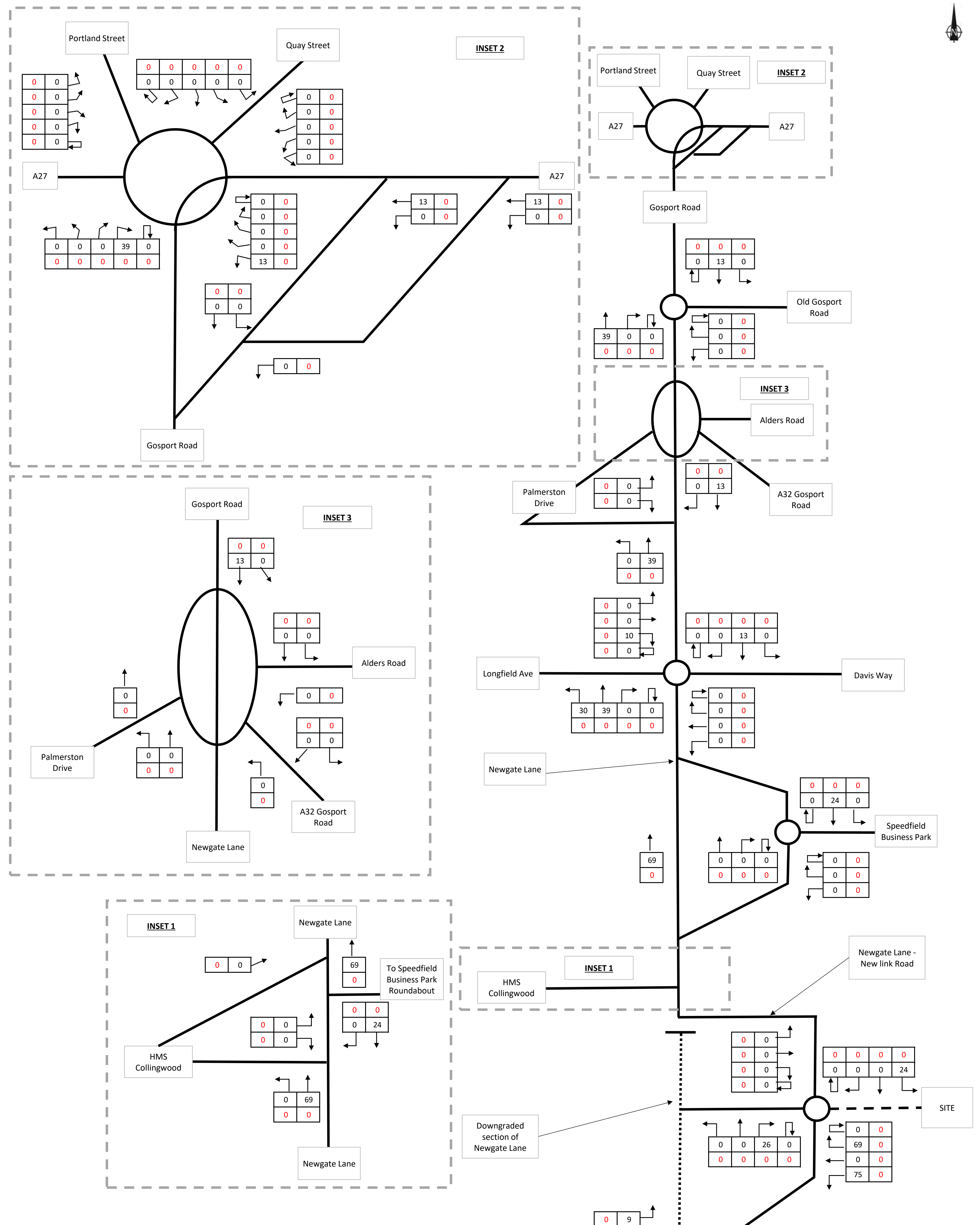
TF5

Dev Dist % Total

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

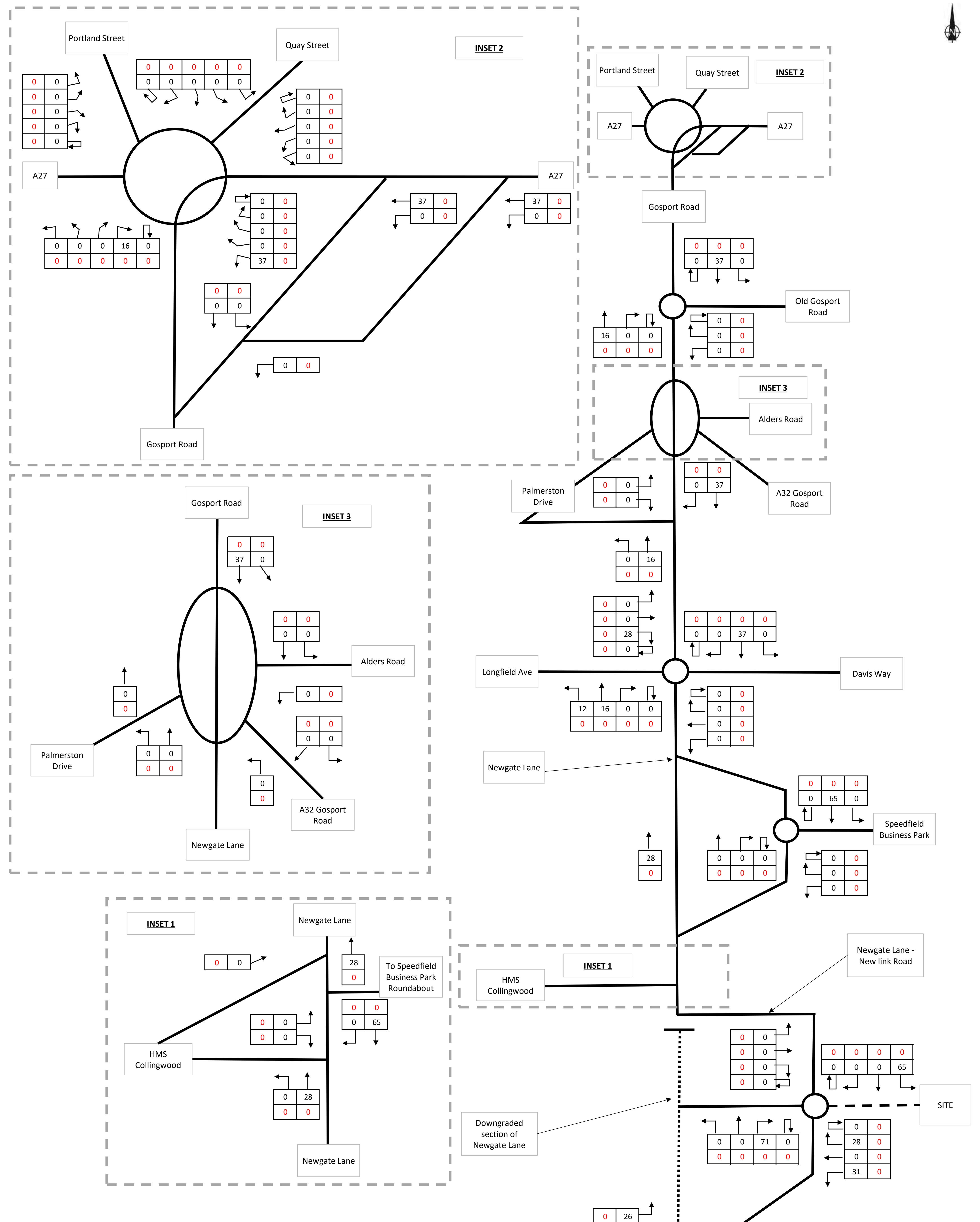
TF6

Dev Assign TOTAL (AM Peak Hour)

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

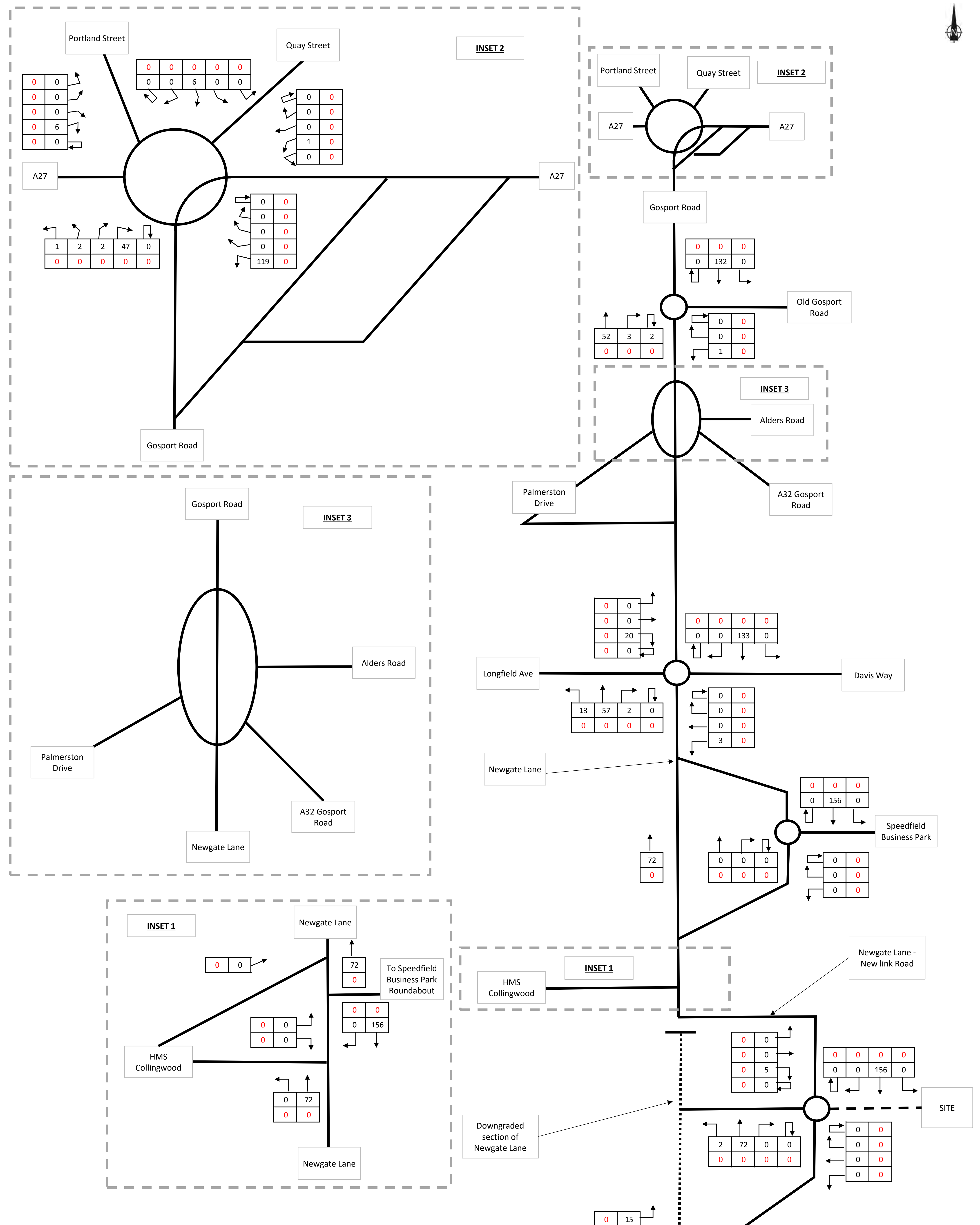
TF7

Dev Assign TOTAL (PM Peak Hour)

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

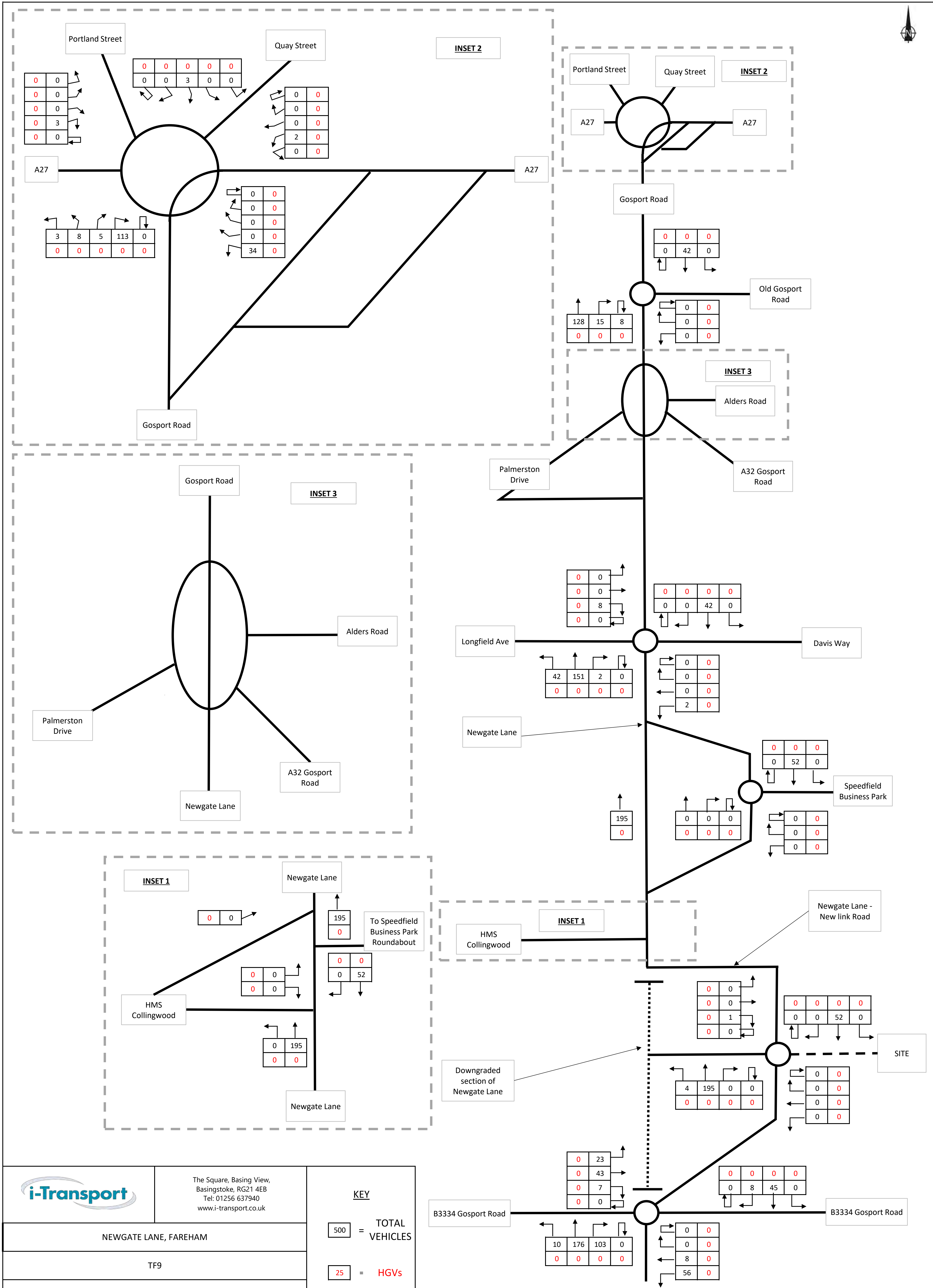
TF8

Committed Development: Daedalus AM Peak

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

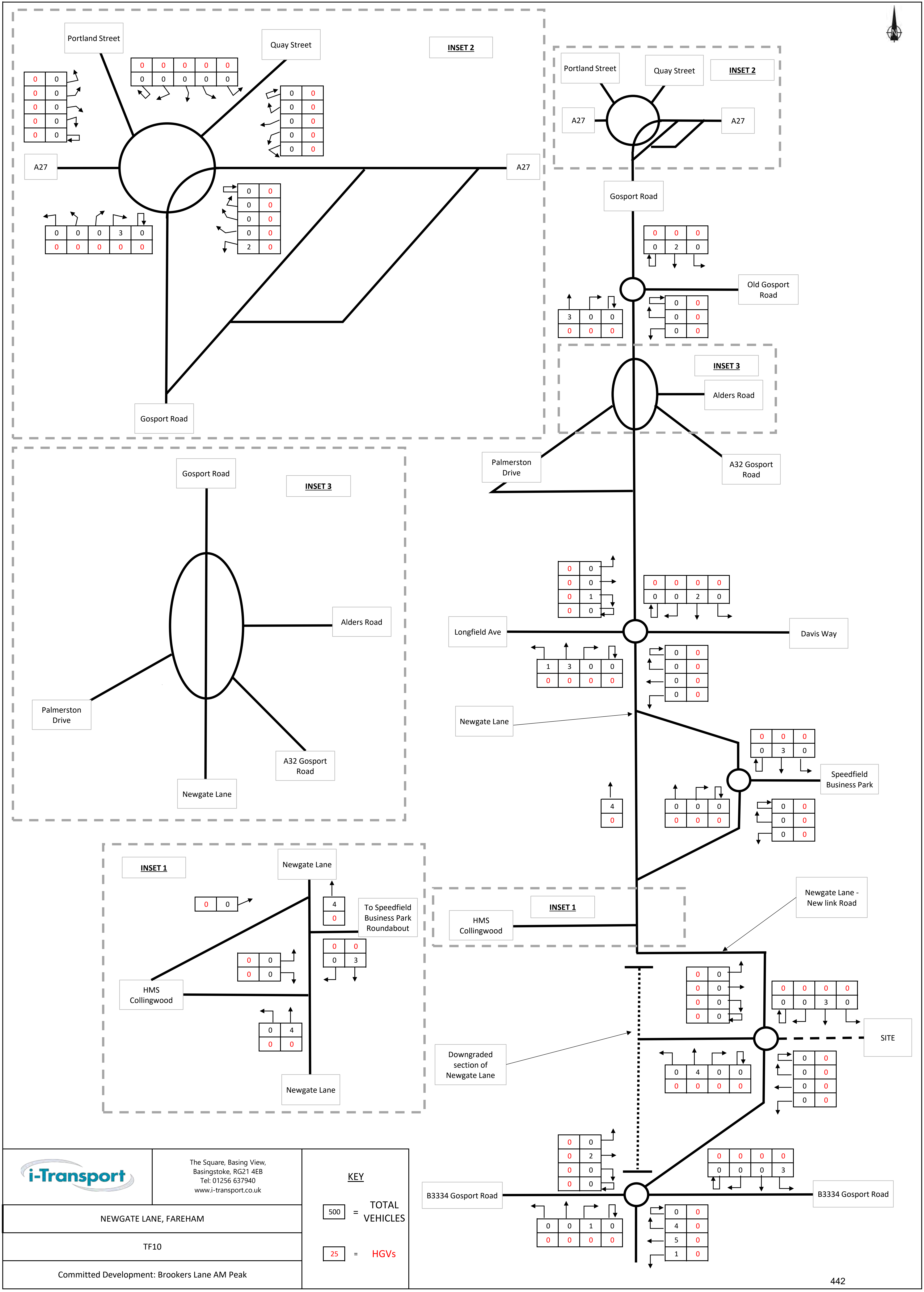
TF9

Committed Development: Daedalus PM Peak

KEY

500 = TOTAL VEHICLES

25 = HGVs



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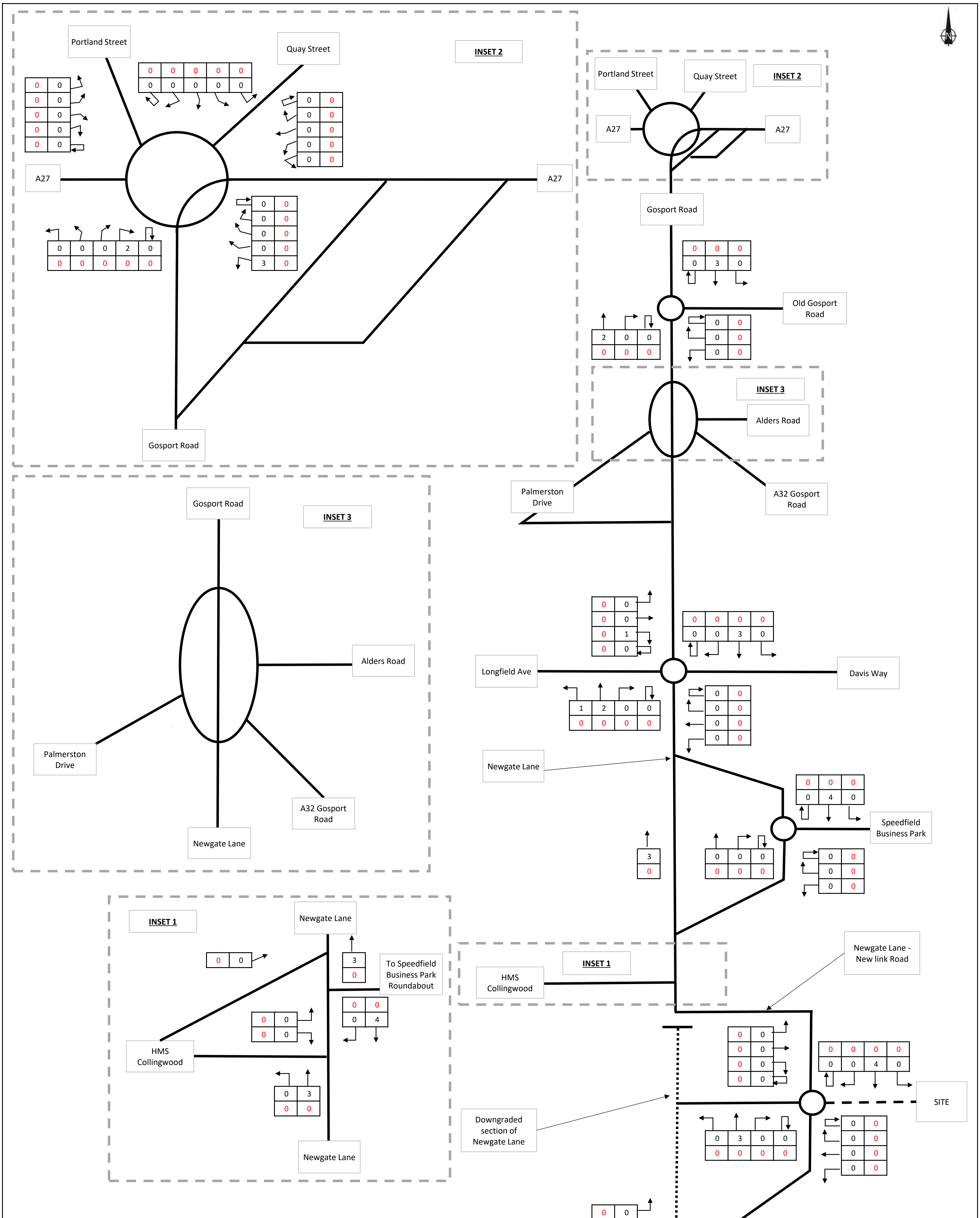
NEWGATE LANE, FAREHAM

TF10

Committed Development: Brookers Lane AM Peak

KEY

500	=	TOTAL VEHICLES
25	=	HGVs



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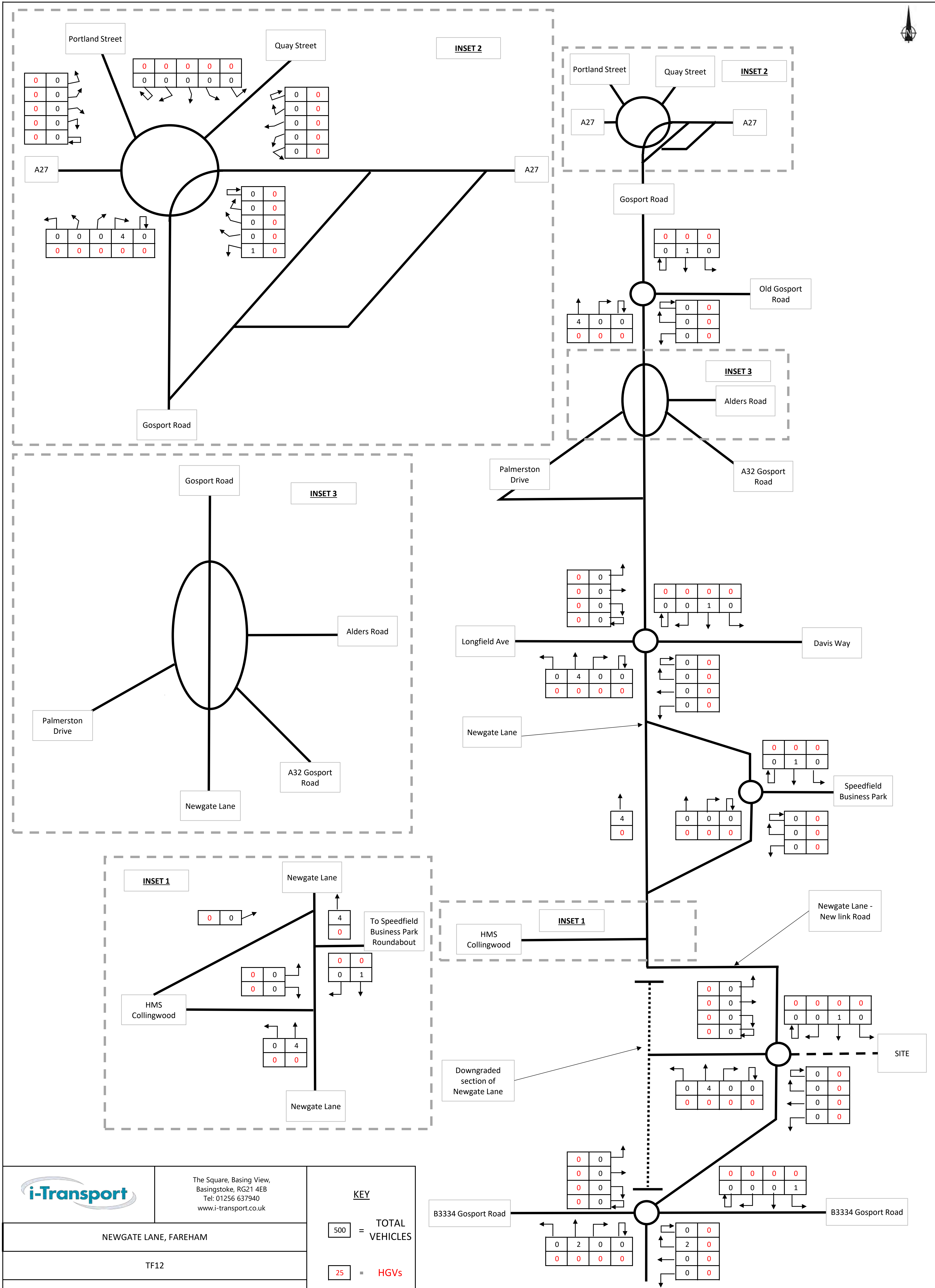
NEWGATE LANE, FAREHAM

TF11

Committed Development: Brookers Lane PM Peak

KEY

500	=	TOTAL VEHICLES
25	=	HGVs



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NEWGATE LANE, FAREHAM

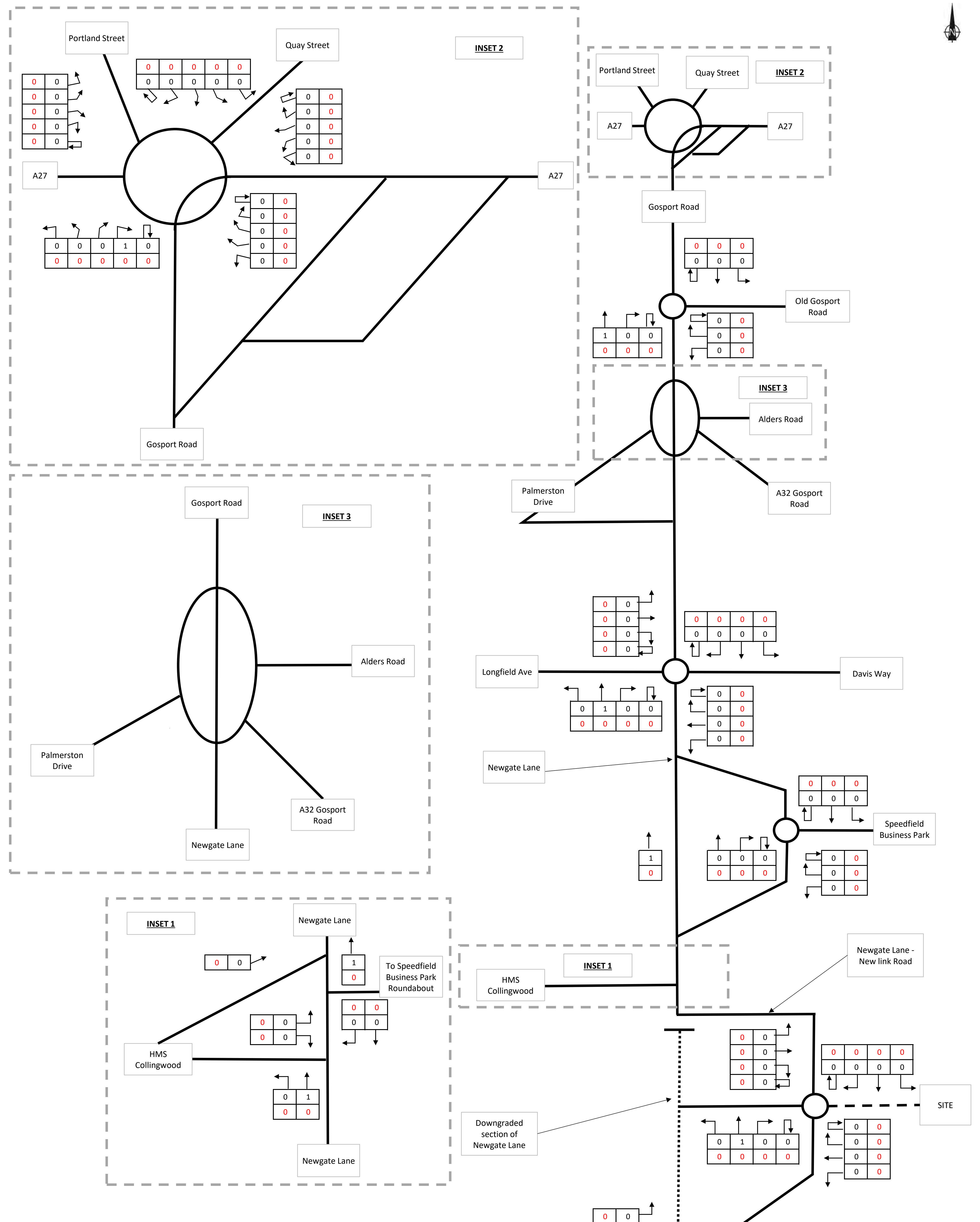
TF12

Committed Development: Welborne AM Peak

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

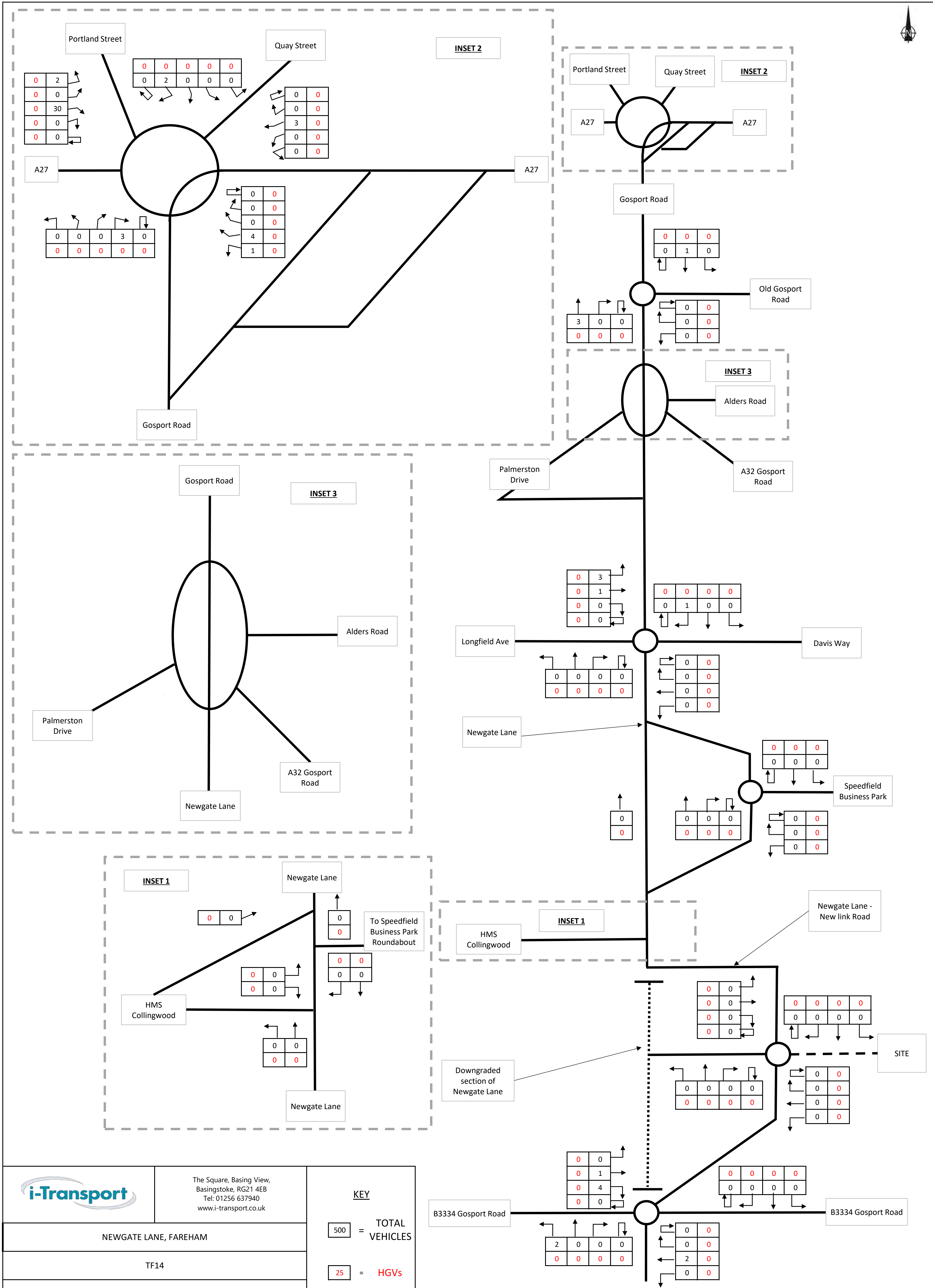
TF13

Committed Development: Welborne PM Peak

KEY

500 = TOTAL VEHICLES

25 = HGVs



i-Transport

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Tel: 01256 637940
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NEWGATE LANE, FAREHAM

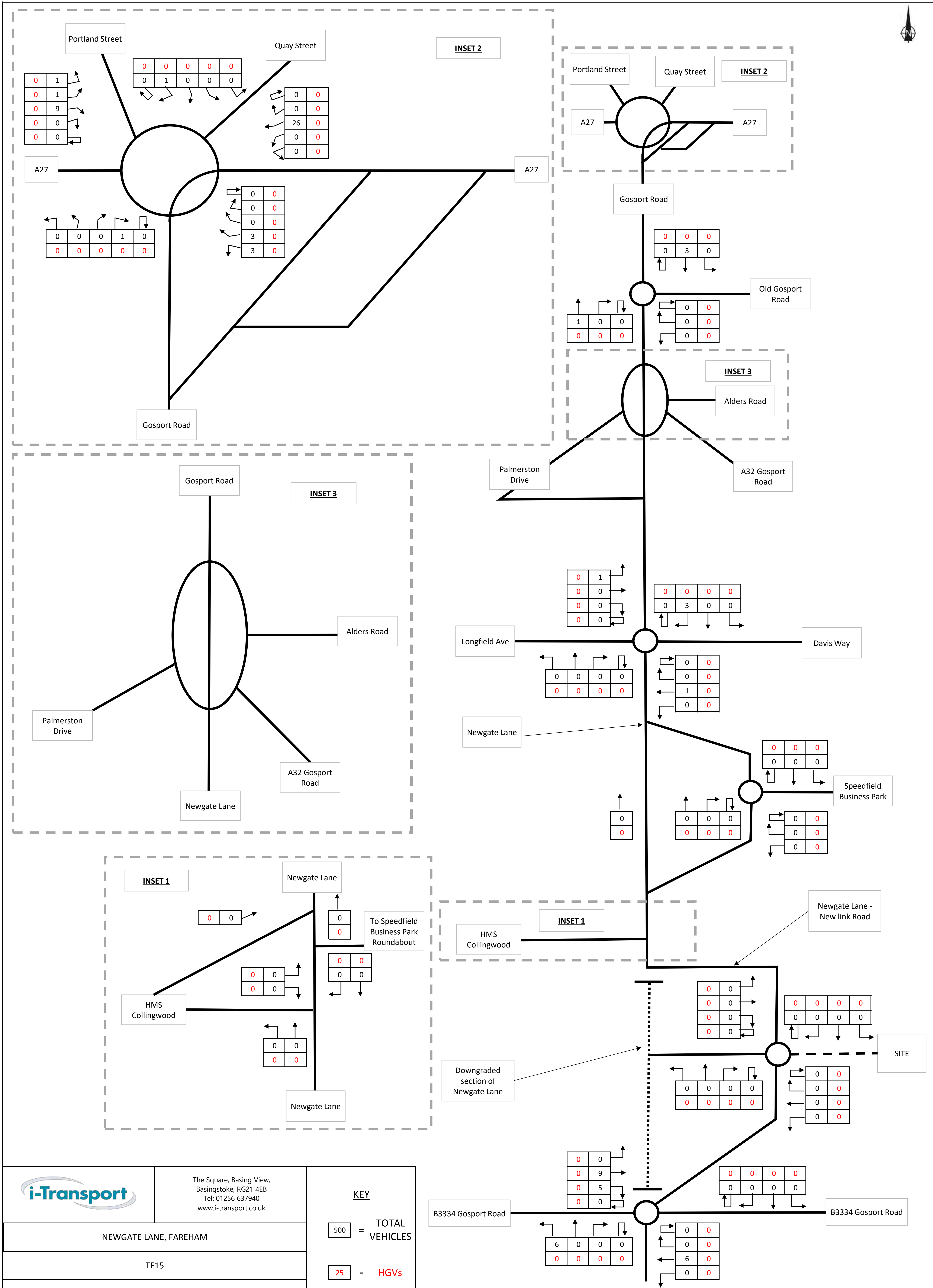
TF14

Committed Development: Crofton Cemetery AM Peak

KEY

500 = TOTAL VEHICLES

25 = HGVs



i-Transport

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Tel: 01256 637940
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NEWGATE LANE, FAREHAM

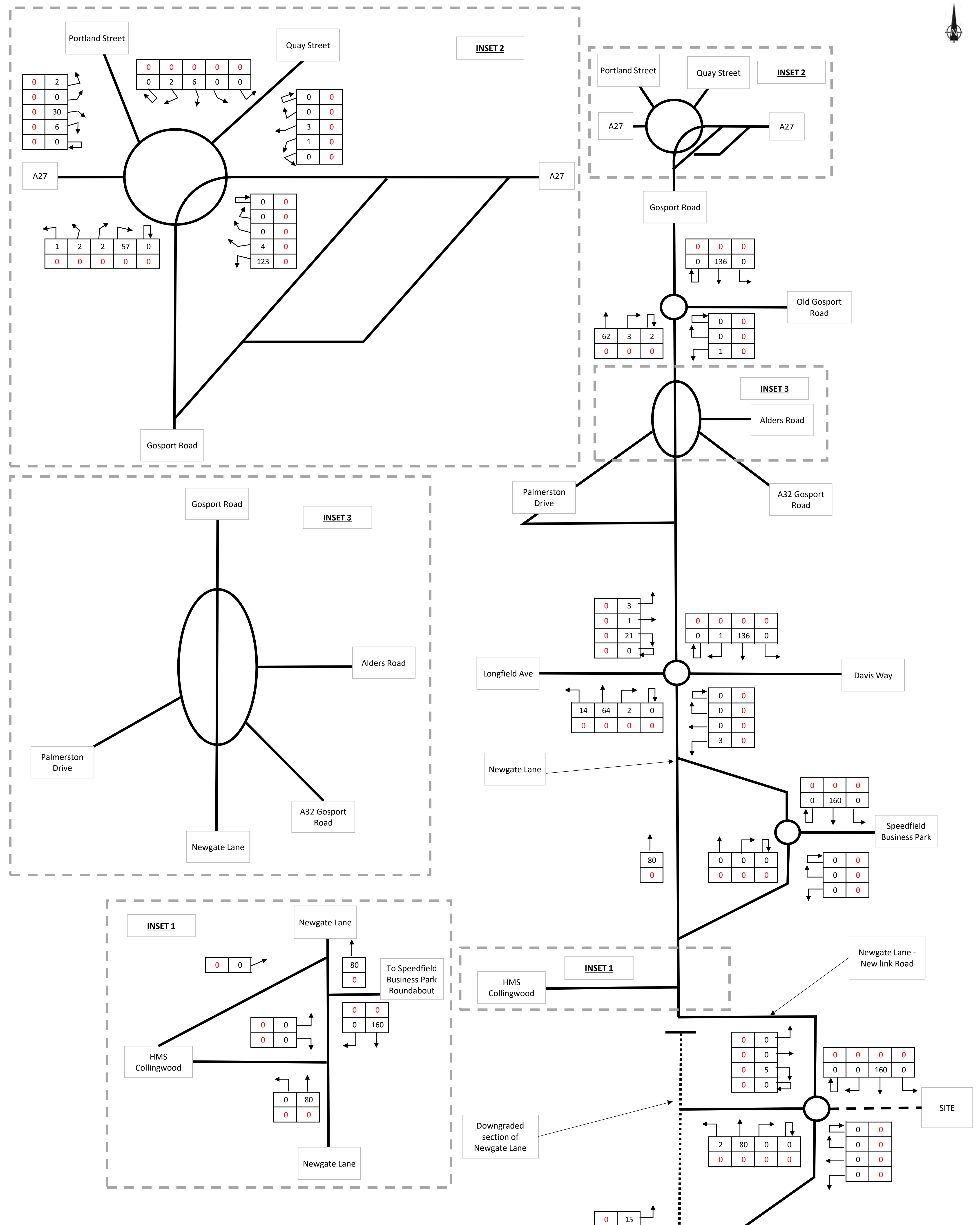
TF15

Committed Development: Crofton Cemetery PM Peak

KEY

500 = TOTAL VEHICLES

25 = HGVs



i-Transport

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www.i-transport.co.uk

NEWGATE LANE, FAREHAM

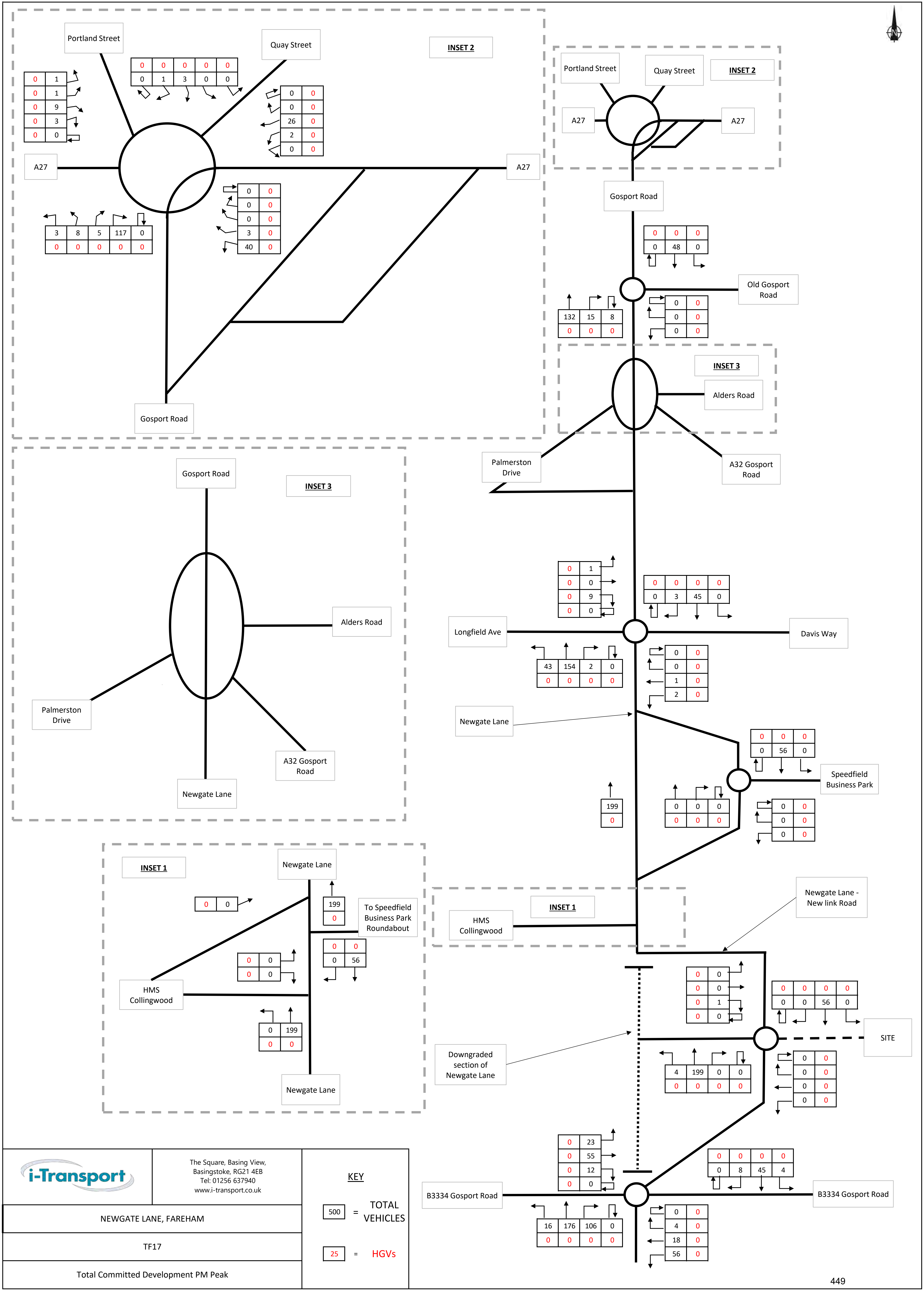
TF16

Total Committed Development AM Peak

KEY

500 = TOTAL VEHICLES

25 = HGVs



i-Transport

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Basingstoke, RG21 4EB
Tel: 01256 637940
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NEWGATE LANE, FAREHAM

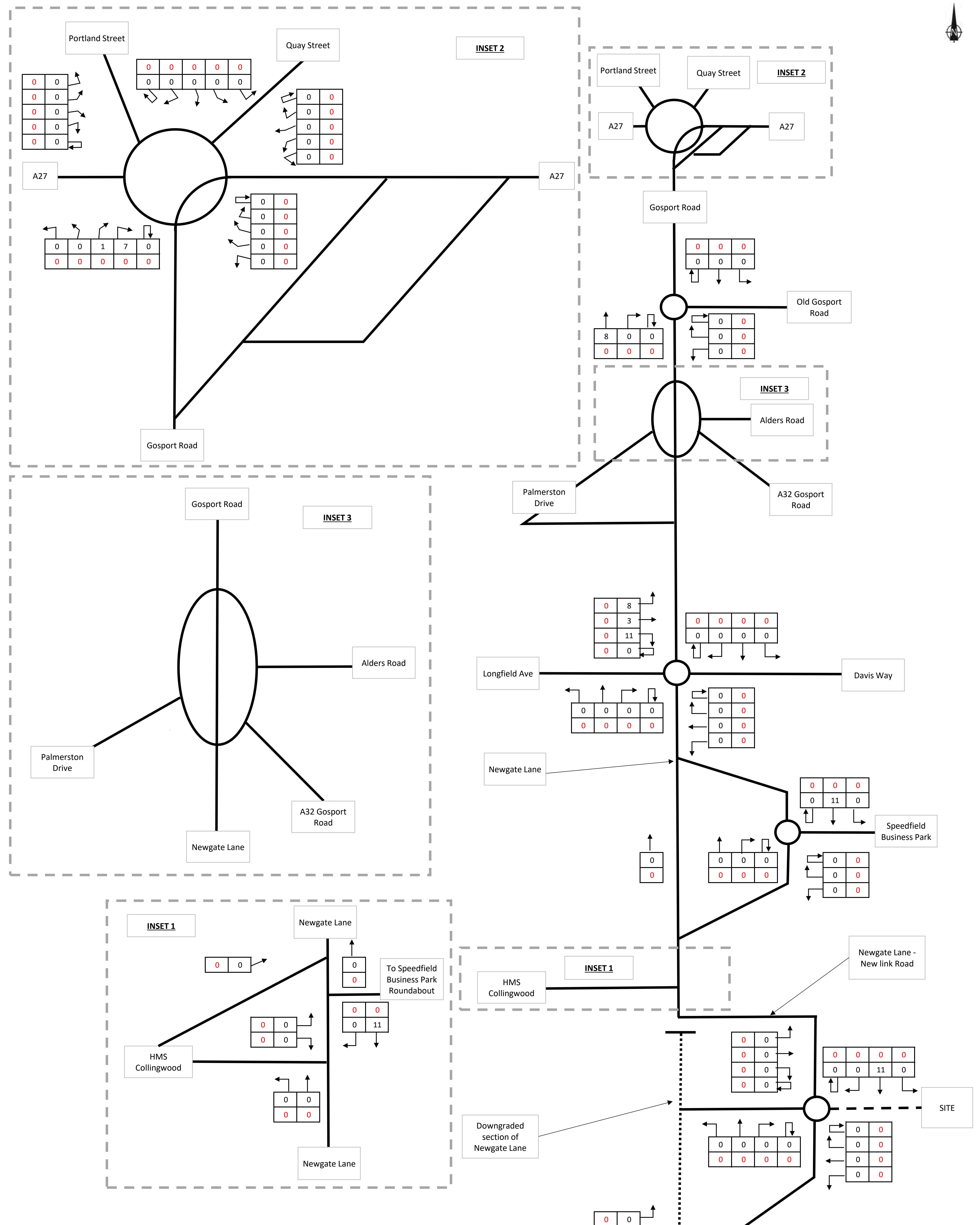
TF17

Total Committed Development PM Peak

KEY

500 = TOTAL VEHICLES

25 = HGVs



i-Transport

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NEWGATE LANE, FAREHAM

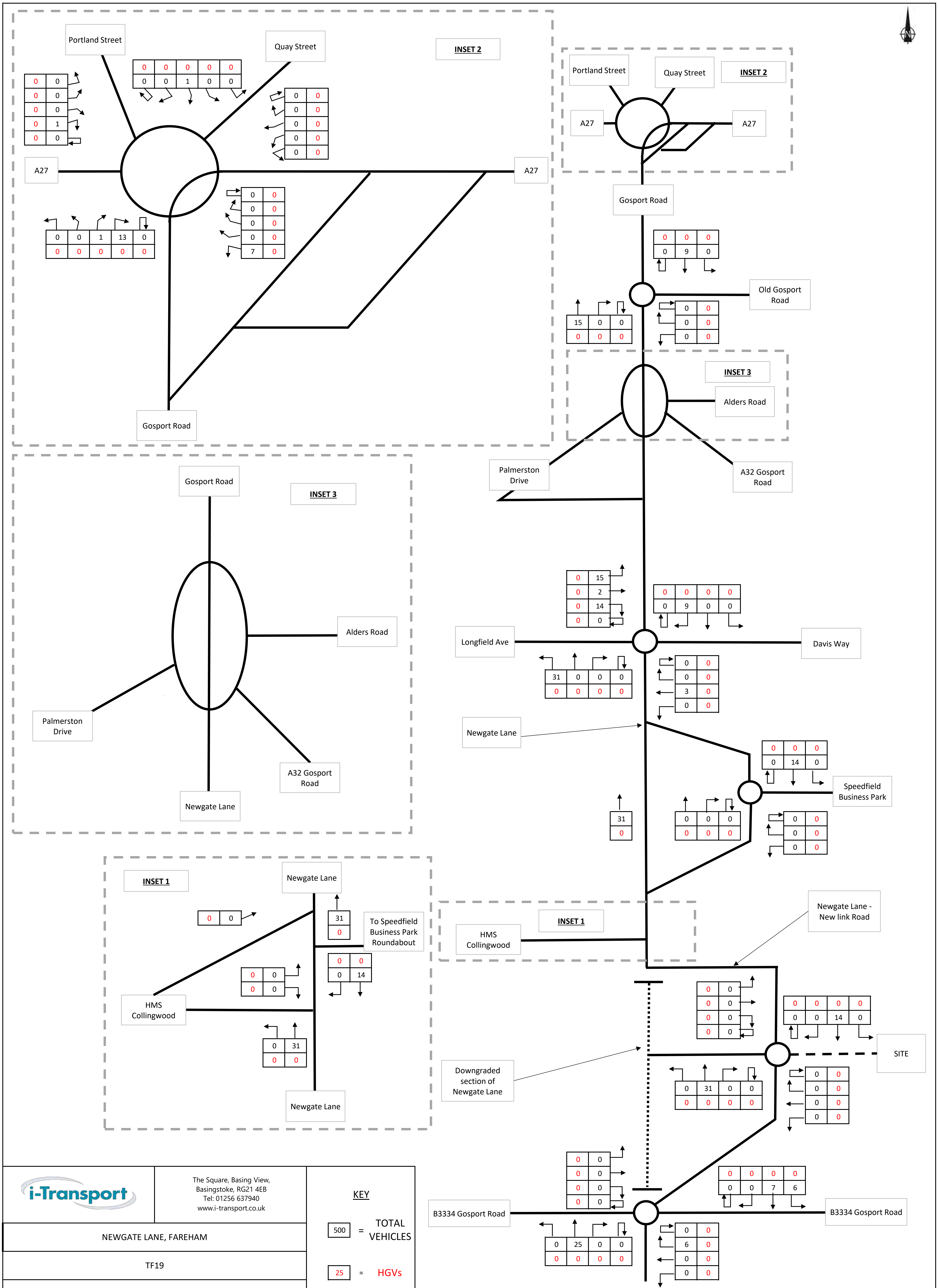
TF18

Sensitivity Test - Land South of Longfield Avenue AM Peak

KEY

500 = TOTAL VEHICLES

25 = HGVs



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Tel: 01256 637940
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NEWGATE LANE, FAREHAM

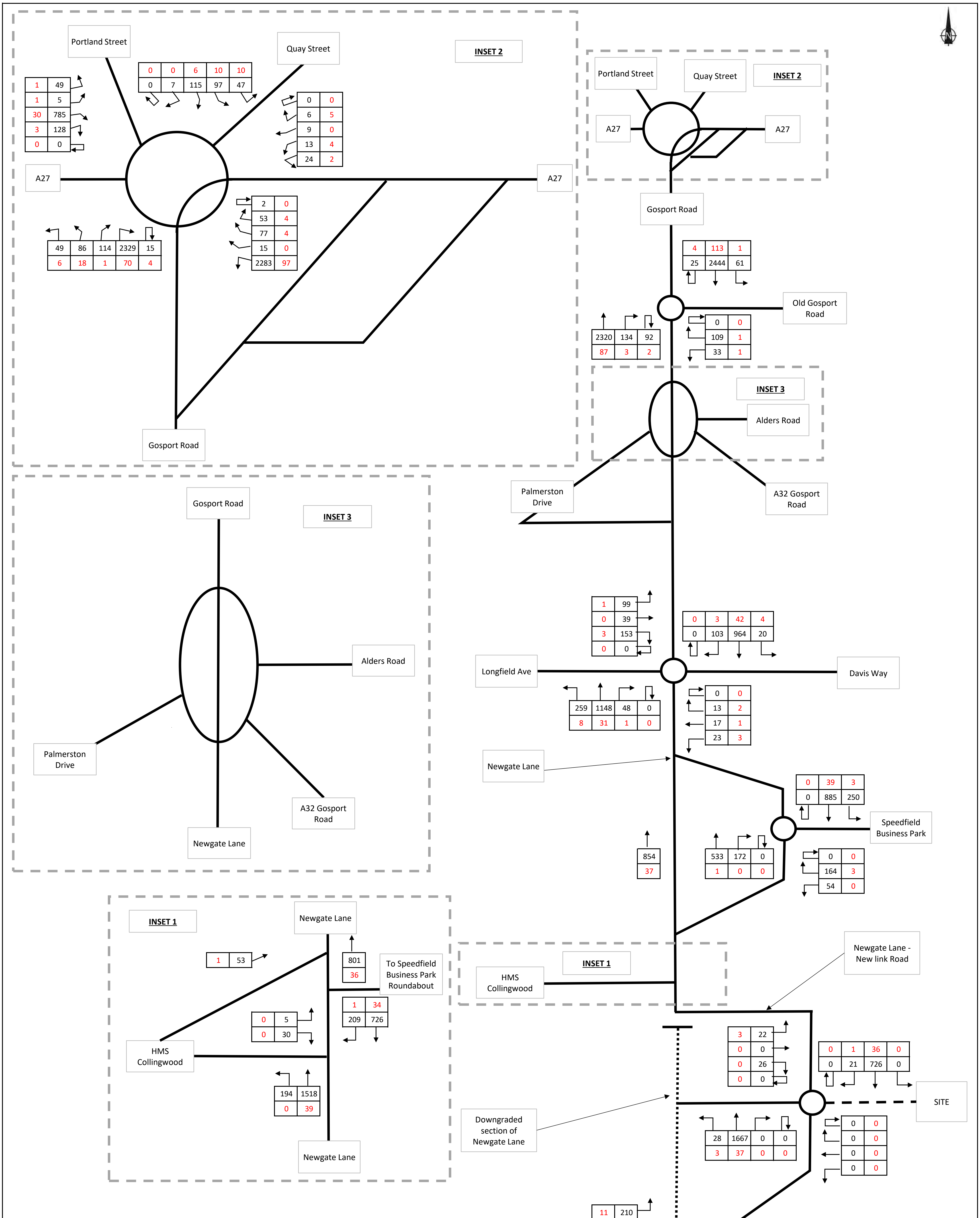
TF19

Sensitivity Test - Land South of Longfield Avenue PM Peak

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

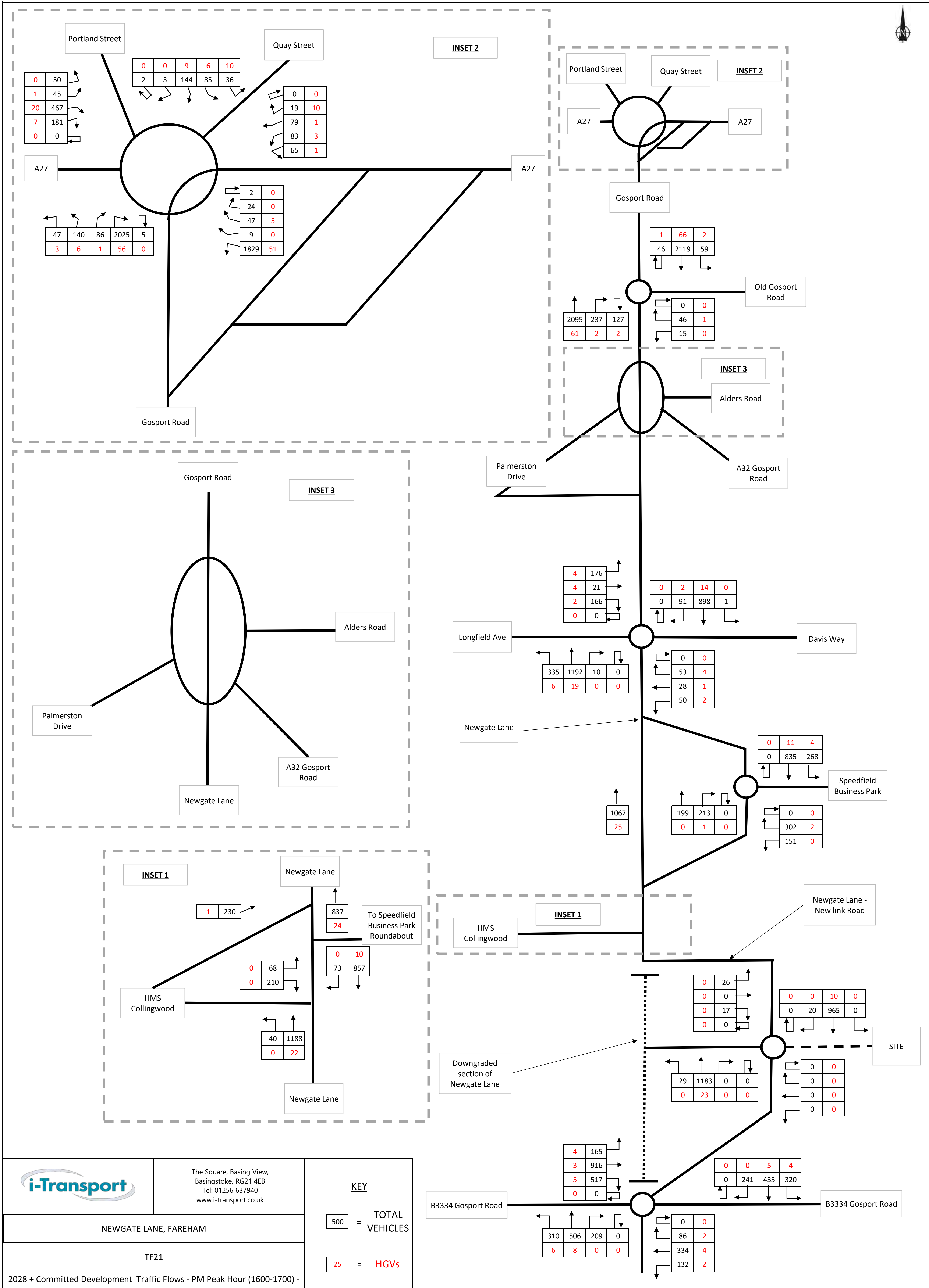
TF20

2028 + Committed Development Traffic Flows - AM Peak Hour (0745-0845) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

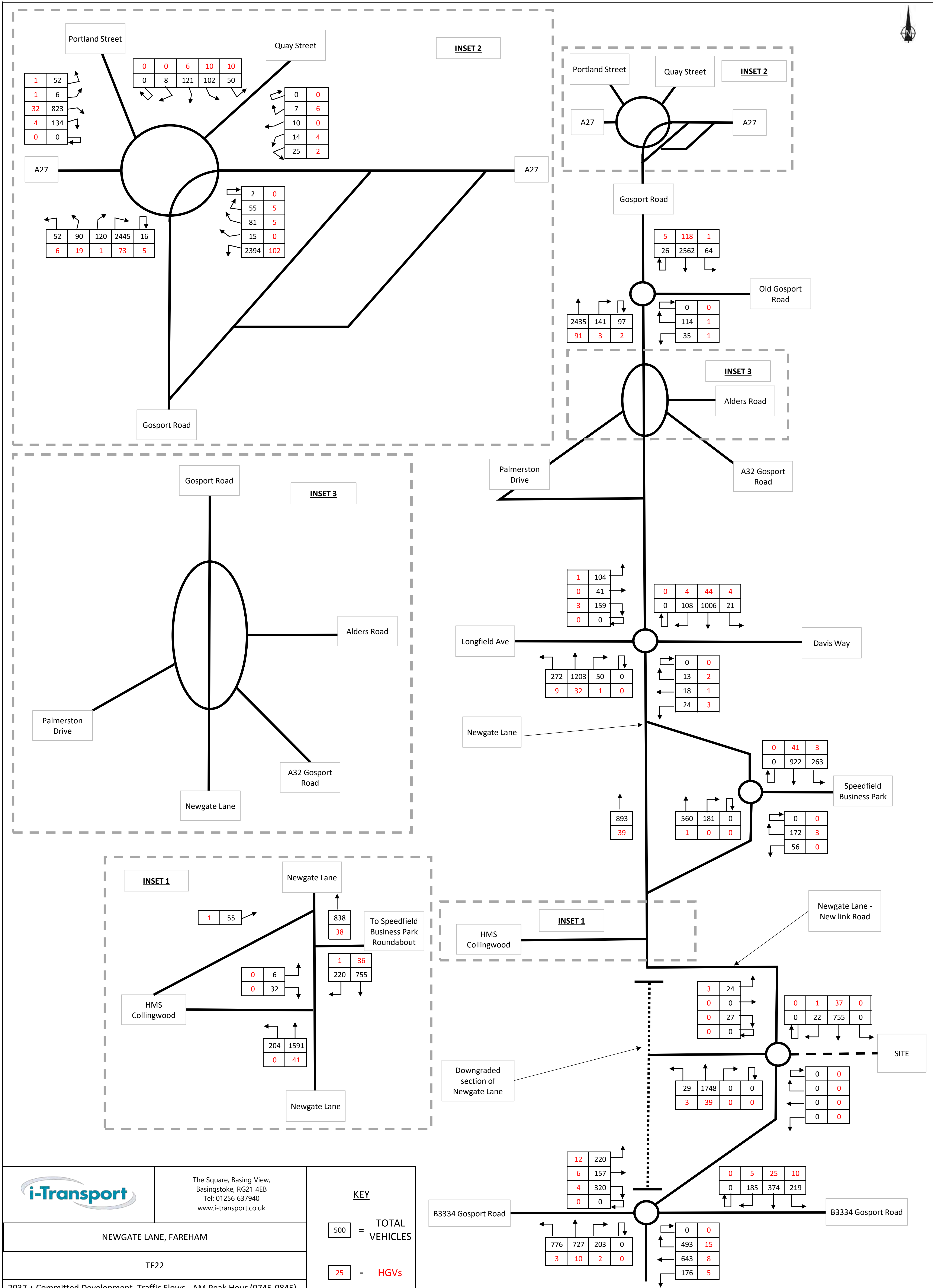
TF21

2028 + Committed Development Traffic Flows - PM Peak Hour (1600-1700) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



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Tel: 01256 637940
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NEWGATE LANE, FAREHAM

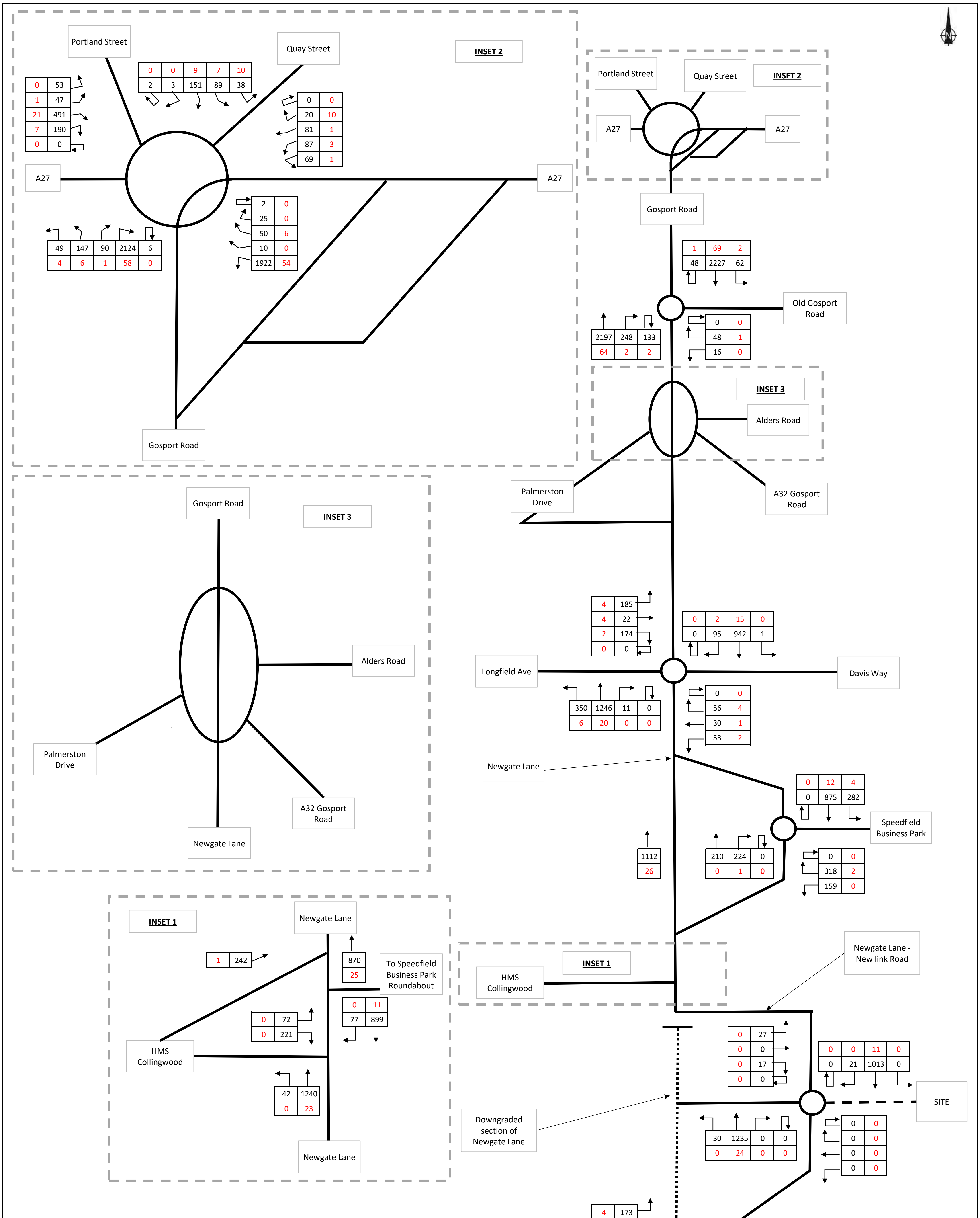
TF22

2037 + Committed Development Traffic Flows - AM Peak Hour (0745-0845) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



i-Transport

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NEWGATE LANE, FAREHAM

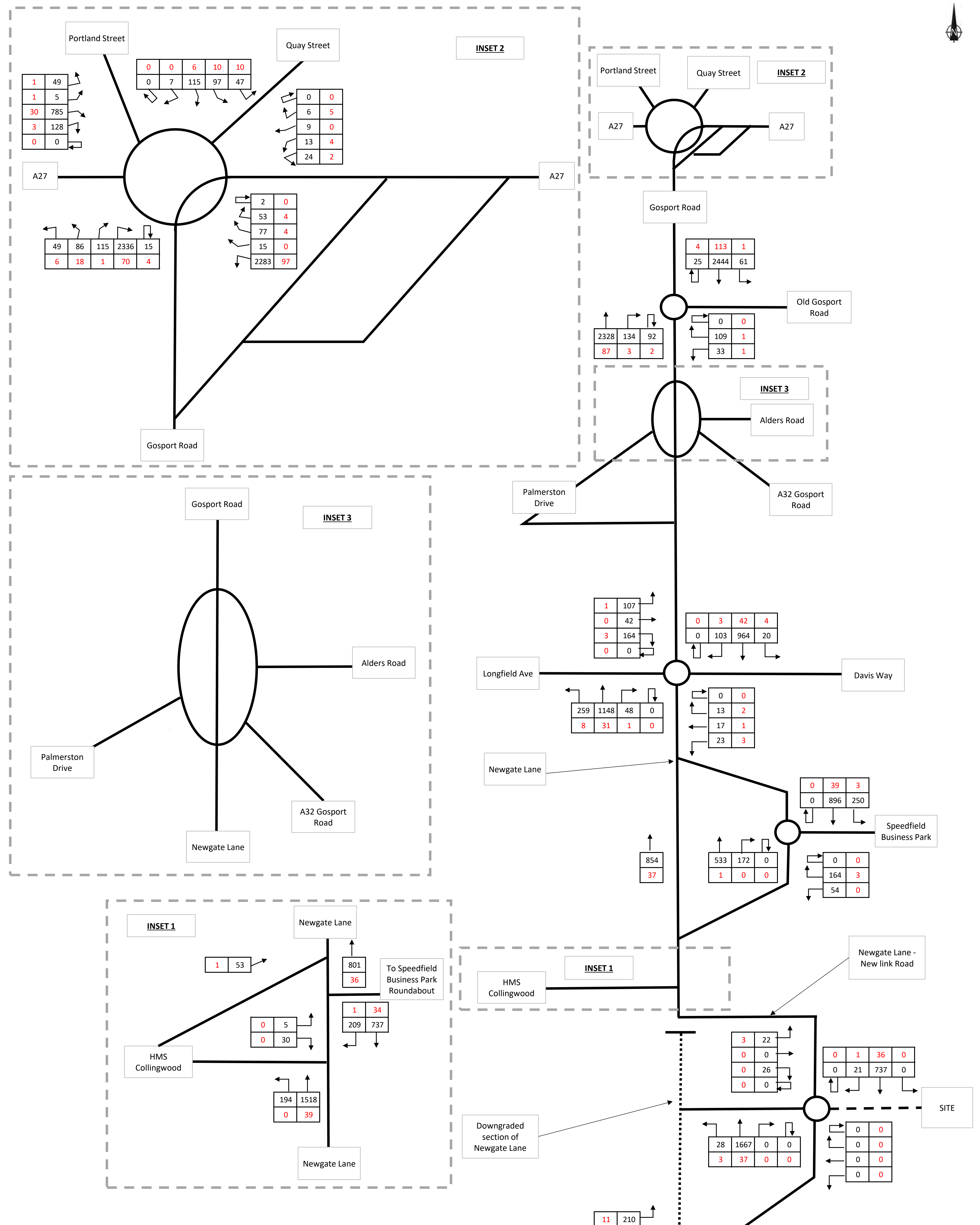
TF23

2037 + Committed Development Traffic Flows - PM Peak Hour (1600-1700) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



The Square, Basing View,
Basingstoke, RG21 4EB
Tel: 01256 637940
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NEWGATE LANE, FAREHAM

TF24

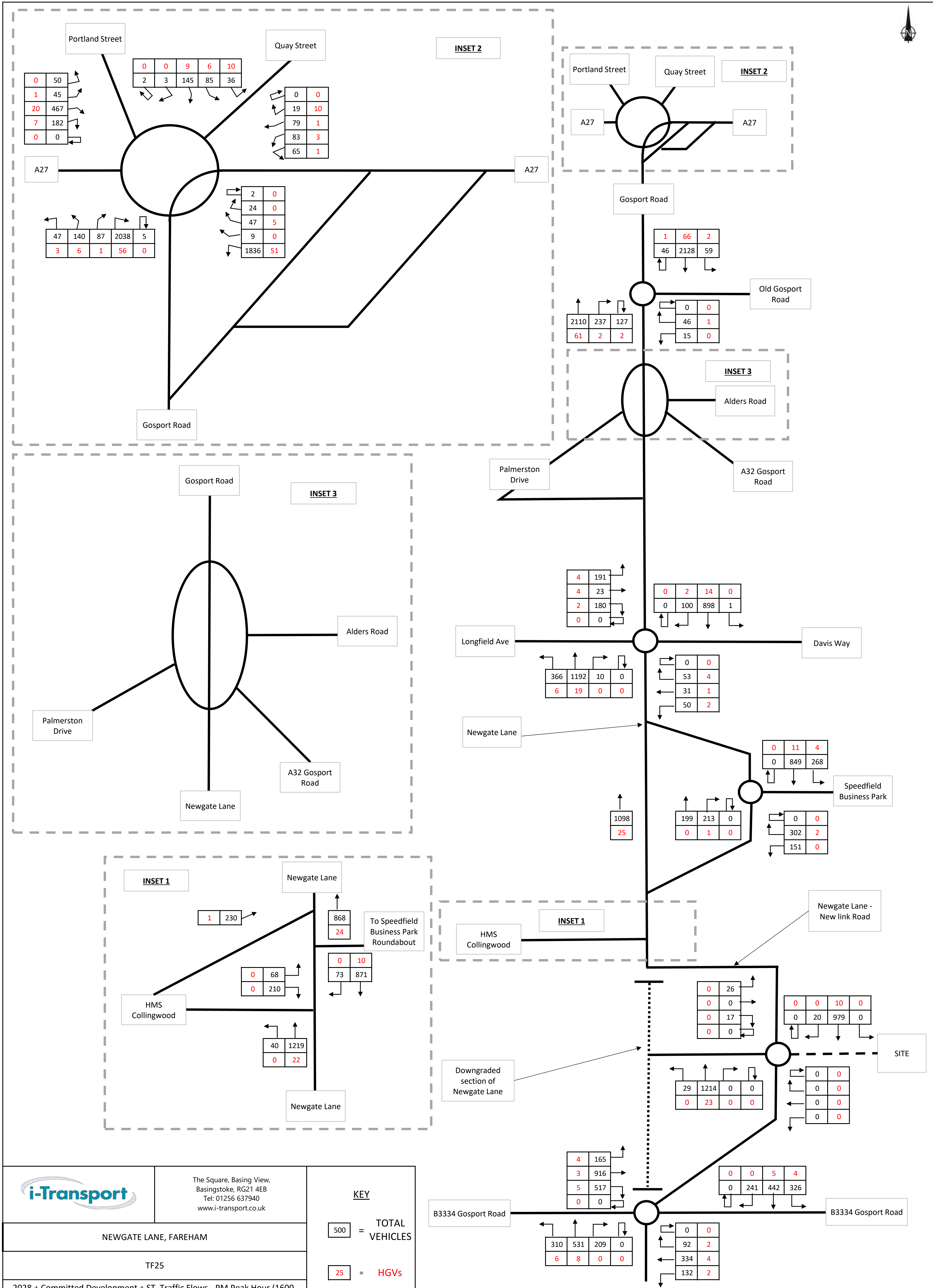
2028 + Committed Development + ST Traffic Flows - AM Peak Hour (0745-0845) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs

456



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NEWGATE LANE, FAREHAM

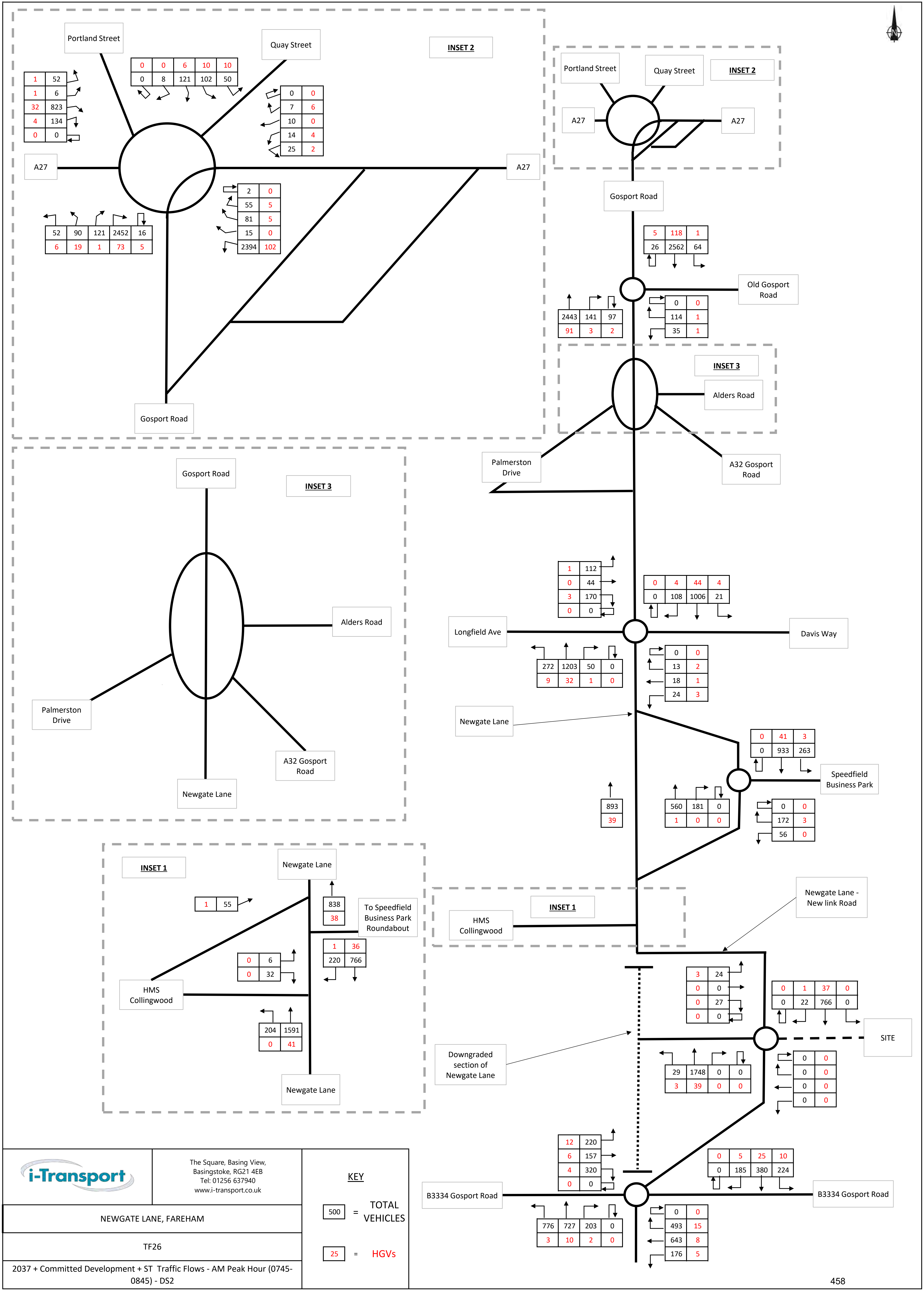
TF25

2028 + Committed Development + ST Traffic Flows - PM Peak Hour (1600-1700) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



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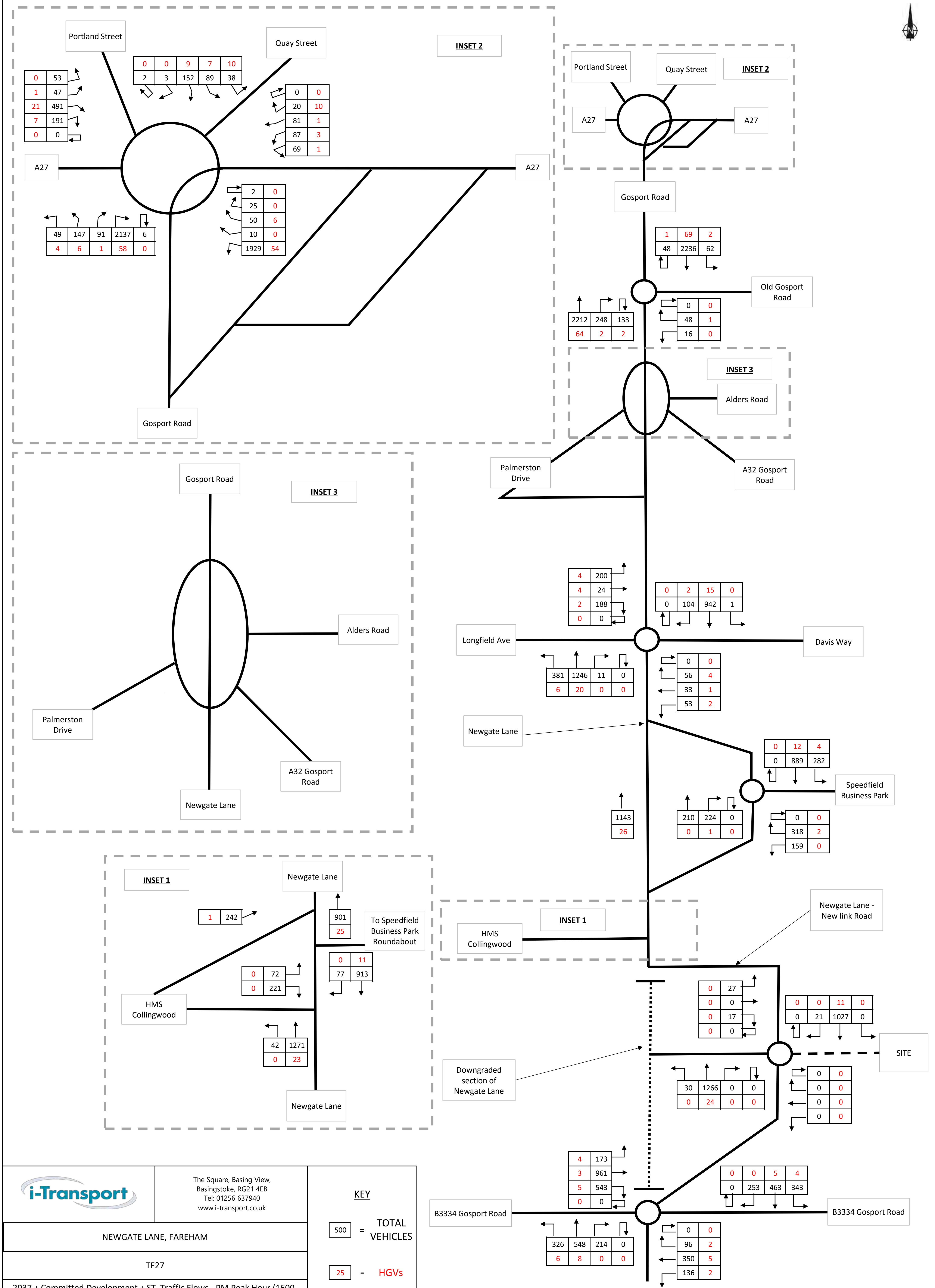
NEWGATE LANE, FAREHAM

TF26

2037 + Committed Development + ST Traffic Flows - AM Peak Hour (0745-0845) - DS2



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NEWGATE LANE, FAREHAM

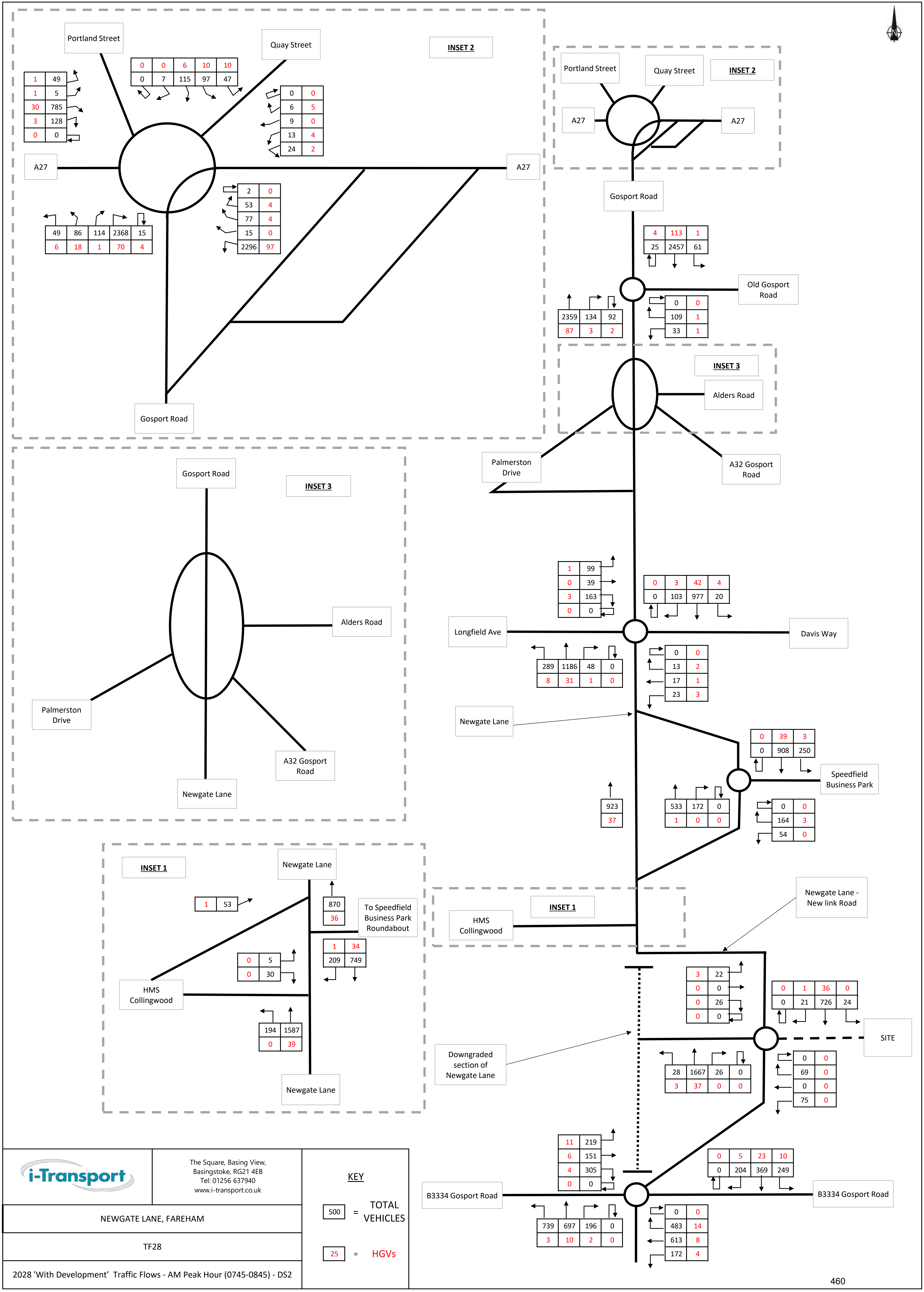
TF27

2037 + Committed Development + ST Traffic Flows - PM Peak Hour (1600-1700) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

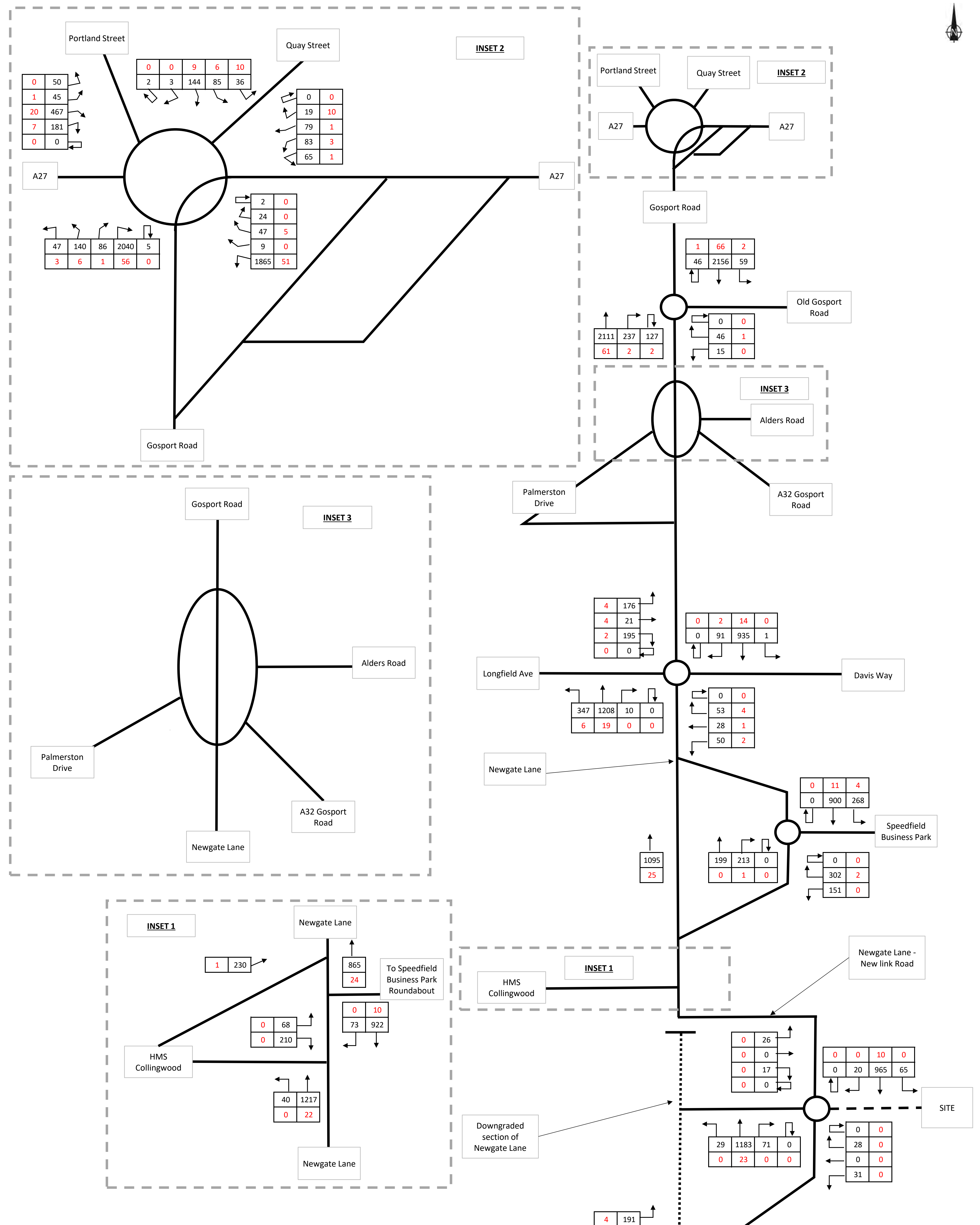
TF28

2028 'With Development' Traffic Flows - AM Peak Hour (0745-0845) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



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Basingstoke, RG21 4EB
Tel: 01256 637940
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NEWGATE LANE, FAREHAM

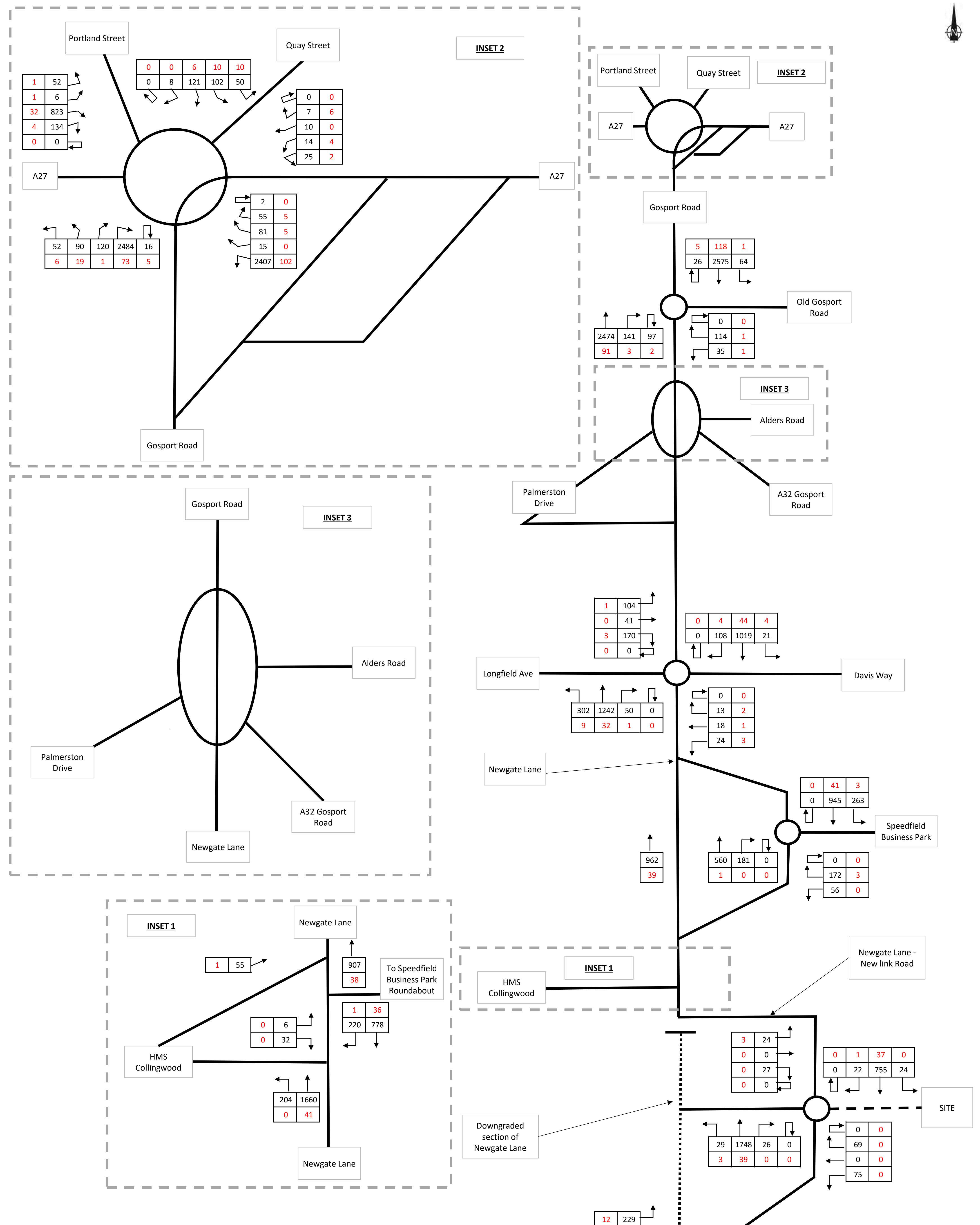
TF29

2028 'With Development' Traffic Flows - PM Peak Hour (1600-1700) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

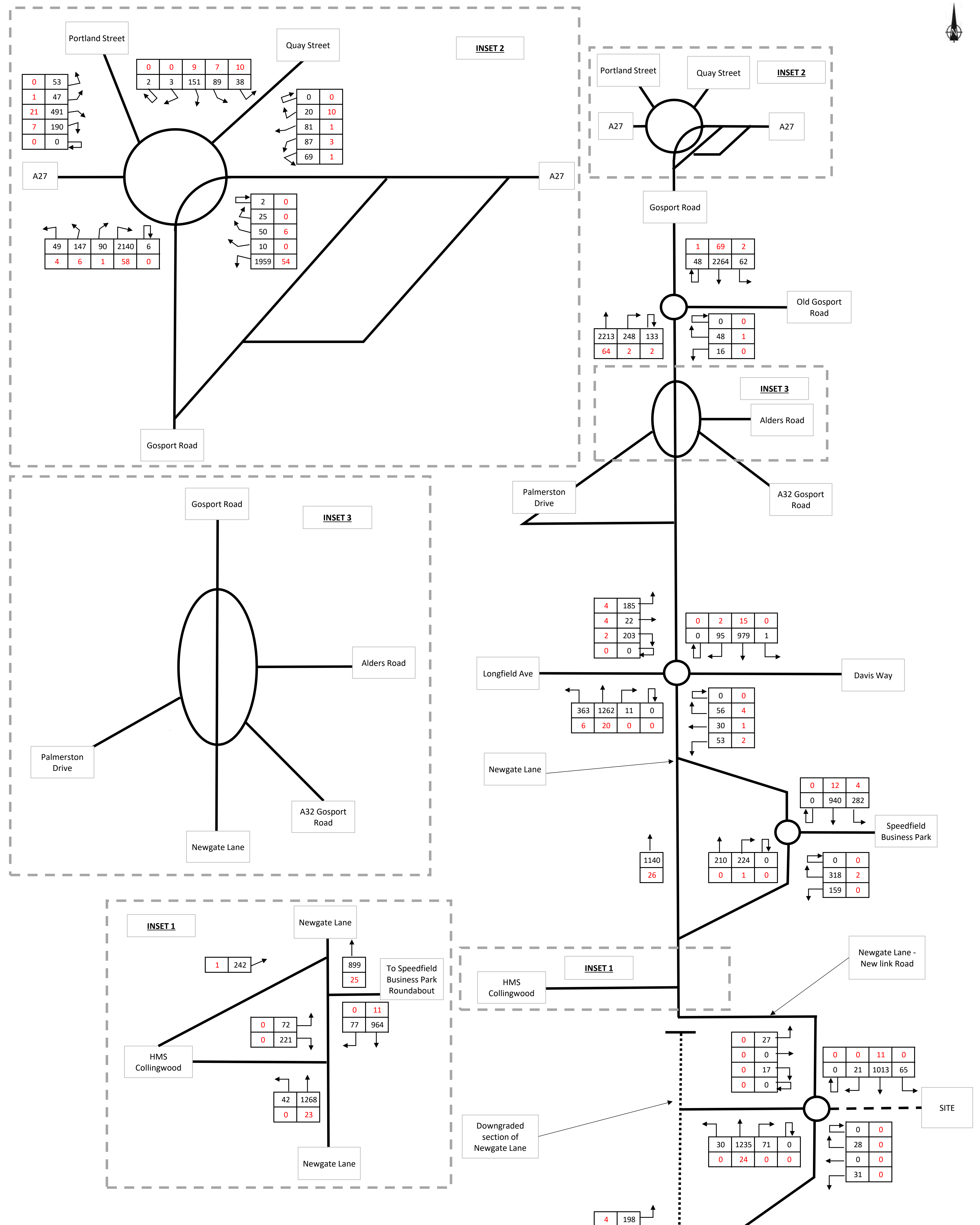
TF30

2037 'With Development' Traffic Flows - AM Peak Hour (0745-0845) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



i-Transport

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Tel: 01256 637940
www.i-transport.co.uk

NEWGATE LANE, FAREHAM

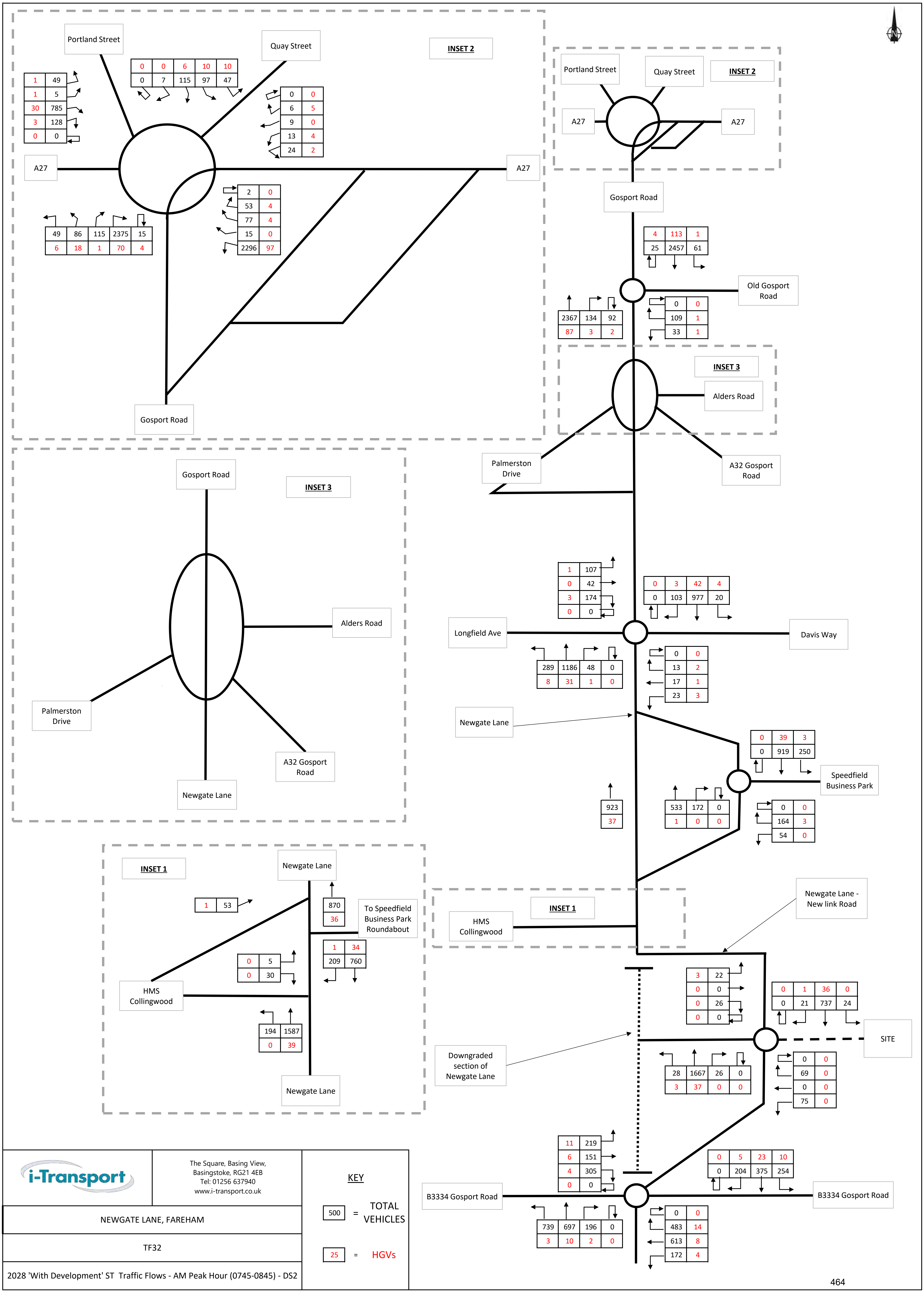
TF31

2037 'With Development' Traffic Flows - PM Peak Hour (1600-1700) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

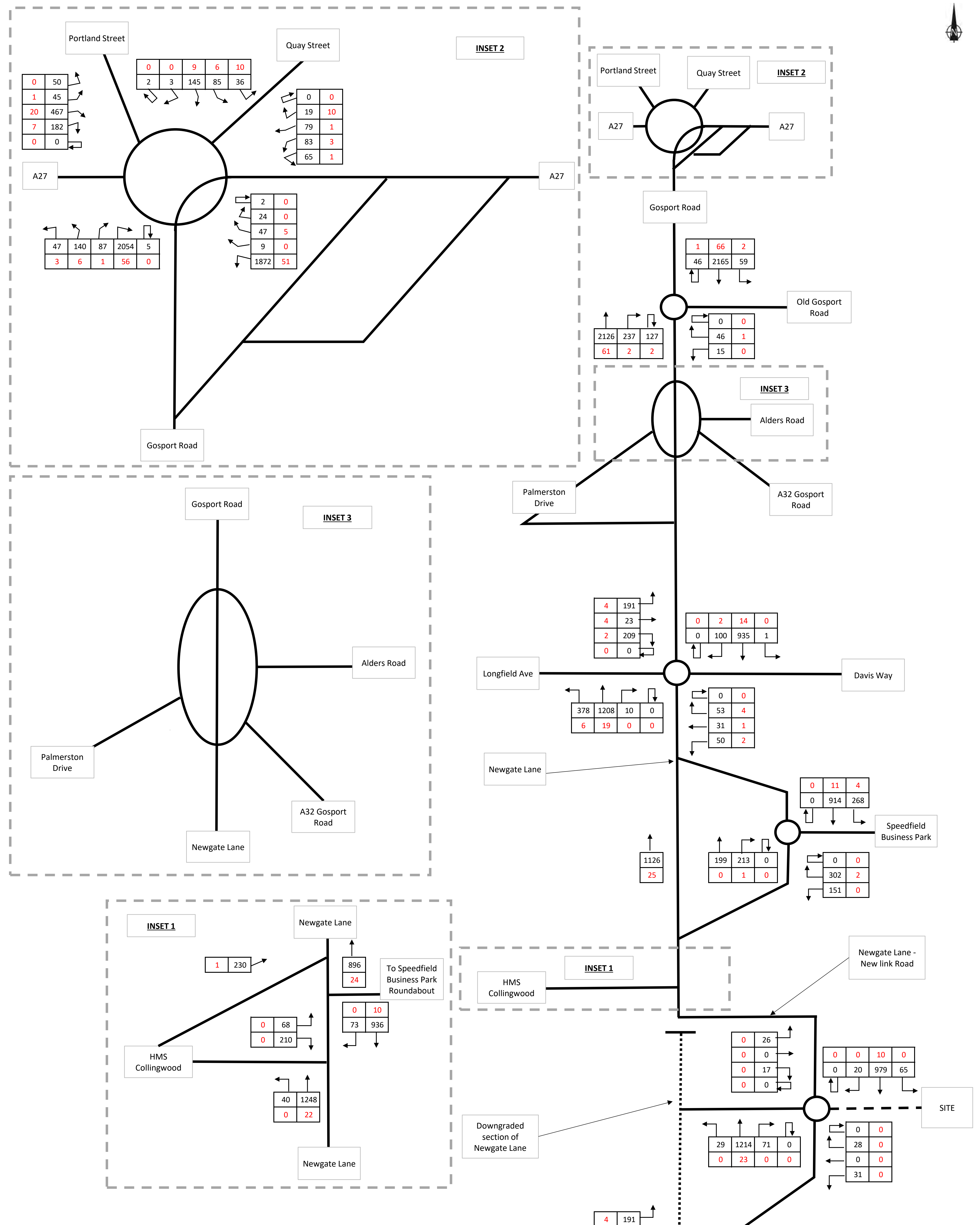
TF32

2028 'With Development' ST Traffic Flows - AM Peak Hour (0745-0845) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



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Tel: 01256 637940
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NEWGATE LANE, FAREHAM

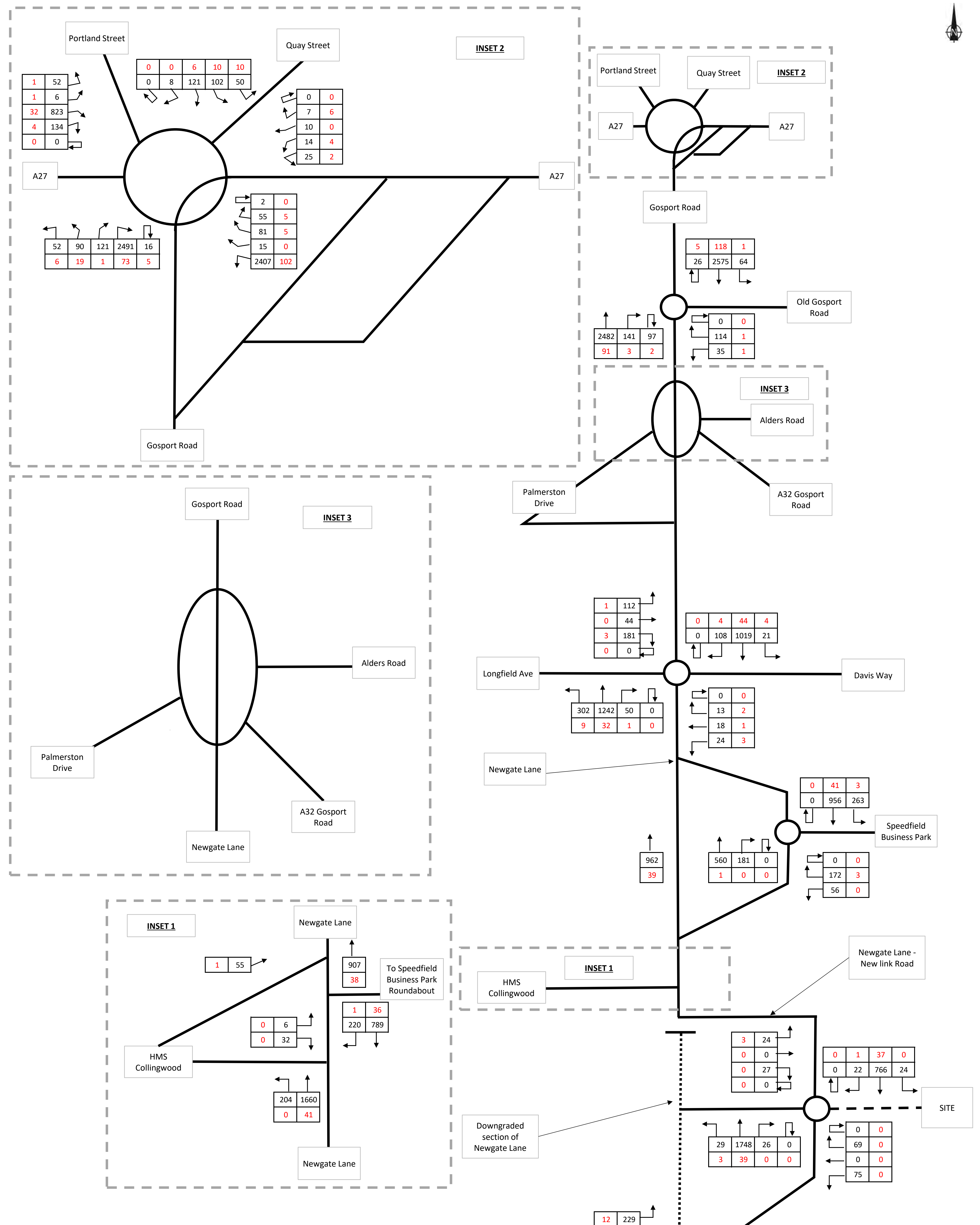
TF33

2028 'With Development' ST Traffic Flows - PM Peak Hour (1600-1700) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

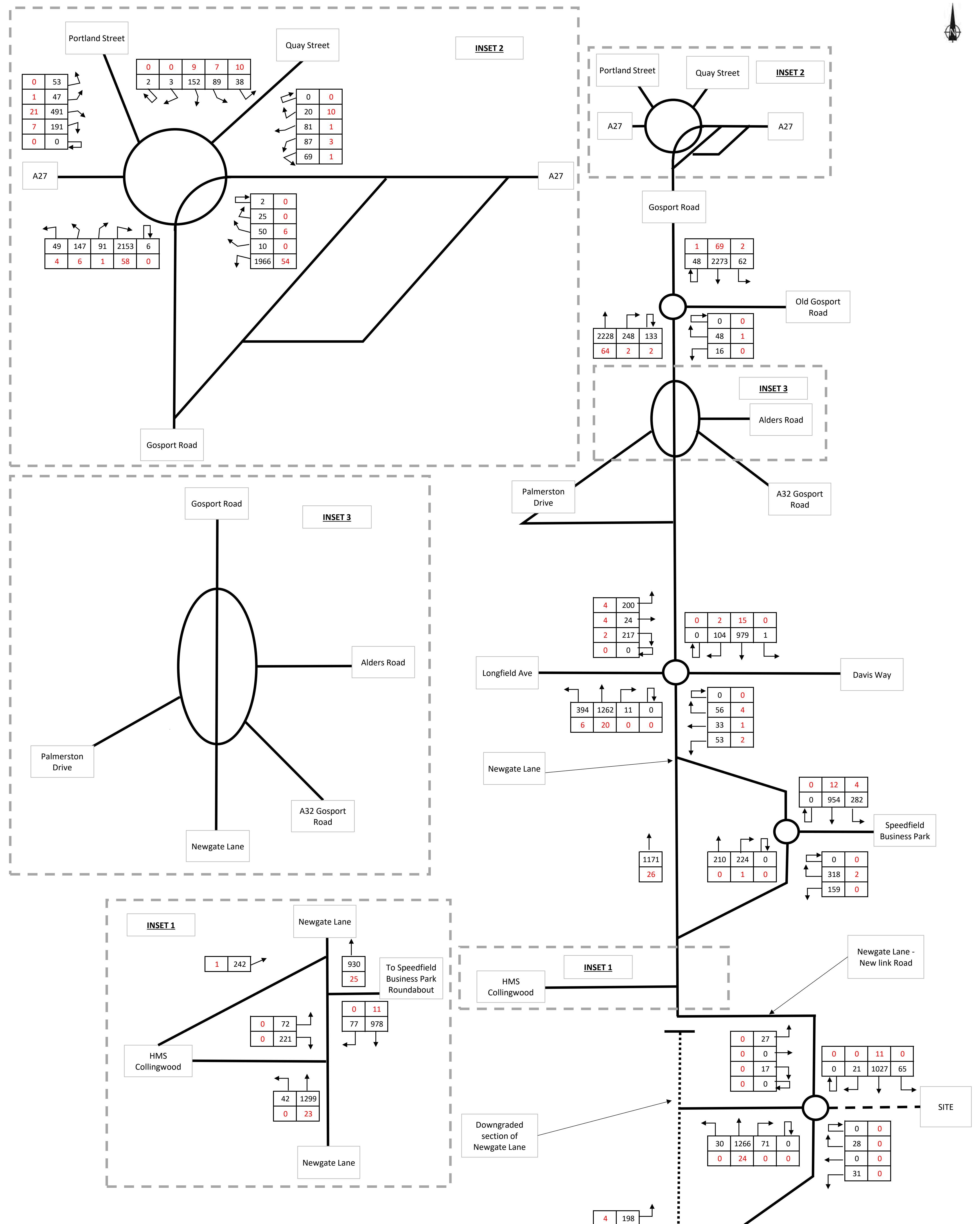
TF34

2037 'With Development' ST Traffic Flows - AM Peak Hour (0745-0845) - DS2

KEY

500 = TOTAL VEHICLES

25 = HGVs



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NEWGATE LANE, FAREHAM

TF35

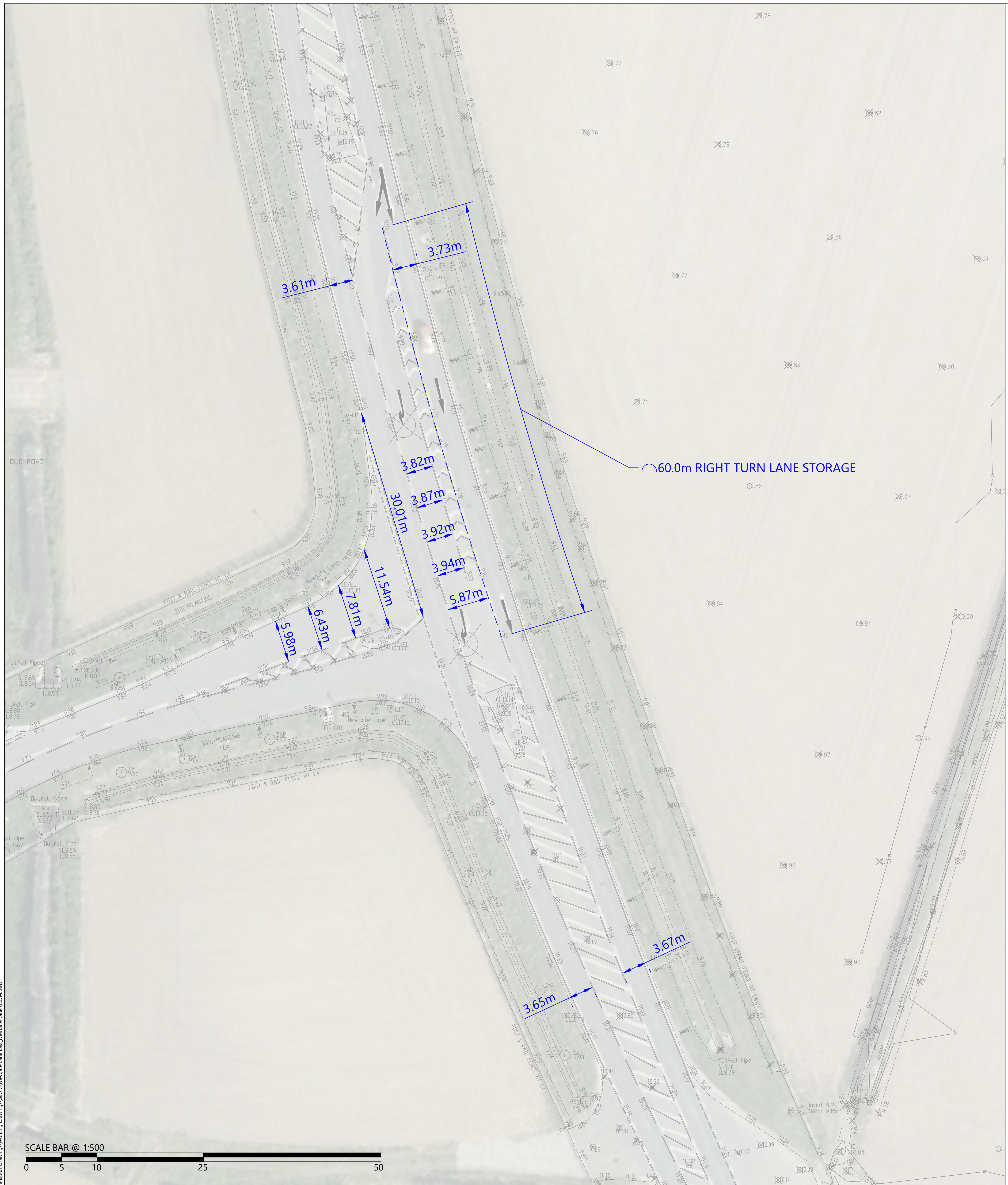
2037 'With Development' ST Traffic Flows - PM Peak Hour (1600-1700) - DS2

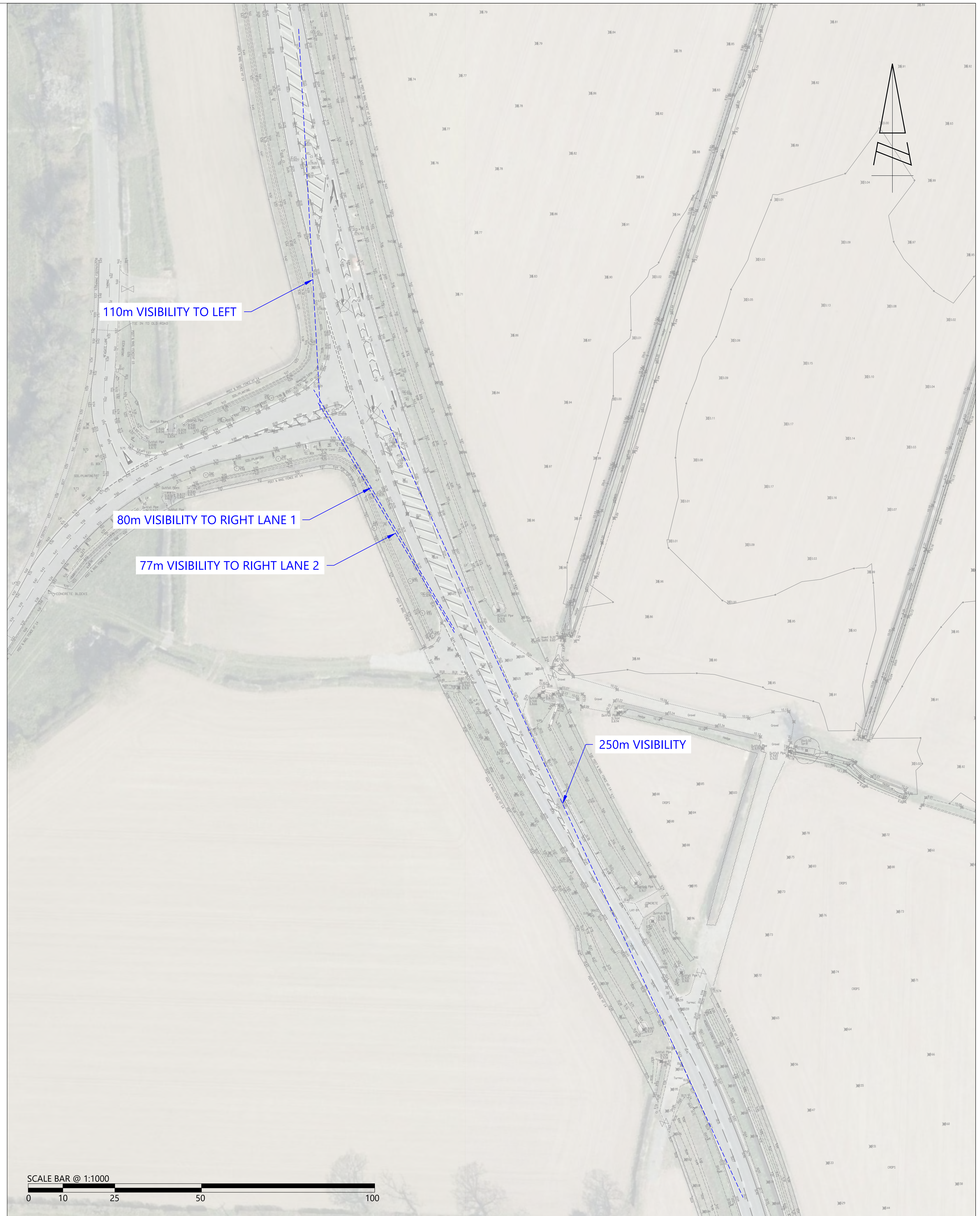
KEY

500 = TOTAL VEHICLES

25 = HGVs

APPENDIX R. Newgate Lane / Newgate Lane East Modelling





DRAWING ISSUED FOR FEASIBILITY CONSIDERATION AND PLANNING PURPOSES ONLY. DRAWING NOT TO BE USED FOR CONSTRUCTION. I-TRANSPORT LLP ACCEPT NO RESPONSIBILITY FOR ERRORS MADE BY OTHERS IN SCALING FROM THIS DRAWING. MEASUREMENTS SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY. CDM REQUIREMENTS CONSIDERED AT FEASIBILITY STAGE ONLY. FURTHER CONSIDERATION REQUIRED BY DETAILED DESIGN TEAM.

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REV	DATE	BY	DESCRIPTION	CHK	APD

STATUS: FOR INFORMATION

TITLE: EXISTING GEOMETRY - BSS85 NEWGATE LANE EAST WITH NEWGATE LANE EAST

PROJECT: LAND EAST OF NEWGATE LANE EAST, FAREHAM

CLIENT: MILLER HOMES AND BARGATE HOMES

DRAWN:	CHECKED:	APPROVED:
MC	MC	TW
PROJECT No: ITB10353	SCALE @ A2: AS SHOWN	DATE: 09.05.22
DRAWING No: ITB10353-GEOM-100		REV: -

Junctions 10

PICADY 10 - Priority Intersection Module

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: Newgate Ln Priority v2 Upd.j10
Path: T:\Projects\10000 Series Project Numbers\10353ITB Newgate Lane, Fareham\Tech\Assessments\Picady\2021 Modelling\190122
Report generation date: 03/08/2022 16:49:42

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	Proposed Layout - Newgate Lane T Junction - 2019 Observed					
Stream B-C	9.4	1406.96	9999999999.00	0.1	9.79	0.05
Stream B-A	14.0	1507.78	9999999999.00	0.6	119.77	0.41
Stream C-AB	0.1	12.44	0.08	0.1	7.17	0.05
	Proposed Layout - Newgate Lane T Junction - 2028 Base + Com (DS2)					
Stream B-C	12.2	1569.37	9999999999.00	0.1	10.84	0.08
Stream B-A	14.7	1570.58	9999999999.00	0.4	75.98	0.29
Stream C-AB	0.1	15.33	0.09	0.1	8.54	0.05
	Proposed Layout - Newgate Lane T Junction - 2037 Base + Com (DS2)					
Stream B-C	13.3	1674.61	9999999999.00	0.1	12.50	0.09
Stream B-A	15.5	1692.02	9999999999.00	0.7	150.09	0.45
Stream C-AB	0.1	17.54	0.11	0.1	8.97	0.05

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	Newgate Lane T Junction
Location	Newgate Lane, Fareham
Site number	
Date	17/08/2015
Version	
Status	Proposed Ghost Island Layout
Identifier	
Client	
Jobnumber	ITB10353
Enumerator	BA
Description	Replica of HCC Model

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	Veh	Veh	perHour	s	-Hour	perHour

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019 Observed	AM	ONE HOUR	07:30	09:00	15	✓
D2	2019 Observed	PM	ONE HOUR	15:45	17:15	15	✓
D3	2028 Base + Com (DS2)	AM	ONE HOUR	07:30	09:00	15	✓
D4	2028 Base + Com (DS2)	PM	ONE HOUR	15:45	17:15	15	✓
D7	2037 Base + Com (DS2)	AM	ONE HOUR	07:30	09:00	15	✓
D8	2037 Base + Com (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Proposed Layout - Newgate Lane T Junction	✓	100.000	100.000

Proposed Layout - Newgate Lane T Junction - 2019 Observed, AM

Data Errors and Warnings

No errors or warnings

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	Newgate Lane / Newgate Link	T-Junction	Two-way	Two-way	Two-way		26.02	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	26.02	D

Arms

Arms

Arm	Name	Description	Arm type
A	Newgate Link (South)		Major
B	Old Newgate Link		Minor
C	Newgate Link South (North)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Newgate Link South (North)	7.33		✓	4.28	250.0	✓	10.00

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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Old Newgate Link	One lane plus flare	10.00	10.00	7.81	6.43	5.98	✓	3.00	110	79

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	625	0.107	0.271	0.171	0.387
B-C	724	0.105	0.264	-	-
C-B	881	0.322	0.322	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019 Observed	AM	ONE HOUR	07:30	09:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Newgate Link (South)		ONE HOUR	✓	1529	100.000
B - Old Newgate Link		ONE HOUR	✓	42	100.000
C - Newgate Link South (North)		ONE HOUR	✓	835	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	20	1509
	B - Old Newgate Link	25	0	17
	C - Newgate Link South (North)	811	24	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	10	2
	B - Old Newgate Link	0	0	12
	C - Newgate Link South (North)	6	4	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	9999999999.00	1406.96	9.4	F	16	23
B-A	9999999999.00	1507.78	14.0	F	23	34
C-AB	0.08	12.44	0.1	B	22	33
C-A					744	1116
A-B					18	28
A-C					1385	2077

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	13	3	362	0.035	13	0.0	0.0	10.294	B
B-A	19	5	191	0.098	18	0.0	0.1	20.759	C
C-AB	18	5	484	0.037	18	0.0	0.0	7.723	A
C-A	611	153			611				
A-B	15	4			15				
A-C	1136	284			1136				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	15	4	301	0.051	15	0.0	0.1	12.612	B
B-A	22	6	107	0.209	22	0.1	0.3	41.882	E
C-AB	22	5	413	0.052	22	0.0	0.1	9.187	A
C-A	729	182			729				
A-B	18	4			18				
A-C	1357	339			1357				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	19	5	0	9999999999.000	0	0.1	4.7	1406.957	F
B-A	28	7	0	9999999999.000	0	0.3	7.1	1507.783	F
C-AB	26	7	316	0.084	26	0.1	0.1	12.429	B
C-A	893	223			893				
A-B	22	6			22				
A-C	1661	415			1661				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	19	5	0	9999999999.000	0	4.7	9.4	585.520	F
B-A	28	7	0	9999999999.000	0	7.1	14.0	-9902.144	?
C-AB	26	7	316	0.084	26	0.1	0.1	12.442	B
C-A	893	223			893				
A-B	22	6			22				
A-C	1661	415			1661				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	15	4	214	0.071	53	9.4	0.1	27.877	D
B-A	22	6	107	0.210	77	14.0	0.3	218.646	F
C-AB	22	5	413	0.052	22	0.1	0.1	9.195	A
C-A	729	182			729				
A-B	18	4			18				
A-C	1357	339			1357				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	13	3	360	0.036	13	0.1	0.0	10.369	B
B-A	19	5	192	0.098	20	0.3	0.1	20.977	C
C-AB	18	5	484	0.037	18	0.1	0.0	7.729	A
C-A	611	153			611				
A-B	15	4			15				
A-C	1136	284			1136				

Proposed Layout - Newgate Lane T Junction - 2019 Observed, PM

Data Errors and Warnings

No errors or warnings

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	Newgate Lane / Newgate Link	T-Junction	Two-way	Two-way	Two-way		1.00	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.00	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)	Run automatically
D2	2019 Observed	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Newgate Link (South)		ONE HOUR	✓	980	100.000
B - Old Newgate Link		ONE HOUR	✓	36	100.000
C - Newgate Link South (North)		ONE HOUR	✓	1447	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	18	962
	B - Old Newgate Link	18	0	18
	C - Newgate Link South (North)	1424	23	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	0	2
	B - Old Newgate Link	0	0	0
	C - Newgate Link South (North)	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.05	9.79	0.1	A	17	25
B-A	0.41	119.77	0.6	F	17	25
C-AB	0.05	7.17	0.1	A	21	32
C-A					1307	1960
A-B					17	25
A-C					883	1324

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	14	3	533	0.025	13	0.0	0.0	6.932	A
B-A	14	3	226	0.060	13	0.0	0.1	16.887	C
C-AB	17	4	639	0.027	17	0.0	0.0	5.786	A
C-A	1072	268			1072				
A-B	14	3			14				
A-C	724	181			724				

16:00 - 16:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	16	4	488	0.033	16	0.0	0.0	7.636	A
B-A	16	4	152	0.107	16	0.1	0.1	26.401	D
C-AB	21	5	592	0.035	21	0.0	0.0	6.295	A
C-A	1280	320			1280				
A-B	16	4			16				
A-C	865	216			865				

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	20	5	396	0.050	20	0.0	0.1	9.565	A
B-A	20	5	49	0.405	18	0.1	0.6	111.443	F
C-AB	25	6	527	0.048	25	0.0	0.1	7.168	A
C-A	1568	392			1568				
A-B	20	5			20				
A-C	1059	265			1059				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	20	5	387	0.051	20	0.1	0.1	9.791	A
B-A	20	5	49	0.402	20	0.6	0.6	119.769	F
C-AB	25	6	527	0.048	25	0.1	0.1	7.168	A
C-A	1568	392			1568				
A-B	20	5			20				
A-C	1059	265			1059				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	16	4	481	0.034	16	0.1	0.0	7.754	A
B-A	16	4	154	0.105	18	0.6	0.1	26.936	D
C-AB	21	5	592	0.035	21	0.1	0.0	6.299	A
C-A	1280	320			1280				
A-B	16	4			16				
A-C	865	216			865				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	14	3	531	0.026	14	0.0	0.0	6.959	A
B-A	14	3	227	0.060	14	0.1	0.1	16.925	C
C-AB	17	4	639	0.027	17	0.0	0.0	5.787	A
C-A	1072	268			1072				
A-B	14	3			14				
A-C	724	181			724				

Proposed Layout - Newgate Lane T Junction - 2028 Base + Com (DS2), AM

Data Errors and Warnings

No errors or warnings

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	Newgate Lane / Newgate Link	T-Junction	Two-way	Two-way	Two-way		31.12	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	31.12	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2028 Base + Com (DS2)	AM	ONE HOUR	07:30	09:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Newgate Link (South)		ONE HOUR	✓	1695	100.000
B - Old Newgate Link		ONE HOUR	✓	48	100.000
C - Newgate Link South (North)		ONE HOUR	✓	747	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	28	1667
	B - Old Newgate Link	26	0	22
	C - Newgate Link South (North)	726	21	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	9	2
	B - Old Newgate Link	0	0	12
	C - Newgate Link South (North)	5	4	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	9999999999.00	1569.37	12.2	F	20	30
B-A	9999999999.00	1570.58	14.7	F	24	36
C-AB	0.09	15.33	0.1	C	19	29
C-A					666	999
A-B					26	39
A-C					1530	2295

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	17	4	339	0.049	16	0.0	0.1	11.153	B
B-A	20	5	168	0.117	19	0.0	0.1	24.107	C
C-AB	16	4	444	0.036	16	0.0	0.0	8.394	A
C-A	547	137			547				
A-B	21	5			21				
A-C	1255	314			1255				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	20	5	267	0.074	20	0.1	0.1	14.560	B
B-A	23	6	82	0.286	22	0.1	0.4	59.923	F
C-AB	19	5	366	0.052	19	0.0	0.1	10.361	B
C-A	653	163			653				
A-B	25	6			25				
A-C	1499	375			1499				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	24	6	0	9999999999.000	0	0.1	6.1	1569.366	F
B-A	29	7	0	9999999999.000	0	0.4	7.5	1570.584	F
C-AB	23	6	258	0.090	23	0.1	0.1	15.308	C
C-A	799	200			799				
A-B	31	8			31				
A-C	1835	459			1835				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	24	6	0	9999999999.000	0	6.1	12.2	-5341.365	?
B-A	29	7	0	9999999999.000	0	7.5	14.7	-6168.559	?
C-AB	23	6	258	0.090	23	0.1	0.1	15.329	C
C-A	799	200			799				
A-B	31	8			31				
A-C	1835	459			1835				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	20	5	67	0.293	62	12.2	1.6	409.084	F
B-A	23	6	81	0.290	76	14.7	1.6	410.539	F
C-AB	19	5	366	0.052	19	0.1	0.1	10.378	B
C-A	653	163			653				
A-B	25	6			25				
A-C	1499	375			1499				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	17	4	336	0.049	23	1.6	0.1	11.684	B
B-A	20	5	167	0.117	26	1.6	0.1	26.373	D
C-AB	16	4	444	0.036	16	0.1	0.0	8.403	A
C-A	547	137			547				
A-B	21	5			21				
A-C	1255	314			1255				

Proposed Layout - Newgate Lane T Junction - 2028 Base + Com (DS2), PM

Data Errors and Warnings

No errors or warnings

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	Newgate Lane / Newgate Link	T-Junction	Two-way	Two-way	Two-way		0.77	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.77	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)	Run automatically
D4	2028 Base + Com (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Newgate Link (South)		ONE HOUR	✓	1212	100.000
B - Old Newgate Link		ONE HOUR	✓	43	100.000
C - Newgate Link South (North)		ONE HOUR	✓	985	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	29	1183
	B - Old Newgate Link	17	0	26
	C - Newgate Link South (North)	965	20	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	0	2
	B - Old Newgate Link	0	0	0
	C - Newgate Link South (North)	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.08	10.84	0.1	B	24	36
B-A	0.29	75.98	0.4	F	16	23
C-AB	0.05	8.54	0.1	A	18	28
C-A					886	1328
A-B					27	40
A-C					1086	1628

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	20	5	506	0.039	19	0.0	0.0	7.402	A
B-A	13	3	230	0.056	13	0.0	0.1	16.523	C
C-AB	15	4	582	0.026	15	0.0	0.0	6.347	A
C-A	727	182			727				
A-B	22	5			22				
A-C	891	223			891				

16:00 - 16:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	6	451	0.052	23	0.0	0.1	8.412	A
B-A	15	4	161	0.095	15	0.1	0.1	24.614	C
C-AB	18	4	524	0.034	18	0.0	0.0	7.113	A
C-A	868	217			868				
A-B	26	7			26				
A-C	1063	266			1063				

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	29	7	364	0.079	29	0.1	0.1	10.735	B
B-A	19	5	66	0.285	18	0.1	0.4	73.759	F
C-AB	22	6	444	0.050	22	0.0	0.1	8.535	A
C-A	1062	266			1062				
A-B	32	8			32				
A-C	1303	326			1303				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	29	7	361	0.079	29	0.1	0.1	10.841	B
B-A	19	5	66	0.284	19	0.4	0.4	75.975	F
C-AB	22	6	444	0.050	22	0.1	0.1	8.536	A
C-A	1062	266			1062				
A-B	32	8			32				
A-C	1303	326			1303				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	6	448	0.052	23	0.1	0.1	8.489	A
B-A	15	4	162	0.094	16	0.4	0.1	24.848	C
C-AB	18	4	524	0.034	18	0.1	0.0	7.114	A
C-A	868	217			868				
A-B	26	7			26				
A-C	1063	266			1063				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	20	5	504	0.039	20	0.1	0.0	7.425	A
B-A	13	3	231	0.056	13	0.1	0.1	16.557	C
C-AB	15	4	582	0.026	15	0.0	0.0	6.351	A
C-A	727	182			727				
A-B	22	5			22				
A-C	891	223			891				

Proposed Layout - Newgate Lane T Junction - 2037 Base + Com (DS2), AM

Data Errors and Warnings

No errors or warnings

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	Newgate Lane / Newgate Link	T-Junction	Two-way	Two-way	Two-way		33.94	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	33.94	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2037 Base + Com (DS2)	AM	ONE HOUR	07:30	09:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Newgate Link (South)		ONE HOUR	✓	1777	100.000
B - Old Newgate Link		ONE HOUR	✓	51	100.000
C - Newgate Link South (North)		ONE HOUR	✓	777	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	29	1748
	B - Old Newgate Link	27	0	24
	C - Newgate Link South (North)	755	22	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	9	2
	B - Old Newgate Link	0	0	12
	C - Newgate Link South (North)	5	4	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	9999999999.00	1674.61	13.3	F	22	33
B-A	9999999999.00	1692.02	15.5	F	25	37
C-AB	0.11	17.54	0.1	C	20	30
C-A					693	1039
A-B					27	40
A-C					1604	2406

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	18	5	324	0.056	18	0.0	0.1	11.753	B
B-A	20	5	147	0.139	20	0.0	0.2	28.263	D
C-AB	17	4	425	0.039	16	0.0	0.0	8.813	A
C-A	568	142			568				
A-B	22	5			22				
A-C	1316	329			1316				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	22	5	238	0.091	21	0.1	0.1	16.633	C
B-A	24	6	57	0.429	22	0.2	0.6	100.806	F
C-AB	20	5	343	0.058	20	0.0	0.1	11.137	B
C-A	679	170			679				
A-B	26	7			26				
A-C	1571	393			1571				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	26	7	0	9999999999.000	0	0.1	6.7	1674.610	F
B-A	30	7	0	9999999999.000	0	0.6	8.1	1692.021	F
C-AB	24	6	229	0.106	24	0.1	0.1	17.507	C
C-A	831	208			831				
A-B	32	8			32				
A-C	1925	481			1925				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	26	7	0	9999999999.000	0	6.7	13.3	-2510.498	?
B-A	30	7	0	9999999999.000	0	8.1	15.5	-2988.872	?
C-AB	24	6	229	0.106	24	0.1	0.1	17.542	C
C-A	831	208			831				
A-B	32	8			32				
A-C	1925	481			1925				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	22	5	49	0.442	45	13.3	7.4	890.607	F
B-A	24	6	56	0.431	53	15.5	8.3	874.028	F
C-AB	20	5	343	0.058	20	0.1	0.1	11.156	B
C-A	679	170			679				
A-B	26	7			26				
A-C	1571	393			1571				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	18	5	303	0.060	47	7.4	0.1	15.753	C
B-A	20	5	146	0.139	53	8.3	0.2	52.600	F
C-AB	17	4	425	0.039	17	0.1	0.0	8.821	A
C-A	568	142			568				
A-B	22	5			22				
A-C	1316	329			1316				

Proposed Layout - Newgate Lane T Junction - 2037 Base + Com (DS2), PM

Data Errors and Warnings

No errors or warnings

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	Newgate Lane / Newgate Link	T-Junction	Two-way	Two-way	Two-way		1.29	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.29	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)	Run automatically
D8	2037 Base + Com (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Newgate Link (South)		ONE HOUR	✓	1265	100.000
B - Old Newgate Link		ONE HOUR	✓	44	100.000
C - Newgate Link South (North)		ONE HOUR	✓	1034	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	30	1235
	B - Old Newgate Link	17	0	27
	C - Newgate Link South (North)	1013	21	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Newgate Link (South)	B - Old Newgate Link	C - Newgate Link South (North)
From	A - Newgate Link (South)	0	0	2
	B - Old Newgate Link	0	0	0
	C - Newgate Link South (North)	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.09	12.50	0.1	B	25	37
B-A	0.45	150.09	0.7	F	16	23
C-AB	0.05	8.97	0.1	A	19	29
C-A					930	1394
A-B					28	41
A-C					1133	1700

Main Results for each time segment

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	20	5	495	0.041	20	0.0	0.0	7.572	A
B-A	13	3	213	0.060	13	0.0	0.1	17.926	C
C-AB	16	4	569	0.028	16	0.0	0.0	6.503	A
C-A	763	191			763				
A-B	23	6			23				
A-C	930	232			930				

16:00 - 16:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	24	6	438	0.055	24	0.0	0.1	8.702	A
B-A	15	4	141	0.108	15	0.1	0.1	28.494	D
C-AB	19	5	508	0.037	19	0.0	0.0	7.353	A
C-A	911	228			911				
A-B	27	7			27				
A-C	1110	278			1110				

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	30	7	328	0.091	30	0.1	0.1	12.048	B
B-A	19	5	42	0.451	17	0.1	0.6	136.195	F
C-AB	23	6	425	0.054	23	0.0	0.1	8.966	A
C-A	1115	279			1115				
A-B	33	8			33				
A-C	1360	340			1360				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	30	7	318	0.094	30	0.1	0.1	12.501	B
B-A	19	5	42	0.447	18	0.6	0.7	150.094	F
C-AB	23	6	425	0.054	23	0.1	0.1	8.967	A
C-A	1115	279			1115				
A-B	33	8			33				
A-C	1360	340			1360				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	24	6	431	0.056	24	0.1	0.1	8.866	A
B-A	15	4	143	0.107	18	0.7	0.1	29.187	D
C-AB	19	5	508	0.037	19	0.1	0.0	7.355	A
C-A	911	228			911				
A-B	27	7			27				
A-C	1110	278			1110				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	20	5	494	0.041	20	0.1	0.0	7.599	A
B-A	13	3	214	0.060	13	0.1	0.1	17.971	C
C-AB	16	4	569	0.028	16	0.0	0.0	6.510	A
C-A	763	191			763				
A-B	23	6			23				
A-C	930	232			930				

APPENDIX S. Site Access Roundabout Modelling

Site Access Traffic Demands - Newgate Lane East - Comparison of ATC (2021) vs MCC (2019)

2019 MCC compared to Southern November 2021 ATC (8319/8320)

	Northbound		Southbound		Total		Difference	
	ATC (2021)	MCC (2019)	ATC (2021)	MCC (2019)	ATC (2021)	MCC (2019)		
0700 - 0800	1631	1353	749	714	2380	2067	87%	
0745 - 0845	-	1529	-	836	-	2365	99%	*To 0700-0800*
							95%	*To 0800-0900*
0800 - 0900	1442	1565	1048	783	2490	2348	94%	
0900 - 1000	1270	1352	933	676	2203	2028	92%	
1600 - 1700	1115	980	1739	1442	2854	2422	85%	
1700 - 1800	935	899	1762	1325	2697	2224	82%	

AM Peak Hour is 0745-0845
Compared to 0700-0800 ATC, MCC Peak Flows are 99%
Compared to 0800-0900 ATC, MCC Peak Flows are 95%

PM Peak Hour is 1600-1700
Compared to 1600-1700 ATC, MCC Peak is 85%

2019 MCC compared to Northern November 2021 ATC (8863/8864)

	Northbound		Southbound		Total		Difference	
	ATC (2021)	MCC (2019)	ATC (2021)	MCC (2019)	ATC (2021)	MCC (2019)		
0700 - 0800	1643	1347	774	713	2417	2060	85%	
0745 - 0845	-	1526	-	835	-	2361	98%	*To 0700-0800*
							94%	*To 0800-0900*
0800 - 0900	1458	1566	1055	781	2513	2347	93%	
0900 - 1000	1276	1361	952	691	2228	2052	92%	
1600 - 1700	1136	980	1739	1447	2875	2427	84%	
1700 - 1800	964	905	1757	1320	2721	2225	82%	

AM Peak Hour is 0745-0845
Compared to 0700-0800 ATC, MCC Peak Flows are 98%
Compared to 0800-0900 ATC, MCC Peak Flows are 94%

PM Peak Hour is 1600-1700
Compared to 1600-1700 ATC, MCC Peak is 84%

Conclusion

The 2021 ATCs were carried out to confirm design speeds not reference flows. These occurred during the construction period of the Stubbington Bypass where significant roadworks and traffic management was ongoing at Peel Common, likely to influence travel patterns.

In the **AM Peak**, the MCC relates well to the ATC, with differences of 1-6%.
TEMPRO Growth between 2019 and 2021 is some 2%, meaning the differences are de-minimus ~2-3%
A Sensitivity Test applying a 5% uplift in mainline flows at the access junction has been applied for robustness

In the **PM Peak**, the MCC is some 15% less than the ATC survey, with applied TEMPRO growth (2019-2021) amounting to 2%.
A Sensitivity Test of 15% uplift on Mainline Flows has been applied for robustness.

Sense check against 2018 ATC

2019 MCC compared to Pegasus October 2018 ATC (8821/8822) (south of Junction)

	Northbound		Southbound		Total		Difference	
	ATC (2018)	MCC (2019)	ATC (2018)	MCC (2019)	ATC (2018)	MCC (2019)		
0700 - 0800	1458	1353	656	714	2114	2067	98%	
0745 - 0845	-	1529	-	836	-	2365	112%	*To 0700-0800*
							114%	*To 0800-0900*
0800 - 0900	1310	1565	759	783	2069	2348	113%	
0900 - 1000	1268	1352	781	676	2049	2028	99%	
1600 - 1700	1011	980	1597	1442	2608	2422	93%	
1700 - 1800	938	899	1656	1325	2594	2224	86%	

AM Peak Hour is 0745-0845
Compared to 0700-0800 ATC, MCC Peak Flows are 112%
Compared to 0800-0900 ATC, MCC Peak Flows are 114%

PM Peak Hour is 1600-1700
Compared to 1600-1700 ATC, MCC Peak is 93%

HCC / SYSTRA Table

Table 1. MCC and ATC Newgate Lane Data Comparison

PEAK PERIOD AND SURVEY DATA COLLECTION METHOD	NEWGATE LANE NB	NEWGATE LANE SB
MCC - AM	1,367	1,179
MCC - PM	1,293	1,512
MCC Total two-way flow	AM – 2,546 PM – 2,805	
ATC- AM	1,643	1,130
ATC - PM	1,128	1,762
ATC Total two-way flow	AM – 2,773 (9% increase on MCC flows) PM – 2,890 (3% increase on MCC flows)	

ATC Analysis uses the summarised peak periods which conflates time periods
MCC figures unknown

Site No: 00008319 Site Reference: 00008319
Newgate Lane East NB
Vehicle Count Report Week Begin: 03-Nov-21 Channel: Northbound

Time	Wed	Thu	Fri	Sat	Sun	Mon	Tue	5-Day	7-Day
Begin	03/11/2021	04/11/2021	05/11/2021	06/11/2021	07/11/2021	08/11/2021	09/11/2021	Av	Av
00:00	22	32	23	62	81	28	16	24	38
01:00	15	13	17	43	65	9	15	14	25
02:00	20	18	23	30	37	16	20	19	23
03:00	28	23	32	27	27	21	30	27	27
04:00	77	76	69	60	29	99	88	82	71
05:00	339	358	311	126	64	346	339	339	269
06:00	1132	1114	986	281	140	1125	1126	1097	843
07:00	1693	1683	1654	462	239	1659	1465	1631	1265
08:00	1494	1383	1358	787	405	1448	1525	1442	1200
09:00	1264	1271	1322	1128	852	1202	1292	1270	1190
10:00	1032	1101	1167	1357	1221	1052	998	1070	1133
11:00	970	1038	1154	1456	1300	1020	979	1032	1131
12:00	951	959	1158	1355	1312	995	937	1000	1095
13:00	1076	988	1177	1266	1245	912	1000	1031	1095
14:00	902	955	1140	1068	948	939	800	947	965
15:00	1067	1064	1262	944	765	1020	1048	1092	1024
16:00	1108	1125	1201	806	660	1038	1105	1115	1006
17:00	930	953	986	709	489	870	938	935	839
18:00	733	812	706	520	379	676	723	730	650
19:00	531	515	578	382	327	507	492	525	476
20:00	305	327	313	290	266	283	325	311	301
21:00	247	234	253	218	147	242	215	238	222
22:00	128	120	178	185	107	116	111	131	135
23:00	66	74	111	97	46	43	73	73	73
12H,7-19	13220	13332	14285	11858	9815	12831	12810	13296	12593
16H,6-22	15435	15522	16415	13029	10695	14988	14968	15466	14436
18H,6-24	15629	15716	16704	13311	10848	15147	15152	15670	14644
24H,0-24	16130	16236	17179	13659	11151	15666	15660	16174	15097
Am	07:00	07:00	07:00	11:00	11:00	07:00	08:00	-	-
Peak	1693	1683	1654	1456	1300	1659	1525	1643	1567
Pm	16:00	16:00	15:00	12:00	12:00	16:00	16:00	-	-
Peak	1108	1125	1262	1355	1312	1038	1105	1128	1186

Site No: 00008320 Site Reference: 00008320
Newgate Lane East SB
Vehicle Count Report Week Begin: 03-Nov-21 Channel: Southbound

Time	Wed	Thu	Fri	Sat	Sun	Mon	Tue	5-Day	7-Day
Begin	03/11/2021	04/11/2021	05/11/2021	06/11/2021	07/11/2021	08/11/2021	09/11/2021	Av	Av
00:00	61	72	86	134	122	61	75	71	87
01:00	25	34	42	64	68	20	31	30	41
02:00	31	21	26	43	54	12	17	21	29
03:00	17	16	24	28	39	12	22	18	23
04:00	22	33	27	37	17	21	18	24	25
05:00	78	82	78	42	28	77	81	79	67
06:00	197	198	202	89	66	180	187	193	160
07:00	791	781	715	229	148	765	692	749	589
08:00	1048	1055	1001	610	305	1103	1035	1048	880
09:00	952	910	977	844	541	870	954	933	864
10:00	965	954	1081	1057	940	990	914	981	986
11:00	1108	1110	1280	1334	1206	1083	1049	1126	1167
12:00	1187	1138	1454	1459	1354	1115	1136	1206	1263
13:00	1127	1160	1505	1304	1318	1142	1105	1208	1237
14:00	1460	1427	1635	1265	1281	1387	1316	1445	1396
15:00	1657	1656	1663	1340	1222	1634	1589	1640	1537
16:00	1719	1726	1731	1225	1020	1767	1751	1739	1563
17:00	1752	1763	1757	1145	674	1789	1748	1762	1518
18:00	1456	1331	1124	785	557	1262	1331	1301	1121
19:00	747	927	756	557	391	670	727	765	682
20:00	574	603	674	435	375	471	559	576	527
21:00	430	380	428	355	245	327	441	401	372
22:00	340	330	402	285	184	275	323	334	306
23:00	128	168	250	201	95	138	155	168	162
12H,7-19	15222	15011	15923	12597	10566	14907	14620	15137	14121
16H,6-22	17170	17119	17983	14033	11643	16555	16534	17072	15862
18H,6-24	17638	17617	18635	14519	11922	16968	17012	17574	16330
24H,0-24	17872	17875	18918	14867	12250	17171	17256	17818	16601
Am	11:00	11:00	11:00	11:00	11:00	08:00	11:00	-	-
Peak	1108	1110	1280	1334	1206	1103	1049	1130	1170
Pm	17:00	17:00	17:00	12:00	12:00	17:00	16:00	-	-
Peak	1752	1763	1757	1459	1354	1789	1751	1762	1661

MCC Recorded Flows - North of junction

Time Period	Northbound	Southbound
0700 - 0800	1347	713
0745 - 0845	1526	835
0800 - 0900	1566	781
0900 - 1000	1361	691
1600 - 1700	980	1447
1700 - 1800	905	1320

MCC Recorded Flows - South of junction

Time Period	Northbound	Southbound
0700 - 0800	1353	714
0745 - 0845	1529	836
0800 - 0900	1565	783
0900 - 1000	1352	676
1600 - 1700	980	1442
1700 - 1800	899	1325

TEMPRO Growth applied in Model

Growth Factors	AM	PM
2019-2021	1.0209	1.0190
	102.1%	101.9%

Junctions 10

ARCADY 10 - Roundabout Module

Filename: Site Access Roundabout v2 % Uplift Upd.j10
Path: T:\Projects\10000 Series Project Numbers\10353ITB Newgate Lane, Fareham\Tech\Assessments\Arcady\2021 Modelling\270622
Report generation date: 27/07/2022 08:36:32

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2028 Base + Com + Dev (DS2)					
1 - Newgate Lane North	0.9	3.51	0.46	2.0	5.59	0.67
2 - Site Access East	0.2	3.66	0.14	0.1	4.17	0.07
3 - Newgate Lane South	4.1	7.54	0.81	1.7	3.89	0.63
4 - Newgate Lane West (Connection)	0.2	11.02	0.14	0.1	5.67	0.07
	2028 Base + Com + Dev - Sens test (DS2)					
1 - Newgate Lane North	0.9	3.55	0.47	2.1	5.73	0.68
2 - Site Access East	0.2	3.69	0.14	0.1	4.22	0.07
3 - Newgate Lane South	4.1	7.54	0.81	1.8	4.04	0.64
4 - Newgate Lane West (Connection)	0.2	11.02	0.14	0.1	5.87	0.07
	2037 Base + Com + Dev (DS2)					
1 - Newgate Lane North	0.9	3.64	0.48	2.3	6.17	0.70
2 - Site Access East	0.2	3.75	0.14	0.1	4.36	0.07
3 - Newgate Lane South	5.3	9.39	0.84	1.9	4.20	0.66
4 - Newgate Lane West (Connection)	0.2	13.43	0.17	0.1	6.07	0.08
	2037 Base + Com + Dev - Sens test (DS2)					
1 - Newgate Lane North	0.9	3.68	0.49	2.4	6.34	0.71
2 - Site Access East	0.2	3.78	0.14	0.1	4.41	0.07
3 - Newgate Lane South	5.3	9.39	0.84	2.0	4.37	0.67
4 - Newgate Lane West (Connection)	0.2	13.43	0.17	0.1	6.29	0.08

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.

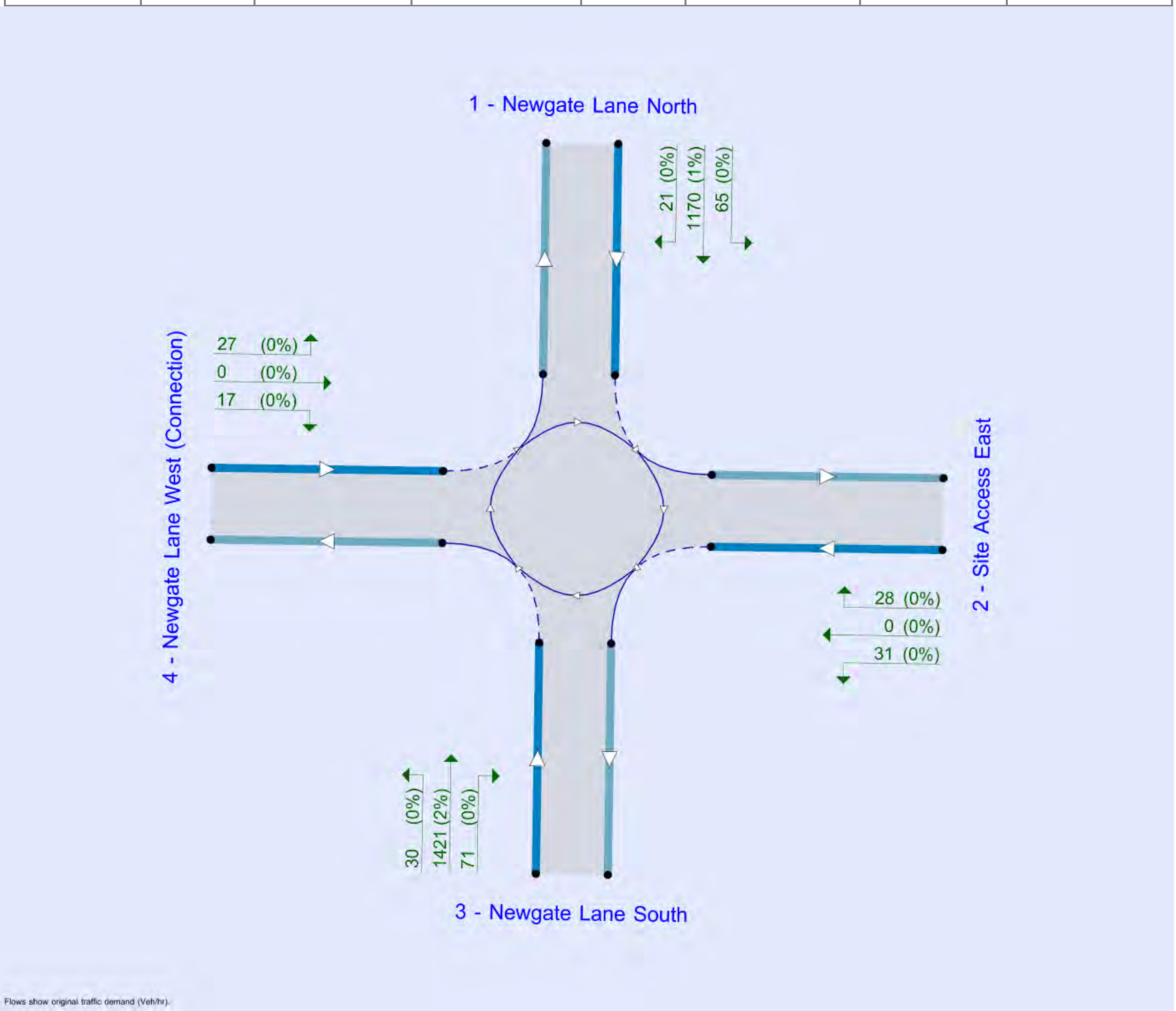
File summary

File Description

Title	Land East of Newgate Lane East, Fareham
Location	T:\Projects\10000 Series Project Numbers\10353ITB Newgate Lane, Fareham\Tech\Assessments\Arcady\2021 Modelling\270622
Site number	1
Date	27/07/2022
Version	10.0.4
Status	Final arrangement
Identifier	1
Client	Miller Homes & Bargate Homes
Jobnumber	ITB10353
Enumerator	I-TRANSPORT\Hotdesk
Description	Site Access Arrangement – Sensitivity Test

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	Veh	Veh	perHour	s	-Hour	perHour



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2028 Base + Com + Dev (DS2)	AM	ONE HOUR	07:45	09:15	15	✓
D2	2028 Base + Com + Dev (DS2)	PM	ONE HOUR	15:45	17:15	15	✓
D3	2028 Base + Com + Dev - Sens test (DS2)	AM	ONE HOUR	07:45	09:15	15	✓
D4	2028 Base + Com + Dev - Sens test (DS2)	PM	ONE HOUR	15:45	17:15	15	✓
D5	2037 Base + Com + Dev (DS2)	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037 Base + Com + Dev (DS2)	PM	ONE HOUR	15:45	17:15	15	✓
D7	2037 Base + Com + Dev - Sens test (DS2)	AM	ONE HOUR	07:45	09:15	15	✓
D8	2037 Base + Com + Dev - Sens test (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

Analysis Set Details

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

2028 Base + Com + Dev (DS2), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	6.23	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.23	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Newgate Lane North		
2	Site Access East		
3	Newgate Lane South		
4	Newgate Lane West (Connection)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Newgate Lane North	3.65	8.25	21.8	25.0	50.0	18.4		
2 - Site Access East	3.00	7.56	16.7	25.0	50.0	19.9		
3 - Newgate Lane South	3.65	9.00	88.0	26.0	50.0	18.6		
4 - Newgate Lane West (Connection)	3.65	7.91	8.7	25.0	50.0	23.7		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Newgate Lane North	0.686	2035
2 - Site Access East	0.625	1720
3 - Newgate Lane South	0.791	2589
4 - Newgate Lane West (Connection)	0.610	1660

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2028 Base + Com + Dev (DS2)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	799	100.000
2 - Site Access East		ONE HOUR	✓	144	100.000
3 - Newgate Lane South		ONE HOUR	✓	1800	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	48	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	24	754	21
	2 - Site Access East	69	0	75	0
	3 - Newgate Lane South	1746	26	0	28
	4 - Newgate Lane West (Connection)	22	0	26	0

Proportions

	To				
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.03	0.94	0.03
	2 - Site Access East	0.48	0.00	0.52	0.00
	3 - Newgate Lane South	0.97	0.01	0.00	0.02
	4 - Newgate Lane West (Connection)	0.46	0.00	0.54	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	5	4
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	9
	4 - Newgate Lane West (Connection)	12	0	0	0

Average PCU Per Veh

	To				
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.050	1.040
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.090
	4 - Newgate Lane West (Connection)	1.120	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	07:45-08:00	602	631
	08:00-08:15	718	753
	08:15-08:30	880	922
	08:30-08:45	880	922
	08:45-09:00	718	753
	09:00-09:15	602	631
2 - Site Access East	07:45-08:00	108	108
	08:00-08:15	129	129
	08:15-08:30	159	159
	08:30-08:45	159	159
	08:45-09:00	129	129
	09:00-09:15	108	108
3 - Newgate Lane South	07:45-08:00	1355	1383
	08:00-08:15	1618	1652
	08:15-08:30	1982	2023
	08:30-08:45	1982	2023
	08:45-09:00	1618	1652

	09:00-09:15	1355	1383
4 - Newgate Lane West (Connection)	07:45-08:00	36	38
	08:00-08:15	43	46
	08:15-08:30	53	56
	08:30-08:45	53	56
	08:45-09:00	43	46
	09:00-09:15	36	38

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.46	3.51	0.9	A	733	1100
2 - Site Access East	0.14	3.66	0.2	A	132	198
3 - Newgate Lane South	0.81	7.54	4.1	A	1652	2478
4 - Newgate Lane West (Connection)	0.14	11.02	0.2	B	44	66

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	602	150	39	1916	0.314	600	1378	0.0	0.5	2.731	A
2 - Site Access East	108	27	601	1326	0.082	108	38	0.0	0.1	2.955	A
3 - Newgate Lane South	1355	339	68	2483	0.546	1350	642	0.0	1.2	3.166	A
4 - Newgate Lane West (Connection)	36	9	1381	760	0.048	36	37	0.0	0.0	4.971	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	718	180	47	1911	0.376	718	1649	0.5	0.6	3.014	A
2 - Site Access East	129	32	719	1249	0.104	129	45	0.1	0.1	3.215	A
3 - Newgate Lane South	1618	405	81	2473	0.654	1615	768	1.2	1.9	4.186	A
4 - Newgate Lane West (Connection)	43	11	1652	600	0.072	43	44	0.0	0.1	6.459	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1 - Newgate Lane North	880	220	57	1904	0.462	879	2014	0.6	0.9	3.506	A
2 - Site Access East	159	40	881	1143	0.139	158	55	0.1	0.2	3.656	A
3 - Newgate Lane South	1982	495	99	2458	0.806	1973	940	1.9	4.0	7.295	A
4 - Newgate Lane West (Connection)	53	13	2019	384	0.137	53	54	0.1	0.2	10.838	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	880	220	57	1904	0.462	880	2022	0.9	0.9	3.513	A
2 - Site Access East	159	40	882	1142	0.139	159	55	0.2	0.2	3.659	A
3 - Newgate Lane South	1982	495	99	2458	0.806	1982	941	4.0	4.1	7.536	A
4 - Newgate Lane West (Connection)	53	13	2027	380	0.139	53	54	0.2	0.2	11.017	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	718	180	47	1911	0.376	719	1660	0.9	0.6	3.025	A
2 - Site Access East	129	32	721	1247	0.104	130	45	0.2	0.1	3.222	A
3 - Newgate Lane South	1618	405	81	2473	0.654	1627	770	4.1	1.9	4.300	A
4 - Newgate Lane West (Connection)	43	11	1664	594	0.073	43	44	0.2	0.1	6.550	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	602	150	39	1916	0.314	602	1386	0.6	0.5	2.742	A
2 - Site Access East	108	27	604	1324	0.082	109	38	0.1	0.1	2.962	A
3 - Newgate Lane South	1355	339	68	2483	0.546	1358	644	1.9	1.2	3.210	A
4 - Newgate Lane West (Connection)	36	9	1389	755	0.048	36	37	0.1	0.1	5.006	A

2028 Base + Com + Dev (DS2), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	4.66	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.66	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)	Run automatically
D2	2028 Base + Com + Dev (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	1187	100.000
2 - Site Access East		ONE HOUR	✓	59	100.000
3 - Newgate Lane South		ONE HOUR	✓	1431	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	43	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	65	1102	20
	2 - Site Access East	28	0	31	0
	3 - Newgate Lane South	1331	71	0	29
	4 - Newgate Lane West (Connection)	26	0	17	0

Proportions

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.05	0.93	0.02
	2 - Site Access East	0.47	0.00	0.53	0.00
	3 - Newgate Lane South	0.93	0.05	0.00	0.02
	4 - Newgate Lane West (Connection)	0.60	0.00	0.40	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	1	0
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	0
	4 - Newgate Lane West (Connection)	0	0	0	0

Average PCU Per Veh

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.010	1.000
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.000
	4 - Newgate Lane West (Connection)	1.000	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	15:45-16:00	894	902
	16:00-16:15	1067	1077
	16:15-16:30	1307	1319
	16:30-16:45	1307	1319
	16:45-17:00	1067	1077
	17:00-17:15	894	902
2 - Site Access East	15:45-16:00	44	44
	16:00-16:15	53	53
	16:15-16:30	65	65
	16:30-16:45	65	65
	16:45-17:00	53	53
	17:00-17:15	44	44
3 - Newgate Lane South	15:45-16:00	1077	1097
	16:00-16:15	1286	1310
	16:15-16:30	1576	1605
	16:30-16:45	1576	1605
	16:45-17:00	1286	1310
	17:00-17:15	1077	1097
4 - Newgate Lane West (Connection)	15:45-16:00	32	32
	16:00-16:15	39	39
	16:15-16:30	47	47
	16:30-16:45	47	47
	16:45-17:00	39	39
	17:00-17:15	32	32

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.67	5.59	2.0	A	1089	1634
2 - Site Access East	0.07	4.17	0.1	A	54	81
3 - Newgate Lane South	0.63	3.89	1.7	A	1313	1970

4 - Newgate Lane West (Connection)	0.07	5.67	0.1	A	39	59

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	894	223	66	1972	0.453	890	1040	0.0	0.8	3.320	A
2 - Site Access East	44	11	854	1181	0.038	44	102	0.0	0.0	3.167	A
3 - Newgate Lane South	1077	269	36	2513	0.429	1074	863	0.0	0.7	2.496	A
4 - Newgate Lane West (Connection)	32	8	1074	993	0.033	32	37	0.0	0.0	3.745	A

16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1067	267	79	1963	0.544	1066	1244	0.8	1.2	4.005	A
2 - Site Access East	53	13	1023	1075	0.049	53	122	0.0	0.1	3.523	A
3 - Newgate Lane South	1286	322	43	2508	0.513	1285	1032	0.7	1.0	2.942	A
4 - Newgate Lane West (Connection)	39	10	1284	862	0.045	39	44	0.0	0.0	4.370	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1307	327	97	1951	0.670	1304	1522	1.2	2.0	5.535	A
2 - Site Access East	65	16	1251	930	0.070	65	149	0.1	0.1	4.159	A
3 - Newgate Lane South	1576	394	53	2500	0.630	1573	1263	1.0	1.7	3.871	A
4 - Newgate Lane West (Connection)	47	12	1572	684	0.069	47	54	0.0	0.1	5.658	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1307	327	97	1951	0.670	1307	1525	2.0	2.0	5.588	A
2 - Site Access East	65	16	1254	928	0.070	65	150	0.1	0.1	4.168	A
3 - Newgate Lane South	1576	394	53	2500	0.630	1576	1266	1.7	1.7	3.892	A

4 - Newgate Lane West (Connection)	47	12	1574	682	0.069	47	54	0.1	0.1	5.672	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1067	267	79	1963	0.544	1070	1248	2.0	1.2	4.049	A
2 - Site Access East	53	13	1027	1072	0.049	53	123	0.1	0.1	3.533	A
3 - Newgate Lane South	1286	322	43	2508	0.513	1289	1037	1.7	1.1	2.961	A
4 - Newgate Lane West (Connection)	39	10	1288	860	0.045	39	44	0.1	0.0	4.386	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	894	223	66	1972	0.453	895	1044	1.2	0.8	3.350	A
2 - Site Access East	44	11	859	1178	0.038	44	103	0.1	0.0	3.178	A
3 - Newgate Lane South	1077	269	36	2513	0.429	1079	867	1.1	0.8	2.512	A
4 - Newgate Lane West (Connection)	32	8	1078	991	0.033	32	37	0.0	0.0	3.759	A

2028 Base + Com + Dev - Sens test (DS2), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	6.23	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.23	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)	Run automatically
D3	2028 Base + Com + Dev - Sens test (DS2)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	810	100.000
2 - Site Access East		ONE HOUR	✓	144	100.000
3 - Newgate Lane South		ONE HOUR	✓	1800	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	48	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	24	765	21
	2 - Site Access East	69	0	75	0
	3 - Newgate Lane South	1746	26	0	28
	4 - Newgate Lane West (Connection)	22	0	26	0

Proportions

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.03	0.94	0.03
	2 - Site Access East	0.48	0.00	0.52	0.00
	3 - Newgate Lane South	0.97	0.01	0.00	0.02
	4 - Newgate Lane West (Connection)	0.46	0.00	0.54	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	5	4
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	9
	4 - Newgate Lane West (Connection)	12	0	0	0

Average PCU Per Veh

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.050	1.040
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.090
	4 - Newgate Lane West (Connection)	1.120	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	07:45-08:00	610	639
	08:00-08:15	728	763
	08:15-08:30	892	935
	08:30-08:45	892	935
	08:45-09:00	728	763
	09:00-09:15	610	639
2 - Site Access East	07:45-08:00	108	108
	08:00-08:15	129	129
	08:15-08:30	159	159
	08:30-08:45	159	159
	08:45-09:00	129	129
	09:00-09:15	108	108
3 - Newgate Lane South	07:45-08:00	1355	1383
	08:00-08:15	1618	1652
	08:15-08:30	1982	2023
	08:30-08:45	1982	2023
	08:45-09:00	1618	1652
	09:00-09:15	1355	1383
4 - Newgate Lane West (Connection)	07:45-08:00	36	38
	08:00-08:15	43	46
	08:15-08:30	53	56
	08:30-08:45	53	56
	08:45-09:00	43	46
	09:00-09:15	36	38

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.47	3.55	0.9	A	743	1115
2 - Site Access East	0.14	3.69	0.2	A	132	198
3 - Newgate Lane South	0.81	7.54	4.1	A	1652	2478
4 - Newgate Lane West (Connection)	0.14	11.02	0.2	B	44	66

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	610	152	39	1916	0.318	608	1378	0.0	0.5	2.748	A
2 - Site Access East	108	27	609	1321	0.082	108	38	0.0	0.1	2.968	A
3 - Newgate Lane South	1355	339	68	2483	0.546	1350	650	0.0	1.2	3.166	A
4 - Newgate Lane West (Connection)	36	9	1381	760	0.048	36	37	0.0	0.0	4.971	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	728	182	47	1911	0.381	728	1649	0.5	0.6	3.040	A
2 - Site Access East	129	32	729	1242	0.104	129	45	0.1	0.1	3.234	A
3 - Newgate Lane South	1618	405	81	2473	0.654	1615	778	1.2	1.9	4.186	A
4 - Newgate Lane West (Connection)	43	11	1652	600	0.072	43	44	0.0	0.1	6.459	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	892	223	57	1904	0.468	891	2014	0.6	0.9	3.549	A
2 - Site Access East	159	40	893	1135	0.140	158	55	0.1	0.2	3.685	A
3 - Newgate Lane South	1982	495	99	2458	0.806	1973	952	1.9	4.0	7.295	A
4 - Newgate Lane West (Connection)	53	13	2019	384	0.137	53	54	0.1	0.2	10.838	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	892	223	57	1904	0.468	892	2022	0.9	0.9	3.555	A
2 - Site Access East	159	40	894	1134	0.140	159	55	0.2	0.2	3.688	A
3 - Newgate Lane South	1982	495	99	2458	0.806	1982	953	4.0	4.1	7.536	A
4 - Newgate Lane West (Connection)	53	13	2027	380	0.139	53	54	0.2	0.2	11.017	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	728	182	47	1911	0.381	729	1660	0.9	0.6	3.051	A
2 - Site Access East	129	32	731	1241	0.104	130	45	0.2	0.1	3.241	A
3 - Newgate Lane South	1618	405	81	2473	0.654	1627	780	4.1	1.9	4.300	A
4 - Newgate Lane West (Connection)	43	11	1664	594	0.073	43	44	0.2	0.1	6.547	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1 - Newgate Lane North	610	152	39	1916	0.318	610	1386	0.6	0.5	2.760	A
2 - Site Access East	108	27	612	1319	0.082	109	38	0.1	0.1	2.975	A
3 - Newgate Lane South	1355	339	68	2483	0.546	1358	653	1.9	1.2	3.207	A
4 - Newgate Lane West (Connection)	36	9	1389	755	0.048	36	37	0.1	0.1	5.007	A

2028 Base + Com + Dev - Sens test (DS2), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	4.80	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.80	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)	Run automatically
D4	2028 Base + Com + Dev - Sens test (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	1201	100.000
2 - Site Access East		ONE HOUR	✓	59	100.000
3 - Newgate Lane South		ONE HOUR	✓	1462	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	43	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	65	1116	20
	2 - Site Access East	28	0	31	0
	3 - Newgate Lane South	1362	71	0	29
	4 - Newgate Lane West (Connection)	26	0	17	0

Proportions

	To				
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.05	0.93	0.02
	2 - Site Access East	0.47	0.00	0.53	0.00
	3 - Newgate Lane South	0.93	0.05	0.00	0.02
	4 - Newgate Lane West (Connection)	0.60	0.00	0.40	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	1	0
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	0
	4 - Newgate Lane West (Connection)	0	0	0	0

Average PCU Per Veh

	To				
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.010	1.000
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.000
	4 - Newgate Lane West (Connection)	1.000	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	15:45-16:00	904	913
	16:00-16:15	1080	1090
	16:15-16:30	1322	1335
	16:30-16:45	1322	1335
	16:45-17:00	1080	1090
	17:00-17:15	904	913
2 - Site Access East	15:45-16:00	44	44
	16:00-16:15	53	53
	16:15-16:30	65	65
	16:30-16:45	65	65
	16:45-17:00	53	53
	17:00-17:15	44	44
3 - Newgate Lane South	15:45-16:00	1101	1121
	16:00-16:15	1314	1339
	16:15-16:30	1610	1640
	16:30-16:45	1610	1640
	16:45-17:00	1314	1339

	17:00-17:15	1101	1121
4 - Newgate Lane West (Connection)	15:45-16:00	32	32
	16:00-16:15	39	39
	16:15-16:30	47	47
	16:30-16:45	47	47
	16:45-17:00	39	39
	17:00-17:15	32	32

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.68	5.73	2.1	A	1102	1653
2 - Site Access East	0.07	4.22	0.1	A	54	81
3 - Newgate Lane South	0.64	4.04	1.8	A	1342	2012
4 - Newgate Lane West (Connection)	0.07	5.87	0.1	A	39	59

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	904	226	66	1972	0.459	901	1063	0.0	0.8	3.353	A
2 - Site Access East	44	11	865	1174	0.038	44	102	0.0	0.0	3.185	A
3 - Newgate Lane South	1101	275	36	2513	0.438	1098	873	0.0	0.8	2.537	A
4 - Newgate Lane West (Connection)	32	8	1097	979	0.033	32	37	0.0	0.0	3.803	A

16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1080	270	79	1963	0.550	1078	1272	0.8	1.2	4.063	A
2 - Site Access East	53	13	1035	1067	0.050	53	122	0.0	0.1	3.550	A
3 - Newgate Lane South	1314	329	43	2508	0.524	1313	1045	0.8	1.1	3.010	A
4 - Newgate Lane West (Connection)	39	10	1312	845	0.046	39	44	0.0	0.0	4.464	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1 - Newgate Lane North	1322	331	97	1951	0.678	1319	1556	1.2	2.1	5.666	A
2 - Site Access East	65	16	1266	921	0.071	65	149	0.1	0.1	4.206	A
3 - Newgate Lane South	1610	402	53	2500	0.644	1607	1278	1.1	1.8	4.018	A
4 - Newgate Lane West (Connection)	47	12	1606	662	0.071	47	54	0.0	0.1	5.852	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1322	331	97	1951	0.678	1322	1559	2.1	2.1	5.726	A
2 - Site Access East	65	16	1269	919	0.071	65	150	0.1	0.1	4.216	A
3 - Newgate Lane South	1610	402	53	2500	0.644	1610	1282	1.8	1.8	4.042	A
4 - Newgate Lane West (Connection)	47	12	1609	661	0.072	47	54	0.1	0.1	5.868	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1080	270	79	1963	0.550	1083	1276	2.1	1.2	4.109	A
2 - Site Access East	53	13	1040	1064	0.050	53	123	0.1	0.1	3.564	A
3 - Newgate Lane South	1314	329	43	2508	0.524	1317	1050	1.8	1.1	3.032	A
4 - Newgate Lane West (Connection)	39	10	1316	842	0.046	39	44	0.1	0.0	4.479	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	904	226	66	1971	0.459	906	1067	1.2	0.9	3.381	A
2 - Site Access East	44	11	870	1171	0.038	44	103	0.1	0.0	3.197	A
3 - Newgate Lane South	1101	275	36	2513	0.438	1102	878	1.1	0.8	2.554	A
4 - Newgate Lane West (Connection)	32	8	1101	976	0.033	32	37	0.0	0.0	3.814	A

2037 Base + Com + Dev (DS2), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	7.52	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.52	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)	Run automatically
D5	2037 Base + Com + Dev (DS2)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	830	100.000
2 - Site Access East		ONE HOUR	✓	144	100.000
3 - Newgate Lane South		ONE HOUR	✓	1886	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	51	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	24	784	22
	2 - Site Access East	69	0	75	0
	3 - Newgate Lane South	1831	26	0	29
	4 - Newgate Lane West (Connection)	24	0	27	0

Proportions

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.03	0.94	0.03
	2 - Site Access East	0.48	0.00	0.52	0.00
	3 - Newgate Lane South	0.97	0.01	0.00	0.02
	4 - Newgate Lane West (Connection)	0.47	0.00	0.53	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	5	4
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	9
	4 - Newgate Lane West (Connection)	12	0	0	0

Average PCU Per Veh

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.050	1.040
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.090
	4 - Newgate Lane West (Connection)	1.120	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	07:45-08:00	625	655
	08:00-08:15	746	782
	08:15-08:30	914	958
	08:30-08:45	914	958
	08:45-09:00	746	782
	09:00-09:15	625	655
2 - Site Access East	07:45-08:00	108	108
	08:00-08:15	129	129
	08:15-08:30	159	159
	08:30-08:45	159	159
	08:45-09:00	129	129
	09:00-09:15	108	108
3 - Newgate Lane South	07:45-08:00	1420	1449
	08:00-08:15	1695	1731
	08:15-08:30	2077	2120
	08:30-08:45	2077	2120
	08:45-09:00	1695	1731
	09:00-09:15	1420	1449
4 - Newgate Lane West (Connection)	07:45-08:00	38	41
	08:00-08:15	46	48
	08:15-08:30	56	59
	08:30-08:45	56	59
	08:45-09:00	46	48
	09:00-09:15	38	41

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.48	3.64	0.9	A	762	1142
2 - Site Access East	0.14	3.75	0.2	A	132	198
3 - Newgate Lane South	0.84	9.39	5.3	A	1731	2596

4 - Newgate Lane West (Connection)	0.17	13.43	0.2	B	47	70

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	625	156	40	1916	0.326	623	1443	0.0	0.5	2.782	A
2 - Site Access East	108	27	625	1310	0.083	108	38	0.0	0.1	2.994	A
3 - Newgate Lane South	1420	355	68	2482	0.572	1415	665	0.0	1.3	3.355	A
4 - Newgate Lane West (Connection)	38	10	1445	722	0.053	38	38	0.0	0.1	5.267	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	746	187	48	1910	0.391	746	1726	0.5	0.6	3.088	A
2 - Site Access East	129	32	748	1230	0.105	129	45	0.1	0.1	3.270	A
3 - Newgate Lane South	1695	424	82	2472	0.686	1692	796	1.3	2.1	4.598	A
4 - Newgate Lane West (Connection)	46	11	1728	555	0.083	46	46	0.1	0.1	7.071	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	914	228	58	1904	0.480	913	2107	0.6	0.9	3.630	A
2 - Site Access East	159	40	916	1120	0.142	158	55	0.1	0.2	3.743	A
3 - Newgate Lane South	2077	519	100	2458	0.845	2065	974	2.1	5.1	8.901	A
4 - Newgate Lane West (Connection)	56	14	2109	331	0.170	56	56	0.1	0.2	13.070	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	914	228	58	1903	0.480	914	2118	0.9	0.9	3.637	A
2 - Site Access East	159	40	917	1119	0.142	159	55	0.2	0.2	3.746	A
3 - Newgate Lane South	2077	519	100	2457	0.845	2076	975	5.1	5.3	9.394	A

4 - Newgate Lane West (Connection)	56	14	2120	324	0.173	56	56	0.2	0.2	13.432	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	746	187	48	1910	0.391	747	1742	0.9	0.6	3.098	A
2 - Site Access East	129	32	750	1228	0.105	130	45	0.2	0.1	3.275	A
3 - Newgate Lane South	1695	424	82	2472	0.686	1708	798	5.3	2.2	4.784	A
4 - Newgate Lane West (Connection)	46	11	1744	546	0.084	46	46	0.2	0.1	7.218	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	625	156	40	1915	0.326	625	1452	0.6	0.5	2.793	A
2 - Site Access East	108	27	628	1309	0.083	109	38	0.1	0.1	3.001	A
3 - Newgate Lane South	1420	355	69	2482	0.572	1423	668	2.2	1.3	3.410	A
4 - Newgate Lane West (Connection)	38	10	1453	716	0.054	39	38	0.1	0.1	5.312	A

2037 Base + Com + Dev (DS2), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	5.09	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.09	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)	Run automatically

D6	2037 Base + Com + Dev (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	1242	100.000
2 - Site Access East		ONE HOUR	✓	59	100.000
3 - Newgate Lane South		ONE HOUR	✓	1491	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	44	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	65	1156	21
	2 - Site Access East	28	0	31	0
	3 - Newgate Lane South	1390	71	0	30
	4 - Newgate Lane West (Connection)	27	0	17	0

Proportions

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.05	0.93	0.02
	2 - Site Access East	0.47	0.00	0.53	0.00
	3 - Newgate Lane South	0.93	0.05	0.00	0.02
	4 - Newgate Lane West (Connection)	0.61	0.00	0.39	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	1	0
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	0
	4 - Newgate Lane West (Connection)	0	0	0	0

Average PCU Per Veh

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.010	1.000
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.000
	4 - Newgate Lane West (Connection)	1.000	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	15:45-16:00	935	944
	16:00-16:15	1117	1127

	16:15-16:30	1367	1380
	16:30-16:45	1367	1380
	16:45-17:00	1117	1127
	17:00-17:15	935	944
2 - Site Access East	15:45-16:00	44	44
	16:00-16:15	53	53
	16:15-16:30	65	65
	16:30-16:45	65	65
	16:45-17:00	53	53
	17:00-17:15	44	44
3 - Newgate Lane South	15:45-16:00	1123	1143
	16:00-16:15	1340	1365
	16:15-16:30	1642	1672
	16:30-16:45	1642	1672
	16:45-17:00	1340	1365
	17:00-17:15	1123	1143
4 - Newgate Lane West (Connection)	15:45-16:00	33	33
	16:00-16:15	40	40
	16:15-16:30	48	48
	16:30-16:45	48	48
	16:45-17:00	40	40
	17:00-17:15	33	33

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.70	6.17	2.3	A	1140	1710
2 - Site Access East	0.07	4.36	0.1	A	54	81
3 - Newgate Lane South	0.66	4.20	1.9	A	1368	2052
4 - Newgate Lane West (Connection)	0.08	6.07	0.1	A	40	61

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	935	234	66	1972	0.474	931	1085	0.0	0.9	3.450	A
2 - Site Access East	44	11	895	1155	0.038	44	102	0.0	0.0	3.241	A
3 - Newgate Lane South	1122	281	37	2513	0.447	1119	903	0.0	0.8	2.578	A
4 - Newgate Lane West (Connection)	33	8	1118	966	0.034	33	38	0.0	0.0	3.860	A

16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1117	279	79	1963	0.569	1115	1298	0.9	1.3	4.239	A
2 - Site Access East	53	13	1072	1043	0.051	53	122	0.0	0.1	3.633	A
3 - Newgate Lane South	1340	335	44	2507	0.535	1339	1081	0.8	1.1	3.080	A
4 - Newgate Lane West (Connection)	40	10	1337	829	0.048	39	46	0.0	0.0	4.558	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1367	342	97	1951	0.701	1364	1588	1.3	2.3	6.088	A
2 - Site Access East	65	16	1311	893	0.073	65	149	0.1	0.1	4.349	A
3 - Newgate Lane South	1642	410	54	2499	0.657	1639	1322	1.1	1.9	4.168	A
4 - Newgate Lane West (Connection)	48	12	1636	643	0.075	48	56	0.0	0.1	6.048	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1367	342	97	1951	0.701	1367	1591	2.3	2.3	6.169	A
2 - Site Access East	65	16	1315	890	0.073	65	150	0.1	0.1	4.361	A
3 - Newgate Lane South	1642	410	54	2499	0.657	1642	1326	1.9	1.9	4.196	A
4 - Newgate Lane West (Connection)	48	12	1639	642	0.076	48	56	0.1	0.1	6.069	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1117	279	79	1963	0.569	1120	1302	2.3	1.3	4.294	A
2 - Site Access East	53	13	1077	1040	0.051	53	123	0.1	0.1	3.647	A
3 - Newgate Lane South	1340	335	44	2507	0.535	1343	1086	1.9	1.2	3.103	A
4 - Newgate Lane West (Connection)	40	10	1342	827	0.048	40	46	0.1	0.1	4.574	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	935	234	66	1971	0.474	937	1089	1.3	0.9	3.484	A

2 - Site Access East	44	11	901	1152	0.039	44	103	0.1	0.0	3.251	A
3 - Newgate Lane South	1122	281	37	2513	0.447	1124	908	1.2	0.8	2.594	A
4 - Newgate Lane West (Connection)	33	8	1122	963	0.034	33	38	0.1	0.0	3.872	A

2037 Base + Com + Dev - Sens test (DS2), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	7.52	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.52	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)	Run automatically
D7	2037 Base + Com + Dev - Sens test (DS2)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	841	100.000
2 - Site Access East		ONE HOUR	✓	144	100.000
3 - Newgate Lane South		ONE HOUR	✓	1886	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	51	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0	24	795	22
	2 - Site Access East	69	0	75	0
	3 - Newgate Lane South	1831	26	0	29
	4 - Newgate Lane West (Connection)	24	0	27	0

Proportions

		To			
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0.00	0.03	0.95	0.03
	2 - Site Access East	0.48	0.00	0.52	0.00
	3 - Newgate Lane South	0.97	0.01	0.00	0.02
	4 - Newgate Lane West (Connection)	0.47	0.00	0.53	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0	0	5	4
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	9
	4 - Newgate Lane West (Connection)	12	0	0	0

Average PCU Per Veh

		To			
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	1.000	1.000	1.050	1.040
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.090
	4 - Newgate Lane West (Connection)	1.120	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	07:45-08:00	633	664
	08:00-08:15	756	793
	08:15-08:30	926	971
	08:30-08:45	926	971
	08:45-09:00	756	793
	09:00-09:15	633	664
2 - Site Access East	07:45-08:00	108	108
	08:00-08:15	129	129
	08:15-08:30	159	159
	08:30-08:45	159	159
	08:45-09:00	129	129
	09:00-09:15	108	108
3 - Newgate Lane South	07:45-08:00	1420	1449
	08:00-08:15	1695	1731
	08:15-08:30	2077	2120
	08:30-08:45	2077	2120
	08:45-09:00	1695	1731

	09:00-09:15	1420	1449
4 - Newgate Lane West (Connection)	07:45-08:00	38	41
	08:00-08:15	46	48
	08:15-08:30	56	59
	08:30-08:45	56	59
	08:45-09:00	46	48
	09:00-09:15	38	41

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.49	3.68	0.9	A	772	1158
2 - Site Access East	0.14	3.78	0.2	A	132	198
3 - Newgate Lane South	0.84	9.39	5.3	A	1731	2596
4 - Newgate Lane West (Connection)	0.17	13.43	0.2	B	47	70

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	633	158	40	1916	0.331	631	1443	0.0	0.5	2.800	A
2 - Site Access East	108	27	633	1305	0.083	108	38	0.0	0.1	3.007	A
3 - Newgate Lane South	1420	355	68	2482	0.572	1415	673	0.0	1.3	3.355	A
4 - Newgate Lane West (Connection)	38	10	1445	722	0.053	38	38	0.0	0.1	5.267	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	756	189	48	1910	0.396	755	1726	0.5	0.7	3.115	A
2 - Site Access East	129	32	758	1223	0.106	129	45	0.1	0.1	3.290	A
3 - Newgate Lane South	1695	424	82	2472	0.686	1692	806	1.3	2.1	4.598	A
4 - Newgate Lane West (Connection)	46	11	1728	555	0.083	46	46	0.1	0.1	7.071	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1 - Newgate Lane North	926	231	58	1904	0.486	925	2107	0.7	0.9	3.672	A
2 - Site Access East	159	40	928	1112	0.143	158	55	0.1	0.2	3.774	A
3 - Newgate Lane South	2077	519	100	2458	0.845	2065	986	2.1	5.1	8.901	A
4 - Newgate Lane West (Connection)	56	14	2109	331	0.170	56	56	0.1	0.2	13.070	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	926	231	58	1903	0.486	926	2118	0.9	0.9	3.682	A
2 - Site Access East	159	40	929	1111	0.143	159	55	0.2	0.2	3.778	A
3 - Newgate Lane South	2077	519	100	2457	0.845	2076	988	5.1	5.3	9.394	A
4 - Newgate Lane West (Connection)	56	14	2120	324	0.173	56	56	0.2	0.2	13.432	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	756	189	48	1910	0.396	757	1742	0.9	0.7	3.124	A
2 - Site Access East	129	32	760	1222	0.106	130	45	0.2	0.1	3.298	A
3 - Newgate Lane South	1695	424	82	2472	0.686	1708	808	5.3	2.2	4.784	A
4 - Newgate Lane West (Connection)	46	11	1744	546	0.084	46	46	0.2	0.1	7.218	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	633	158	40	1915	0.331	634	1452	0.7	0.5	2.812	A
2 - Site Access East	108	27	636	1303	0.083	109	38	0.1	0.1	3.015	A
3 - Newgate Lane South	1420	355	69	2482	0.572	1423	676	2.2	1.3	3.410	A
4 - Newgate Lane West (Connection)	38	10	1453	716	0.054	39	38	0.1	0.1	5.314	A

2037 Base + Com + Dev - Sens test (DS2), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South -	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

		Roundabout Geometry	

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	5.25	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.25	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)	Run automatically
D8	2037 Base + Com + Dev - Sens test (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	1256	100.000
2 - Site Access East		ONE HOUR	✓	59	100.000
3 - Newgate Lane South		ONE HOUR	✓	1522	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	44	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	65	1170	21
	2 - Site Access East	28	0	31	0
	3 - Newgate Lane South	1421	71	0	30
	4 - Newgate Lane West (Connection)	27	0	17	0

Proportions

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.05	0.93	0.02
	2 - Site Access East	0.47	0.00	0.53	0.00
	3 - Newgate Lane South	0.93	0.05	0.00	0.02
	4 - Newgate Lane West (Connection)	0.61	0.00	0.39	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	1	0
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	0
	4 - Newgate Lane West (Connection)	0	0	0	0

Average PCU Per Veh

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.010	1.000
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.000
	4 - Newgate Lane West (Connection)	1.000	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	15:45-16:00	946	954
	16:00-16:15	1129	1140
	16:15-16:30	1383	1396
	16:30-16:45	1383	1396
	16:45-17:00	1129	1140
	17:00-17:15	946	954
2 - Site Access East	15:45-16:00	44	44
	16:00-16:15	53	53
	16:15-16:30	65	65
	16:30-16:45	65	65
	16:45-17:00	53	53
	17:00-17:15	44	44
3 - Newgate Lane South	15:45-16:00	1146	1167
	16:00-16:15	1368	1394
	16:15-16:30	1676	1707
	16:30-16:45	1676	1707
	16:45-17:00	1368	1394
	17:00-17:15	1146	1167
4 - Newgate Lane West (Connection)	15:45-16:00	33	33
	16:00-16:15	40	40
	16:15-16:30	48	48
	16:30-16:45	48	48
	16:45-17:00	40	40
	17:00-17:15	33	33

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.71	6.34	2.4	A	1153	1729
2 - Site Access East	0.07	4.41	0.1	A	54	81
3 - Newgate Lane South	0.67	4.37	2.0	A	1397	2095

4 - Newgate Lane West (Connection)	0.08	6.29	0.1	A	40	61

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	946	236	66	1972	0.480	942	1108	0.0	0.9	3.485	A
2 - Site Access East	44	11	906	1148	0.039	44	102	0.0	0.0	3.260	A
3 - Newgate Lane South	1146	286	37	2513	0.456	1143	913	0.0	0.8	2.621	A
4 - Newgate Lane West (Connection)	33	8	1141	951	0.035	33	38	0.0	0.0	3.920	A

16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1129	282	79	1963	0.575	1127	1325	0.9	1.3	4.300	A
2 - Site Access East	53	13	1084	1036	0.051	53	122	0.0	0.1	3.663	A
3 - Newgate Lane South	1368	342	44	2507	0.546	1367	1093	0.8	1.2	3.153	A
4 - Newgate Lane West (Connection)	40	10	1365	812	0.049	39	46	0.0	0.1	4.660	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1383	346	97	1951	0.709	1379	1622	1.3	2.4	6.246	A
2 - Site Access East	65	16	1326	883	0.074	65	149	0.1	0.1	4.400	A
3 - Newgate Lane South	1676	419	54	2499	0.670	1673	1337	1.2	2.0	4.336	A
4 - Newgate Lane West (Connection)	48	12	1670	622	0.078	48	56	0.1	0.1	6.270	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1383	346	97	1951	0.709	1383	1625	2.4	2.4	6.337	A
2 - Site Access East	65	16	1330	881	0.074	65	150	0.1	0.1	4.413	A
3 - Newgate Lane South	1676	419	54	2499	0.670	1676	1341	2.0	2.0	4.371	A

4 - Newgate Lane West (Connection)	48	12	1673	620	0.078	48	56	0.1	0.1	6.294	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1129	282	79	1963	0.575	1133	1330	2.4	1.4	4.361	A
2 - Site Access East	53	13	1090	1032	0.051	53	123	0.1	0.1	3.680	A
3 - Newgate Lane South	1368	342	44	2507	0.546	1371	1099	2.0	1.2	3.178	A
4 - Newgate Lane West (Connection)	40	10	1370	809	0.049	40	46	0.1	0.1	4.680	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	946	236	66	1971	0.480	947	1113	1.4	0.9	3.523	A
2 - Site Access East	44	11	911	1145	0.039	44	103	0.1	0.0	3.273	A
3 - Newgate Lane South	1146	286	37	2512	0.456	1147	919	1.2	0.8	2.639	A
4 - Newgate Lane West (Connection)	33	8	1146	948	0.035	33	38	0.1	0.0	3.934	A

Junctions 10

ARCADY 10 - Roundabout Module

Version: 10.0.4.1693

Filename: Site Access Roundabout v2 Upd.j10
Path: T:\Projects\10000 Series Project Numbers\10353ITB Newgate Lane, Fareham\Tech\Assessments\Arcady\2021 Modelling\270622
Report generation date: 27/07/2022 10:26:42

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2028 Base + Com + Dev (DS2)					
1 - Newgate Lane North	0.8	3.41	0.45	1.4	4.53	0.59
2 - Site Access East	0.2	3.58	0.14	0.1	3.75	0.06
3 - Newgate Lane South	3.3	6.38	0.77	1.3	3.31	0.56
4 - Newgate Lane West (Connection)	0.1	9.52	0.12	0.1	4.89	0.06
	2028 Base + Com + Dev - Sens test (DS2)					
1 - Newgate Lane North	0.8	3.45	0.45	1.5	4.62	0.60
2 - Site Access East	0.2	3.61	0.14	0.1	3.79	0.06
3 - Newgate Lane South	3.3	6.38	0.77	1.4	3.41	0.58
4 - Newgate Lane West (Connection)	0.1	9.52	0.12	0.1	5.04	0.06
	2037 Base + Com + Dev (DS2)					
1 - Newgate Lane North	0.9	3.52	0.46	1.6	4.86	0.62
2 - Site Access East	0.2	3.67	0.14	0.1	3.89	0.07
3 - Newgate Lane South	4.1	7.60	0.81	1.4	3.50	0.59
4 - Newgate Lane West (Connection)	0.2	11.19	0.15	0.1	5.15	0.06
	2037 Base + Com + Dev - Sens test (DS2)					
1 - Newgate Lane North	0.9	3.57	0.47	1.7	4.96	0.63
2 - Site Access East	0.2	3.70	0.14	0.1	3.93	0.07
3 - Newgate Lane South	4.1	7.60	0.81	1.5	3.62	0.60
4 - Newgate Lane West (Connection)	0.2	11.19	0.15	0.1	5.31	0.07

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.

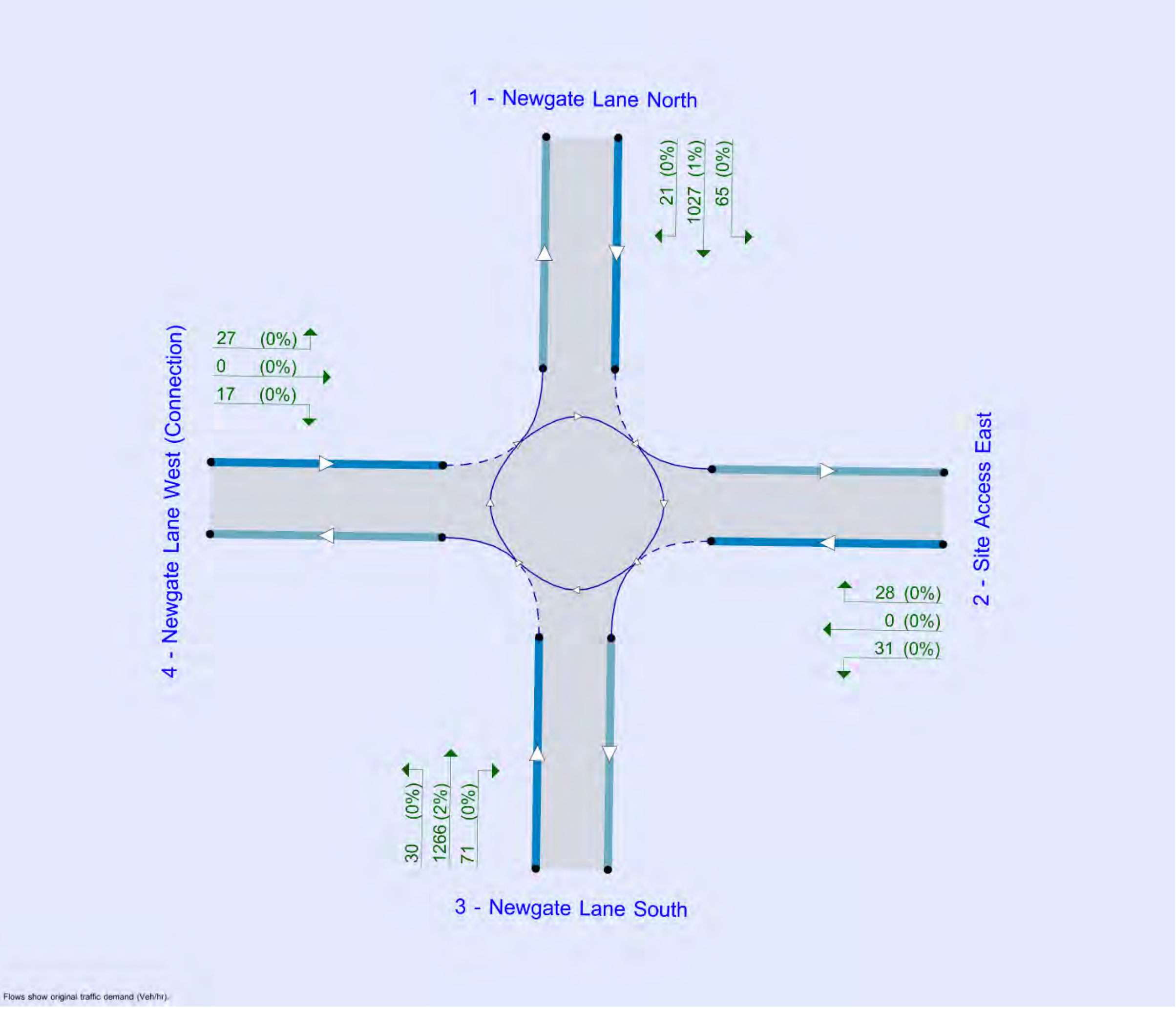
File summary

File Description

Title	Land East of Newgate Lane East, Fareham
Location	T:\Projects\10000 Series Project Numbers\10353ITB Newgate Lane, Fareham\Tech\Assessments\Arcady\2021 Modelling\270622
Site number	1
Date	27/07/2022
Version	10.0.4
Status	Final arrangement
Identifier	1
Client	Miller Homes & Bargate Homes
Jobnumber	ITB10353
Enumerator	I-TRANSPORT\Hotdesk
Description	Site Access Arrangement

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	Veh	Veh	perHour	s	-Hour	perHour



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2028 Base + Com + Dev (DS2)	AM	ONE HOUR	07:45	09:15	15	✓
D2	2028 Base + Com + Dev (DS2)	PM	ONE HOUR	15:45	17:15	15	✓
D3	2028 Base + Com + Dev - Sens test (DS2)	AM	ONE HOUR	07:45	09:15	15	✓
D4	2028 Base + Com + Dev - Sens test (DS2)	PM	ONE HOUR	15:45	17:15	15	✓
D5	2037 Base + Com + Dev (DS2)	AM	ONE HOUR	07:45	09:15	15	✓
D6	2037 Base + Com + Dev (DS2)	PM	ONE HOUR	15:45	17:15	15	✓
D7	2037 Base + Com + Dev - Sens test (DS2)	AM	ONE HOUR	07:45	09:15	15	✓
D8	2037 Base + Com + Dev - Sens test (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

Analysis Set Details

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

2028 Base + Com + Dev (DS2), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	5.42	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.42	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Newgate Lane North		
2	Site Access East		
3	Newgate Lane South		
4	Newgate Lane West (Connection)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Newgate Lane North	3.65	8.25	21.8	25.0	50.0	18.4		
2 - Site Access East	3.00	7.56	16.7	25.0	50.0	19.9		
3 - Newgate Lane South	3.65	9.00	88.0	26.0	50.0	18.6		
4 - Newgate Lane West (Connection)	3.65	7.91	8.7	25.0	50.0	23.7		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Newgate Lane North	0.686	2035
2 - Site Access East	0.625	1720
3 - Newgate Lane South	0.791	2589
4 - Newgate Lane West (Connection)	0.610	1660

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2028 Base + Com + Dev (DS2)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	771	100.000
2 - Site Access East		ONE HOUR	✓	144	100.000
3 - Newgate Lane South		ONE HOUR	✓	1721	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	48	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0	24	726	21
	2 - Site Access East	69	0	75	0
	3 - Newgate Lane South	1667	26	0	28
	4 - Newgate Lane West (Connection)	22	0	26	0

Proportions

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0.00	0.03	0.94	0.03
	2 - Site Access East	0.48	0.00	0.52	0.00
	3 - Newgate Lane South	0.97	0.02	0.00	0.02
	4 - Newgate Lane West (Connection)	0.46	0.00	0.54	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0	0	5	4
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	9
	4 - Newgate Lane West (Connection)	12	0	0	0

Average PCU Per Veh

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	1.000	1.000	1.050	1.040
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.090
	4 - Newgate Lane West (Connection)	1.120	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	07:45-08:00	580	608
	08:00-08:15	693	727
	08:15-08:30	849	890
	08:30-08:45	849	890
	08:45-09:00	693	727
	09:00-09:15	580	608
2 - Site Access East	07:45-08:00	108	108
	08:00-08:15	129	129
	08:15-08:30	159	159
	08:30-08:45	159	159
	08:45-09:00	129	129
	09:00-09:15	108	108
3 - Newgate Lane South	07:45-08:00	1296	1323
	08:00-08:15	1547	1579
	08:15-08:30	1895	1934
	08:30-08:45	1895	1934
	08:45-09:00	1547	1579

	09:00-09:15	1296	1323
4 - Newgate Lane West (Connection)	07:45-08:00	36	38
	08:00-08:15	43	46
	08:15-08:30	53	56
	08:30-08:45	53	56
	08:45-09:00	43	46
	09:00-09:15	36	38

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.45	3.41	0.8	A	707	1061
2 - Site Access East	0.14	3.58	0.2	A	132	198
3 - Newgate Lane South	0.77	6.38	3.3	A	1579	2369
4 - Newgate Lane West (Connection)	0.12	9.52	0.1	A	44	66

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	580	145	39	1916	0.303	579	1319	0.0	0.4	2.688	A
2 - Site Access East	108	27	580	1340	0.081	108	38	0.0	0.1	2.922	A
3 - Newgate Lane South	1296	324	68	2483	0.522	1291	621	0.0	1.1	3.010	A
4 - Newgate Lane West (Connection)	36	9	1322	795	0.045	36	37	0.0	0.0	4.742	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	693	173	47	1911	0.363	693	1578	0.4	0.6	2.952	A
2 - Site Access East	129	32	694	1265	0.102	129	45	0.1	0.1	3.169	A
3 - Newgate Lane South	1547	387	81	2473	0.626	1545	743	1.1	1.7	3.871	A
4 - Newgate Lane West (Connection)	43	11	1582	642	0.067	43	44	0.0	0.1	6.012	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1 - Newgate Lane North	849	212	57	1904	0.446	848	1929	0.6	0.8	3.404	A
2 - Site Access East	159	40	850	1163	0.136	158	55	0.1	0.2	3.582	A
3 - Newgate Lane South	1895	474	99	2458	0.771	1888	909	1.7	3.3	6.245	A
4 - Newgate Lane West (Connection)	53	13	1934	434	0.122	53	54	0.1	0.1	9.419	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	849	212	57	1904	0.446	849	1935	0.8	0.8	3.410	A
2 - Site Access East	159	40	851	1162	0.136	159	55	0.2	0.2	3.585	A
3 - Newgate Lane South	1895	474	99	2458	0.771	1895	911	3.3	3.3	6.381	A
4 - Newgate Lane West (Connection)	53	13	1940	431	0.123	53	54	0.1	0.1	9.524	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	693	173	47	1911	0.363	694	1587	0.8	0.6	2.959	A
2 - Site Access East	129	32	696	1264	0.102	130	45	0.2	0.1	3.175	A
3 - Newgate Lane South	1547	387	81	2472	0.626	1554	745	3.3	1.7	3.945	A
4 - Newgate Lane West (Connection)	43	11	1590	637	0.068	43	44	0.1	0.1	6.072	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	580	145	39	1916	0.303	581	1326	0.6	0.4	2.696	A
2 - Site Access East	108	27	583	1338	0.081	109	38	0.1	0.1	2.929	A
3 - Newgate Lane South	1296	324	68	2483	0.522	1298	623	1.7	1.1	3.044	A
4 - Newgate Lane West (Connection)	36	9	1329	791	0.046	36	37	0.1	0.0	4.773	A

2028 Base + Com + Dev (DS2), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	3.87	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.87	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)	Run automatically
D2	2028 Base + Com + Dev (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	1050	100.000
2 - Site Access East		ONE HOUR	✓	59	100.000
3 - Newgate Lane South		ONE HOUR	✓	1283	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	43	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	65	965	20
	2 - Site Access East	28	0	31	0
	3 - Newgate Lane South	1183	71	0	29
	4 - Newgate Lane West (Connection)	26	0	17	0

Proportions

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.06	0.92	0.02
	2 - Site Access East	0.47	0.00	0.53	0.00
	3 - Newgate Lane South	0.92	0.06	0.00	0.02
	4 - Newgate Lane West (Connection)	0.60	0.00	0.40	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	1	0
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	0
	4 - Newgate Lane West (Connection)	0	0	0	0

Average PCU Per Veh

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.010	1.000
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.000
	4 - Newgate Lane West (Connection)	1.000	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	15:45-16:00	790	798
	16:00-16:15	944	953
	16:15-16:30	1156	1167
	16:30-16:45	1156	1167
	16:45-17:00	944	953
	17:00-17:15	790	798
2 - Site Access East	15:45-16:00	44	44
	16:00-16:15	53	53
	16:15-16:30	65	65
	16:30-16:45	65	65
	16:45-17:00	53	53
	17:00-17:15	44	44
3 - Newgate Lane South	15:45-16:00	966	984
	16:00-16:15	1153	1175
	16:15-16:30	1413	1439
	16:30-16:45	1413	1439
	16:45-17:00	1153	1175
	17:00-17:15	966	984
4 - Newgate Lane West (Connection)	15:45-16:00	32	32
	16:00-16:15	39	39
	16:15-16:30	47	47
	16:30-16:45	47	47
	16:45-17:00	39	39
	17:00-17:15	32	32

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.59	4.53	1.4	A	963	1445
2 - Site Access East	0.06	3.75	0.1	A	54	81
3 - Newgate Lane South	0.56	3.31	1.3	A	1177	1766

4 - Newgate Lane West (Connection)	0.06	4.89	0.1	A	39	59

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	790	198	66	1972	0.401	788	929	0.0	0.7	3.034	A
2 - Site Access East	44	11	752	1245	0.036	44	102	0.0	0.0	2.996	A
3 - Newgate Lane South	966	241	36	2514	0.384	963	760	0.0	0.6	2.318	A
4 - Newgate Lane West (Connection)	32	8	963	1062	0.030	32	37	0.0	0.0	3.494	A

16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	944	236	79	1963	0.481	943	1111	0.7	0.9	3.526	A
2 - Site Access East	53	13	900	1152	0.046	53	122	0.0	0.0	3.274	A
3 - Newgate Lane South	1153	288	43	2508	0.460	1152	910	0.6	0.8	2.654	A
4 - Newgate Lane West (Connection)	39	10	1152	945	0.041	39	44	0.0	0.0	3.972	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1156	289	97	1951	0.593	1154	1360	0.9	1.4	4.505	A
2 - Site Access East	65	16	1101	1025	0.063	65	150	0.0	0.1	3.749	A
3 - Newgate Lane South	1413	353	53	2501	0.565	1411	1113	0.8	1.3	3.297	A
4 - Newgate Lane West (Connection)	47	12	1410	784	0.060	47	54	0.0	0.1	4.883	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1156	289	97	1951	0.593	1156	1362	1.4	1.4	4.528	A
2 - Site Access East	65	16	1103	1024	0.063	65	150	0.1	0.1	3.753	A
3 - Newgate Lane South	1413	353	53	2501	0.565	1413	1115	1.3	1.3	3.307	A

4 - Newgate Lane West (Connection)	47	12	1411	783	0.060	47	54	0.1	0.1	4.890	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	944	236	79	1963	0.481	946	1114	1.4	0.9	3.546	A
2 - Site Access East	53	13	903	1150	0.046	53	122	0.1	0.0	3.283	A
3 - Newgate Lane South	1153	288	43	2508	0.460	1155	913	1.3	0.9	2.665	A
4 - Newgate Lane West (Connection)	39	10	1154	943	0.041	39	44	0.1	0.0	3.981	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	790	198	66	1972	0.401	792	932	0.9	0.7	3.052	A
2 - Site Access East	44	11	755	1243	0.036	44	103	0.0	0.0	3.004	A
3 - Newgate Lane South	966	241	36	2514	0.384	967	764	0.9	0.6	2.330	A
4 - Newgate Lane West (Connection)	32	8	966	1060	0.031	32	37	0.0	0.0	3.505	A

2028 Base + Com + Dev - Sens test (DS2), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	5.43	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.43	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)	Run automatically
D3	2028 Base + Com + Dev - Sens test (DS2)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	782	100.000
2 - Site Access East		ONE HOUR	✓	144	100.000
3 - Newgate Lane South		ONE HOUR	✓	1721	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	48	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	24	737	21
	2 - Site Access East	69	0	75	0
	3 - Newgate Lane South	1667	26	0	28
	4 - Newgate Lane West (Connection)	22	0	26	0

Proportions

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.03	0.94	0.03
	2 - Site Access East	0.48	0.00	0.52	0.00
	3 - Newgate Lane South	0.97	0.02	0.00	0.02
	4 - Newgate Lane West (Connection)	0.46	0.00	0.54	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	5	4
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	9
	4 - Newgate Lane West (Connection)	12	0	0	0

Average PCU Per Veh

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.050	1.040
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.090
	4 - Newgate Lane West (Connection)	1.120	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	07:45-08:00	589	617
	08:00-08:15	703	737
	08:15-08:30	861	902
	08:30-08:45	861	902
	08:45-09:00	703	737
	09:00-09:15	589	617
2 - Site Access East	07:45-08:00	108	108
	08:00-08:15	129	129
	08:15-08:30	159	159
	08:30-08:45	159	159
	08:45-09:00	129	129
	09:00-09:15	108	108
3 - Newgate Lane South	07:45-08:00	1296	1323
	08:00-08:15	1547	1579
	08:15-08:30	1895	1934
	08:30-08:45	1895	1934
	08:45-09:00	1547	1579
	09:00-09:15	1296	1323
4 - Newgate Lane West (Connection)	07:45-08:00	36	38
	08:00-08:15	43	46
	08:15-08:30	53	56
	08:30-08:45	53	56
	08:45-09:00	43	46
	09:00-09:15	36	38

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.45	3.45	0.8	A	718	1076
2 - Site Access East	0.14	3.61	0.2	A	132	198
3 - Newgate Lane South	0.77	6.38	3.3	A	1579	2369
4 - Newgate Lane West (Connection)	0.12	9.52	0.1	A	44	66

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	589	147	39	1916	0.307	587	1319	0.0	0.4	2.704	A
2 - Site Access East	108	27	588	1334	0.081	108	38	0.0	0.1	2.935	A
3 - Newgate Lane South	1296	324	68	2483	0.522	1291	629	0.0	1.1	3.010	A
4 - Newgate Lane West (Connection)	36	9	1322	795	0.045	36	37	0.0	0.0	4.742	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	703	176	47	1911	0.368	702	1578	0.4	0.6	2.976	A
2 - Site Access East	129	32	704	1259	0.103	129	45	0.1	0.1	3.187	A
3 - Newgate Lane South	1547	387	81	2473	0.626	1545	753	1.1	1.7	3.871	A
4 - Newgate Lane West (Connection)	43	11	1582	642	0.067	43	44	0.0	0.1	6.012	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	861	215	57	1904	0.452	860	1929	0.6	0.8	3.443	A
2 - Site Access East	159	40	862	1155	0.137	158	55	0.1	0.2	3.611	A
3 - Newgate Lane South	1895	474	99	2458	0.771	1888	922	1.7	3.3	6.245	A
4 - Newgate Lane West (Connection)	53	13	1934	434	0.122	53	54	0.1	0.1	9.419	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	861	215	57	1904	0.452	861	1935	0.8	0.8	3.449	A
2 - Site Access East	159	40	863	1154	0.137	159	55	0.2	0.2	3.613	A
3 - Newgate Lane South	1895	474	99	2458	0.771	1895	923	3.3	3.3	6.381	A
4 - Newgate Lane West (Connection)	53	13	1940	431	0.123	53	54	0.1	0.1	9.524	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	703	176	47	1911	0.368	704	1587	0.8	0.6	2.986	A
2 - Site Access East	129	32	706	1258	0.103	130	45	0.2	0.1	3.194	A
3 - Newgate Lane South	1547	387	81	2472	0.626	1554	754	3.3	1.7	3.946	A
4 - Newgate Lane West (Connection)	43	11	1590	637	0.068	43	44	0.1	0.1	6.072	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1 - Newgate Lane North	589	147	39	1916	0.307	589	1326	0.6	0.4	2.713	A
2 - Site Access East	108	27	591	1333	0.081	109	38	0.1	0.1	2.939	A
3 - Newgate Lane South	1296	324	68	2483	0.522	1298	632	1.7	1.1	3.046	A
4 - Newgate Lane West (Connection)	36	9	1329	791	0.046	36	37	0.1	0.0	4.771	A

2028 Base + Com + Dev - Sens test (DS2), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	3.97	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.97	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)	Run automatically
D4	2028 Base + Com + Dev - Sens test (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	1064	100.000
2 - Site Access East		ONE HOUR	✓	59	100.000
3 - Newgate Lane South		ONE HOUR	✓	1314	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	43	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0	65	979	20
	2 - Site Access East	28	0	31	0
	3 - Newgate Lane South	1214	71	0	29
	4 - Newgate Lane West (Connection)	26	0	17	0

Proportions

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0.00	0.06	0.92	0.02
	2 - Site Access East	0.47	0.00	0.53	0.00
	3 - Newgate Lane South	0.92	0.05	0.00	0.02
	4 - Newgate Lane West (Connection)	0.60	0.00	0.40	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0	0	1	0
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	0
	4 - Newgate Lane West (Connection)	0	0	0	0

Average PCU Per Veh

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	1.000	1.000	1.010	1.000
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.000
	4 - Newgate Lane West (Connection)	1.000	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	15:45-16:00	801	808
	16:00-16:15	957	965
	16:15-16:30	1171	1182
	16:30-16:45	1171	1182
	16:45-17:00	957	965
	17:00-17:15	801	808
2 - Site Access East	15:45-16:00	44	44
	16:00-16:15	53	53
	16:15-16:30	65	65
	16:30-16:45	65	65
	16:45-17:00	53	53
	17:00-17:15	44	44
3 - Newgate Lane South	15:45-16:00	989	1008
	16:00-16:15	1181	1203
	16:15-16:30	1447	1473
	16:30-16:45	1447	1473
	16:45-17:00	1181	1203

	17:00-17:15	989	1008
4 - Newgate Lane West (Connection)	15:45-16:00	32	32
	16:00-16:15	39	39
	16:15-16:30	47	47
	16:30-16:45	47	47
	16:45-17:00	39	39
	17:00-17:15	32	32

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.60	4.62	1.5	A	976	1465
2 - Site Access East	0.06	3.79	0.1	A	54	81
3 - Newgate Lane South	0.58	3.41	1.4	A	1206	1809
4 - Newgate Lane West (Connection)	0.06	5.04	0.1	A	39	59

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	801	200	66	1972	0.406	798	952	0.0	0.7	3.062	A
2 - Site Access East	44	11	762	1239	0.036	44	102	0.0	0.0	3.013	A
3 - Newgate Lane South	989	247	36	2514	0.394	987	771	0.0	0.6	2.353	A
4 - Newgate Lane West (Connection)	32	8	986	1048	0.031	32	37	0.0	0.0	3.544	A

16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	957	239	79	1963	0.487	955	1139	0.7	0.9	3.570	A
2 - Site Access East	53	13	912	1144	0.046	53	122	0.0	0.0	3.298	A
3 - Newgate Lane South	1181	295	43	2508	0.471	1180	922	0.6	0.9	2.710	A
4 - Newgate Lane West (Connection)	39	10	1179	928	0.042	39	44	0.0	0.0	4.049	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1 - Newgate Lane North	1171	293	97	1951	0.600	1169	1394	0.9	1.5	4.592	A
2 - Site Access East	65	16	1117	1015	0.064	65	150	0.0	0.1	3.787	A
3 - Newgate Lane South	1447	362	53	2501	0.579	1445	1129	0.9	1.4	3.404	A
4 - Newgate Lane West (Connection)	47	12	1444	763	0.062	47	54	0.0	0.1	5.028	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1171	293	97	1951	0.600	1171	1396	1.5	1.5	4.618	A
2 - Site Access East	65	16	1119	1014	0.064	65	150	0.1	0.1	3.792	A
3 - Newgate Lane South	1447	362	53	2501	0.579	1447	1131	1.4	1.4	3.415	A
4 - Newgate Lane West (Connection)	47	12	1446	762	0.062	47	54	0.1	0.1	5.036	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	957	239	79	1963	0.487	959	1142	1.5	1.0	3.591	A
2 - Site Access East	53	13	915	1142	0.046	53	122	0.1	0.0	3.304	A
3 - Newgate Lane South	1181	295	43	2508	0.471	1183	925	1.4	0.9	2.722	A
4 - Newgate Lane West (Connection)	39	10	1182	926	0.042	39	44	0.1	0.0	4.058	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	801	200	66	1972	0.406	802	956	1.0	0.7	3.080	A
2 - Site Access East	44	11	766	1237	0.036	44	103	0.0	0.0	3.019	A
3 - Newgate Lane South	989	247	36	2514	0.394	990	774	0.9	0.7	2.366	A
4 - Newgate Lane West (Connection)	32	8	989	1046	0.031	32	37	0.0	0.0	3.555	A

2037 Base + Com + Dev (DS2), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	6.28	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.28	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)	Run automatically
D5	2037 Base + Com + Dev (DS2)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	801	100.000
2 - Site Access East		ONE HOUR	✓	144	100.000
3 - Newgate Lane South		ONE HOUR	✓	1803	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	51	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	24	755	22
	2 - Site Access East	69	0	75	0
	3 - Newgate Lane South	1748	26	0	29
	4 - Newgate Lane West (Connection)	24	0	27	0

Proportions

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.03	0.94	0.03
	2 - Site Access East	0.48	0.00	0.52	0.00
	3 - Newgate Lane South	0.97	0.01	0.00	0.02
	4 - Newgate Lane West (Connection)	0.47	0.00	0.53	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	5	4
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	9
	4 - Newgate Lane West (Connection)	12	0	0	0

Average PCU Per Veh

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.050	1.040
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.090
	4 - Newgate Lane West (Connection)	1.120	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	07:45-08:00	603	632
	08:00-08:15	720	755
	08:15-08:30	882	924
	08:30-08:45	882	924
	08:45-09:00	720	755
	09:00-09:15	603	632
2 - Site Access East	07:45-08:00	108	108
	08:00-08:15	129	129
	08:15-08:30	159	159
	08:30-08:45	159	159
	08:45-09:00	129	129
	09:00-09:15	108	108
3 - Newgate Lane South	07:45-08:00	1357	1386
	08:00-08:15	1621	1655
	08:15-08:30	1985	2027
	08:30-08:45	1985	2027
	08:45-09:00	1621	1655
	09:00-09:15	1357	1386
4 - Newgate Lane West (Connection)	07:45-08:00	38	41
	08:00-08:15	46	48
	08:15-08:30	56	59
	08:30-08:45	56	59
	08:45-09:00	46	48
	09:00-09:15	38	41

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.46	3.52	0.9	A	735	1103
2 - Site Access East	0.14	3.67	0.2	A	132	198
3 - Newgate Lane South	0.81	7.60	4.1	A	1654	2482

4 - Newgate Lane West (Connection)	0.15	11.19	0.2	B	47	70

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	603	151	40	1916	0.315	601	1381	0.0	0.5	2.735	A
2 - Site Access East	108	27	603	1325	0.082	108	38	0.0	0.1	2.959	A
3 - Newgate Lane South	1357	339	68	2482	0.547	1353	643	0.0	1.2	3.174	A
4 - Newgate Lane West (Connection)	38	10	1383	758	0.051	38	38	0.0	0.1	5.000	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	720	180	48	1911	0.377	720	1652	0.5	0.6	3.020	A
2 - Site Access East	129	32	722	1247	0.104	129	45	0.1	0.1	3.220	A
3 - Newgate Lane South	1621	405	82	2472	0.656	1618	770	1.2	1.9	4.203	A
4 - Newgate Lane West (Connection)	46	11	1654	598	0.077	46	46	0.1	0.1	6.513	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	882	220	58	1904	0.463	881	2018	0.6	0.9	3.516	A
2 - Site Access East	159	40	884	1141	0.139	158	55	0.1	0.2	3.664	A
3 - Newgate Lane South	1985	496	100	2457	0.808	1977	942	1.9	4.0	7.355	A
4 - Newgate Lane West (Connection)	56	14	2021	383	0.147	56	56	0.1	0.2	11.005	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	882	220	58	1903	0.463	882	2027	0.9	0.9	3.523	A
2 - Site Access East	159	40	885	1140	0.139	159	55	0.2	0.2	3.666	A
3 - Newgate Lane South	1985	496	100	2457	0.808	1985	944	4.0	4.1	7.604	A

4 - Newgate Lane West (Connection)	56	14	2029	378	0.149	56	56	0.2	0.2	11.193	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	720	180	48	1910	0.377	721	1664	0.9	0.6	3.031	A
2 - Site Access East	129	32	724	1246	0.104	130	45	0.2	0.1	3.227	A
3 - Newgate Lane South	1621	405	82	2472	0.656	1630	772	4.1	1.9	4.318	A
4 - Newgate Lane West (Connection)	46	11	1666	592	0.078	46	46	0.2	0.1	6.604	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	603	151	40	1915	0.315	604	1389	0.6	0.5	2.744	A
2 - Site Access East	108	27	606	1323	0.082	109	38	0.1	0.1	2.963	A
3 - Newgate Lane South	1357	339	69	2482	0.547	1360	646	1.9	1.2	3.218	A
4 - Newgate Lane West (Connection)	38	10	1390	753	0.051	39	38	0.1	0.1	5.035	A

2037 Base + Com + Dev (DS2), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	4.12	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.12	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)	Run automatically

D6	2037 Base + Com + Dev (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	1099	100.000
2 - Site Access East		ONE HOUR	✓	59	100.000
3 - Newgate Lane South		ONE HOUR	✓	1336	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	44	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	65	1013	21
	2 - Site Access East	28	0	31	0
	3 - Newgate Lane South	1235	71	0	30
	4 - Newgate Lane West (Connection)	27	0	17	0

Proportions

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.06	0.92	0.02
	2 - Site Access East	0.47	0.00	0.53	0.00
	3 - Newgate Lane South	0.92	0.05	0.00	0.02
	4 - Newgate Lane West (Connection)	0.61	0.00	0.39	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	1	0
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	0
	4 - Newgate Lane West (Connection)	0	0	0	0

Average PCU Per Veh

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.010	1.000
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.000
	4 - Newgate Lane West (Connection)	1.000	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	15:45-16:00	827	835
	16:00-16:15	988	997

	16:15-16:30	1210	1221
	16:30-16:45	1210	1221
	16:45-17:00	988	997
	17:00-17:15	827	835
2 - Site Access East	**15:45-16:00**	44	44
	16:00-16:15	53	53
	16:15-16:30	65	65
	16:30-16:45	65	65
	16:45-17:00	53	53
	17:00-17:15	44	44
3 - Newgate Lane South	**15:45-16:00**	1006	1024
	16:00-16:15	1201	1223
	16:15-16:30	1471	1498
	16:30-16:45	1471	1498
	16:45-17:00	1201	1223
	17:00-17:15	1006	1024
4 - Newgate Lane West (Connection)	**15:45-16:00**	33	33
	16:00-16:15	40	40
	16:15-16:30	48	48
	16:30-16:45	48	48
	16:45-17:00	40	40
	17:00-17:15	33	33

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.62	4.86	1.6	A	1008	1513
2 - Site Access East	0.07	3.89	0.1	A	54	81
3 - Newgate Lane South	0.59	3.50	1.4	A	1226	1839
4 - Newgate Lane West (Connection)	0.06	5.15	0.1	A	40	61

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	827	207	66	1972	0.420	825	969	0.0	0.7	3.130	A
2 - Site Access East	44	11	788	1222	0.036	44	102	0.0	0.0	3.055	A
3 - Newgate Lane South	1006	251	37	2513	0.400	1003	796	0.0	0.7	2.380	A
4 - Newgate Lane West (Connection)	33	8	1002	1038	0.032	33	38	0.0	0.0	3.581	A

16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	988	247	79	1963	0.503	987	1159	0.7	1.0	3.682	A
2 - Site Access East	53	13	944	1124	0.047	53	122	0.0	0.0	3.359	A
3 - Newgate Lane South	1201	300	44	2507	0.479	1200	953	0.7	0.9	2.752	A
4 - Newgate Lane West (Connection)	40	10	1198	916	0.043	40	46	0.0	0.0	4.108	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1210	303	97	1951	0.620	1208	1418	1.0	1.6	4.827	A
2 - Site Access East	65	16	1155	991	0.066	65	149	0.0	0.1	3.886	A
3 - Newgate Lane South	1471	368	54	2500	0.588	1469	1166	0.9	1.4	3.484	A
4 - Newgate Lane West (Connection)	48	12	1467	749	0.065	48	56	0.0	0.1	5.138	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1210	303	97	1951	0.620	1210	1420	1.6	1.6	4.858	A
2 - Site Access East	65	16	1157	990	0.066	65	150	0.1	0.1	3.892	A
3 - Newgate Lane South	1471	368	54	2500	0.588	1471	1168	1.4	1.4	3.498	A
4 - Newgate Lane West (Connection)	48	12	1469	748	0.065	48	56	0.1	0.1	5.147	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	988	247	79	1963	0.503	990	1162	1.6	1.0	3.712	A
2 - Site Access East	53	13	947	1122	0.047	53	123	0.1	0.0	3.366	A
3 - Newgate Lane South	1201	300	44	2507	0.479	1203	956	1.4	0.9	2.763	A
4 - Newgate Lane West (Connection)	40	10	1201	914	0.043	40	46	0.1	0.0	4.119	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	827	207	66	1972	0.420	829	972	1.0	0.7	3.151	A

2 - Site Access East	44	11	792	1220	0.036	44	103	0.0	0.0	3.064	A
3 - Newgate Lane South	1006	251	37	2513	0.400	1007	800	0.9	0.7	2.393	A
4 - Newgate Lane West (Connection)	33	8	1005	1036	0.032	33	38	0.0	0.0	3.590	A

2037 Base + Com + Dev - Sens test (DS2), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	6.29	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.29	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)	Run automatically
D7	2037 Base + Com + Dev - Sens test (DS2)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	812	100.000
2 - Site Access East		ONE HOUR	✓	144	100.000
3 - Newgate Lane South		ONE HOUR	✓	1803	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	51	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0	24	766	22
	2 - Site Access East	69	0	75	0
	3 - Newgate Lane South	1748	26	0	29
	4 - Newgate Lane West (Connection)	24	0	27	0

Proportions

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0.00	0.03	0.94	0.03
	2 - Site Access East	0.48	0.00	0.52	0.00
	3 - Newgate Lane South	0.97	0.01	0.00	0.02
	4 - Newgate Lane West (Connection)	0.47	0.00	0.53	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	0	0	5	4
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	9
	4 - Newgate Lane West (Connection)	12	0	0	0

Average PCU Per Veh

	To				
From		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
	1 - Newgate Lane North	1.000	1.000	1.050	1.040
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.090
	4 - Newgate Lane West (Connection)	1.120	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	07:45-08:00	611	641
	08:00-08:15	730	765
	08:15-08:30	894	937
	08:30-08:45	894	937
	08:45-09:00	730	765
	09:00-09:15	611	641
2 - Site Access East	07:45-08:00	108	108
	08:00-08:15	129	129
	08:15-08:30	159	159
	08:30-08:45	159	159
	08:45-09:00	129	129
	09:00-09:15	108	108
3 - Newgate Lane South	07:45-08:00	1357	1386
	08:00-08:15	1621	1655
	08:15-08:30	1985	2027
	08:30-08:45	1985	2027
	08:45-09:00	1621	1655

	09:00-09:15	1357	1386
4 - Newgate Lane West (Connection)	07:45-08:00	38	41
	08:00-08:15	46	48
	08:15-08:30	56	59
	08:30-08:45	56	59
	08:45-09:00	46	48
	09:00-09:15	38	41

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.47	3.57	0.9	A	745	1118
2 - Site Access East	0.14	3.70	0.2	A	132	198
3 - Newgate Lane South	0.81	7.60	4.1	A	1654	2482
4 - Newgate Lane West (Connection)	0.15	11.19	0.2	B	47	70

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	611	153	40	1916	0.319	609	1381	0.0	0.5	2.752	A
2 - Site Access East	108	27	612	1319	0.082	108	38	0.0	0.1	2.972	A
3 - Newgate Lane South	1357	339	68	2482	0.547	1353	651	0.0	1.2	3.174	A
4 - Newgate Lane West (Connection)	38	10	1383	758	0.051	38	38	0.0	0.1	5.000	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	730	182	48	1911	0.382	729	1652	0.5	0.6	3.046	A
2 - Site Access East	129	32	732	1240	0.104	129	45	0.1	0.1	3.239	A
3 - Newgate Lane South	1621	405	82	2472	0.656	1618	780	1.2	1.9	4.203	A
4 - Newgate Lane West (Connection)	46	11	1654	598	0.077	46	46	0.1	0.1	6.513	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service

1 - Newgate Lane North	894	224	58	1904	0.470	893	2018	0.6	0.9	3.559	A
2 - Site Access East	159	40	896	1133	0.140	158	55	0.1	0.2	3.693	A
3 - Newgate Lane South	1985	496	100	2457	0.808	1977	954	1.9	4.0	7.355	A
4 - Newgate Lane West (Connection)	56	14	2021	383	0.147	56	56	0.1	0.2	11.005	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	894	224	58	1903	0.470	894	2027	0.9	0.9	3.565	A
2 - Site Access East	159	40	897	1132	0.140	159	55	0.2	0.2	3.696	A
3 - Newgate Lane South	1985	496	100	2457	0.808	1985	956	4.0	4.1	7.604	A
4 - Newgate Lane West (Connection)	56	14	2029	378	0.149	56	56	0.2	0.2	11.193	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	730	182	48	1910	0.382	731	1664	0.9	0.6	3.054	A
2 - Site Access East	129	32	734	1239	0.104	130	45	0.2	0.1	3.246	A
3 - Newgate Lane South	1621	405	82	2472	0.656	1630	782	4.1	1.9	4.319	A
4 - Newgate Lane West (Connection)	46	11	1666	592	0.078	46	46	0.2	0.1	6.606	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	611	153	40	1915	0.319	612	1389	0.6	0.5	2.764	A
2 - Site Access East	108	27	614	1318	0.082	109	38	0.1	0.1	2.979	A
3 - Newgate Lane South	1357	339	69	2482	0.547	1360	654	1.9	1.2	3.216	A
4 - Newgate Lane West (Connection)	38	10	1390	753	0.051	39	38	0.1	0.1	5.035	A

2037 Base + Com + Dev - Sens test (DS2), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	3 - Newgate Lane South -	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

		Roundabout Geometry	

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Site Access	Standard Roundabout		1, 2, 3, 4	4.23	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.23	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)	Run automatically
D8	2037 Base + Com + Dev - Sens test (DS2)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Newgate Lane North		ONE HOUR	✓	1113	100.000
2 - Site Access East		ONE HOUR	✓	59	100.000
3 - Newgate Lane South		ONE HOUR	✓	1367	100.000
4 - Newgate Lane West (Connection)		ONE HOUR	✓	44	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	65	1027	21
	2 - Site Access East	28	0	31	0
	3 - Newgate Lane South	1266	71	0	30
	4 - Newgate Lane West (Connection)	27	0	17	0

Proportions

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0.00	0.06	0.92	0.02
	2 - Site Access East	0.47	0.00	0.53	0.00
	3 - Newgate Lane South	0.93	0.05	0.00	0.02
	4 - Newgate Lane West (Connection)	0.61	0.00	0.39	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	0	0	1	0
	2 - Site Access East	0	0	0	0
	3 - Newgate Lane South	2	0	0	0
	4 - Newgate Lane West (Connection)	0	0	0	0

Average PCU Per Veh

		To			
		1 - Newgate Lane North	2 - Site Access East	3 - Newgate Lane South	4 - Newgate Lane West (Connection)
From	1 - Newgate Lane North	1.000	1.000	1.010	1.000
	2 - Site Access East	1.000	1.000	1.000	1.000
	3 - Newgate Lane South	1.020	1.000	1.000	1.000
	4 - Newgate Lane West (Connection)	1.000	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - Newgate Lane North	15:45-16:00	838	846
	16:00-16:15	1001	1010
	16:15-16:30	1225	1237
	16:30-16:45	1225	1237
	16:45-17:00	1001	1010
	17:00-17:15	838	846
2 - Site Access East	15:45-16:00	44	44
	16:00-16:15	53	53
	16:15-16:30	65	65
	16:30-16:45	65	65
	16:45-17:00	53	53
	17:00-17:15	44	44
3 - Newgate Lane South	15:45-16:00	1029	1048
	16:00-16:15	1229	1252
	16:15-16:30	1505	1533
	16:30-16:45	1505	1533
	16:45-17:00	1229	1252
	17:00-17:15	1029	1048
4 - Newgate Lane West (Connection)	15:45-16:00	33	33
	16:00-16:15	40	40
	16:15-16:30	48	48
	16:30-16:45	48	48
	16:45-17:00	40	40
	17:00-17:15	33	33

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Newgate Lane North	0.63	4.96	1.7	A	1021	1532
2 - Site Access East	0.07	3.93	0.1	A	54	81
3 - Newgate Lane South	0.60	3.62	1.5	A	1254	1882

4 - Newgate Lane West (Connection)	0.07	5.31	0.1	A	40	61

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	838	209	66	1972	0.425	835	992	0.0	0.7	3.159	A
2 - Site Access East	44	11	799	1216	0.037	44	102	0.0	0.0	3.072	A
3 - Newgate Lane South	1029	257	37	2513	0.410	1026	806	0.0	0.7	2.418	A
4 - Newgate Lane West (Connection)	33	8	1025	1024	0.032	33	38	0.0	0.0	3.634	A

16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1001	250	79	1963	0.510	999	1187	0.7	1.0	3.730	A
2 - Site Access East	53	13	956	1116	0.048	53	122	0.0	0.0	3.384	A
3 - Newgate Lane South	1229	307	44	2507	0.490	1228	965	0.7	1.0	2.810	A
4 - Newgate Lane West (Connection)	40	10	1226	898	0.044	40	46	0.0	0.0	4.190	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1225	306	97	1951	0.628	1223	1452	1.0	1.7	4.928	A
2 - Site Access East	65	16	1170	981	0.066	65	149	0.0	0.1	3.927	A
3 - Newgate Lane South	1505	376	54	2500	0.602	1503	1181	1.0	1.5	3.604	A
4 - Newgate Lane West (Connection)	48	12	1501	728	0.067	48	56	0.0	0.1	5.298	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1225	306	97	1951	0.628	1225	1454	1.7	1.7	4.962	A
2 - Site Access East	65	16	1173	980	0.066	65	150	0.1	0.1	3.934	A
3 - Newgate Lane South	1505	376	54	2500	0.602	1505	1184	1.5	1.5	3.618	A

4 - Newgate Lane West (Connection)	48	12	1503	726	0.067	48	56	0.1	0.1	5.308	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	1001	250	79	1963	0.510	1003	1190	1.7	1.0	3.762	A
2 - Site Access East	53	13	960	1114	0.048	53	123	0.1	0.1	3.392	A
3 - Newgate Lane South	1229	307	44	2507	0.490	1231	969	1.5	1.0	2.824	A
4 - Newgate Lane West (Connection)	40	10	1229	897	0.044	40	46	0.1	0.0	4.201	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Newgate Lane North	838	209	66	1972	0.425	839	996	1.0	0.7	3.184	A
2 - Site Access East	44	11	803	1213	0.037	44	103	0.1	0.0	3.082	A
3 - Newgate Lane South	1029	257	37	2513	0.410	1030	810	1.0	0.7	2.429	A
4 - Newgate Lane West (Connection)	33	8	1029	1021	0.032	33	38	0.0	0.0	3.643	A

APPENDIX T. Air Quality Assessment

TETRA TECH

Land East of Newgate Lane East, Fareham

Air Quality Assessment

784-B032118

PRESENTED TO

Miller Homes and Bargate Homes

PRESENTED BY

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DOCUMENT CONTROL

Document:	**Air Quality Assessment**
Project:	Land East of Newgate Lane East, Fareham
Client:	Miller Homes and Bargate Homes
Job Number:	784-B032118
File Origin:	lds-dc-vm-101\Data\Projects

Issue:	**1**	**Status:**	**First Issue**
Date:	24th January 2021		
Prepared by: Zayn Dubois-Gafar Assistant Environmental Consultant	**Checked by** Matthew Smith Principal Environmental Consultant	**Approved By:** Nigel Mann Director	

Issue:	**2**	**Status:**	**Second Issue**
Date:	27th January 2021		
Prepared by: Zayn Dubois-Gafar Assistant Environmental Consultant	**Checked by** Matthew Smith Principal Environmental Consultant	**Approved By:** Nigel Mann Director	
Description of revision: Minor amendments.			

Issue:	**3**	**Status:**	**Third Issue**
Date:	20th June 2022		
Prepared by: Zayn Dubois-Gafar Assistant Environmental Consultant	**Checked by** Matthew Smith Principal Environmental Consultant	**Approved By:** Nigel Mann Director	
Description of revision: Site access roundabout included in modelling.			

EXECUTIVE SUMMARY

This report presents the findings of an air quality assessment undertaken to assess road traffic emission and construction dust impacts in support of a planning application for the construction of a new residential development, on the site of Land East of Newgate Lane East, Fareham.

Construction Phase

The potential effects during the demolition and construction phases include fugitive dust emissions from site activities, such as earthworks, construction and trackout.

During the construction phase, site specific mitigation measures detailed within this assessment will be implemented. With these mitigation measures in place, the effects from the construction phase are not predicted to be significant.

Operational Phase

Detailed dispersion modelling of traffic pollutants has been undertaken for the proposed development. An operational year assessment for 2028 traffic emissions has been undertaken to assess the effects of the Proposed Development. The impacts during the operational phase take into account exhaust emissions from additional road traffic generated due to the proposed development.

The long-term (annual) assessment of the effects associated with the proposed development with respect to Nitrogen Dioxide (NO_2) is determined to be 'negligible'. With respect to PM_{10} and $PM_{2.5}$ exposure, the effect is determined to be 'negligible' at all identified existing sensitive receptor locations.

All proposed receptor locations are expected to be exposed to air quality below the Air Quality Objectives for NO_2, PM_{10} and $PM_{2.5}$. No further mitigation is required to protect future occupants.

Odour Impact

The proposed residential development site will mostly be located within an area (Zone C) where the odour impacts on the entire proposed residential development from the wastewater treatment works are not significant, as such no mitigation will be required in this area. It is considered that the odour may be potentially detectable at the western corner of the development site (Zone B) on occasions and as such, this portion of the site shall remain undeveloped.

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ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
AADT	Annual Average Daily Traffic
ADMS	Atmospheric Dispersion Modelling Software
AQAL	the Air Quality Assessment Level
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objectives
AQS	Air Quality Standards
CHP	Combined Heat and Power
CL	Critical Level
CO	Carbon Monoxide
DEFRA	Department for Environment Food & Rural Affairs
EAL	Environmental Assessment Limits
EC	European Commission
EFT	The Emissions Factors Toolkit
EPUK	Environmental Protection UK
EU	European Union
EPAQS	The Expert Panel on Air Quality Standards
IAQM	The Institute of Air Quality Management
LA	Local Authority
LAQM	Local Air Quality Management
NGR	The United Kingdom National Grid Reference
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
PC	Process Contribution
DLUHC	Department for Levelling Up, Housing and Communities
NPPF	The National Planning Policy Framework
OS	the UK Ordnance Survey
PEC	Predicted Environment Concentration
PPG	Planning Policy Guidance
PPS	Planning Policy Statements
SAC	Special Areas of Conservation
SPA	Special Protection Area
SSSI	Sites of Special Scientific Interest
VOC	Volatile organic compounds
WHO	World Health Organization
UK	The United Kingdom

1.0 INTRODUCTION

This report presents the findings of an air quality assessment undertaken to assess road traffic emission and construction dust impacts in support of a planning application for the construction of a new residential development, on the site of Land East of Newgate Lane East, Fareham.

1.1 SITE LOCATION

The central Grid Reference is approximately 457405, 103574. The application site is bounded to the north by fields and football pitches along Newgate Lane, bounded to the east by residential properties on Tukes Avenue, the south by arable land which was recently granted outline planning permission for a development of up to 99 homes, and to the west by open farmland and residential properties on Newgate Lane.

Reference should be made to **Figure 1-1** for a map of the application site and surrounding area.

Figure 1-1. Satellite Image of Site and Surrounding Area

Google Imagery (2022)

1.2 CONTEXT

The primary source of the air quality associated with the proposed scheme includes from vehicle movements, arriving and departing the proposed development. The traffic data generated by the development has been assessed at the surrounding sensitive receptors and proposed sensitive receptors.

The following assessment stages have been undertaken as part of this assessment:

- Baseline evaluation;
- Assessment of potential air quality impacts during the construction phase;
- Assessment of potential air quality impacts during the operational phase;
- Identification of mitigation measures (as required); and
- Odour Impact Briefing.

The results of the assessment are detailed in the following sections of this report.

The construction phase assessment considers the potential effects of dust and particulate emissions from site activities and materials movement using a qualitative risk assessment method based on the Institute of Air Quality Management's (IAQM) 'Guidance on the Assessment of Dust from Demolition and Construction' document, published in 2014.

The assessment of the potential air quality impacts that are associated with the operational phase has focused on the predicted impact of changes in ambient nitrogen dioxide (NO_2) and particulate matter with an aerodynamic diameter of less than 10 µm (PM_{10}) and less than 2.5 µm ($PM_{2.5}$) as a result of the development at key local receptor locations. The changes have been referenced to EU air quality limits and UK air quality objectives and the magnitude and impact description of the changes have been referenced to non-statutory guidance issued by the IAQM and Environmental Protection UK (EPUK).

1.3 REPORT STRUCTURE

Following this introductory section, the remainder of this report is structured as follows:

- Section 2: Policy and Legislative Context
- Section 3: Assessment Methodology
- Section 4: Baseline Conditions
- Section 5: Assessment of Air Quality Impacts – Construction Phase
- Section 6: Assessment of Air Quality Impacts – Operational Phase
- Section 7: Mitigation
- Section 8: Odour Impact Briefing
- Section 9: Conclusions

All technical Appendices are included at the end of this report for information.

2.0 POLICY AND LEGISLATIVE CONTEXT

2.1 DOCUMENTS CONSULTED

The following documents were consulted during the undertaking of this assessment:

Legislation and Best Practice Guidance

- National Planning Policy Framework, Ministry for Housing, Communities and Local Government, Revised July 2021;
- Planning Practice Guidance: Air Quality, Ministry for Housing, Communities and Local Government, November 2019;
- The Air Quality Standards Regulations (Amendments), 2016;
- The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Defra, 2007;
- The Environment Act, 1995;
- The Environment Act, 2021;
- Local Air Quality Management Technical Guidance LAQM.TG16, Defra, 2021;
- Design Manual for Roads and Bridges, Volume 11, Section 3, Part 1, LA 105 Air quality, Highways England, November 2019;
- Land-Use Planning & Development Control: Planning for Air Quality, EPUK & IAQM, 2017;
- Guidance on the Assessment of Dust from Demolition and Construction, IAQM, 2014;
- A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites (Version 1.1), IAQM, May 2020; and,
- Ecological Assessment of Air Quality Impacts, CIEEM, January 2021.

Websites Consulted

- Google maps (maps.google.co.uk);
- The UK National Air Quality Archive (www.airquality.co.uk);
- Department for Transport Matrix (www.dft.go.uk/matrix);
- emapsite.com;
- Multi-Agency Geographic Information for the Countryside (http://magic.defra.gov.uk/);
- Planning Practice Guidance (http://planningguidance.planningportal.gov.uk/); and,
- Fareham Borough Council (https://www.fareham.gov.uk).

Site Specific Reference Documents

- Fareham Borough Council 2020 Air Quality Annual Status Report;
- Fareham Borough Council 2008 Air Quality Action Plan;
- Fareham Borough Council 2011 Local Plan Part 1: Core Strategy;
- Fareham Borough Council 2015 Local Plan Part 2: Development Sites and Policies; and,
- Fareham Borough Council 2015 Local Plan Part 3: The Welbourne Plan.

2.2 AIR QUALITY LEGISLATIVE FRAMEWORK

European Legislation

European air quality legislation is consolidated under Directive 2008/50/EC, which came into force on 11th June 2008. This Directive consolidates previous legislation which was designed to deal with specific pollutants in a consistent manner and provides new air quality objectives for fine particulates. The consolidated Directives include:

- **Directive 1999/30/EC** – the First Air Quality "Daughter" Directive – sets ambient air limit values for NO_2 and oxides of nitrogen, sulphur dioxide, lead and PM_{10};
- **Directive 2000/69/EC** – the Second Air Quality "Daughter" Directive – sets ambient air limit values for benzene and carbon monoxide; and,
- **Directive 2002/3/EC** – the Third Air Quality "Daughter" Directive – seeks to establish long-term objectives, target values, an alert threshold and an information threshold for concentrations of ozone in ambient air.

The fourth daughter Directive was not included within the consolidation and is described as:

- **Directive 2004/107/EC** – sets health-based limits on polycyclic aromatic hydrocarbons, cadmium, arsenic, nickel and mercury, for which there is a requirement to reduce exposure to as low as reasonably achievable.

The European Commission (EC) Directive Limits, outlined above, have been transposed in the UK through the Air Quality Standards Regulations. In the UK responsibility for meeting ambient air quality limit values is devolved to the national administrations in Scotland, Wales and Northern Ireland.

The European Union (Withdrawal) Act 2018 (EUWA) provides a new framework for the continuity of retained EU law in the UK. EU Directives no longer have to be implemented by the UK except to any extent agreed or decided by the UK unilaterally.

EUWA retains the domestic effect of EU Directives to the extent already implemented in UK law, by preserving the relevant domestic implementing legislation enacted in UK law before 'Implementation Period' completion day. Though the EU Directives are not retained, following the UK's departure from the EU, the EUWA converts the current framework of Air Quality targets, however the role that the EU instructions were party to are lost.

UK Legislation

The Air Quality Standards Regulations (Amendments 2016) seek to simplify air quality regulation and provide a new transposition of the Air Quality Framework Directive, First, Second and Third Daughter Directives and also transpose the Fourth Daughter Directive within the UK. The Air Quality Limit Values are transposed into the updated Regulations as Air Quality Standards, with attainment dates in line with the European Directives. SI 2010 No. 1001, Part 7 Regulation 31 extends powers, under Section 85(5) of the Environment Act (1995), for the Secretary of State to give directions to Local Authorities (LAs) for the implementation of these Directives.

The UK Air Quality Strategy is the method for implementation of the air quality limit values in England, Scotland, Wales and Northern Ireland and provides a framework for improving air quality and protecting human health from the effects of pollution.

For each nominated pollutant, the Air Quality Strategy sets clear, measurable, outdoor air quality standards and target dates by which these must be achieved; the combined standard and target date is referred to as the Air Quality Objective (AQO) for that pollutant. Adopted national standards are based on the recommendations of the Expert Panel on Air Quality Standards (EPAQS) and have been translated into a set of Statutory Objectives within the Air Quality (England) Regulations (2000) SI 928, and subsequent amendments. The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020 amends the AQO for $PM_{2.5}$ outlined within the Air Quality Standards Regulations (2010 & 2016 Amendments).

The AQOs for pollutants included within the Air Quality Strategy and assessed as part of the scope of this report are presented in **Table 2-1** and **Table 2-2** along with European Commission (EC) Directive Limits and World Health Organisation (WHO) Guidelines. The ecological levels are based on WHO and CLRTAP (Convention on Long-range Transboundary Air Pollution) guidance.

Table 2-1. Air Quality Standards, Objectives, Limits and Target Values

Pollutant	Applies	Objective	Concentration Measured as[10]	Date to be achieved and maintained thereafter	European Obligations	Date to be achieved and maintained thereafter	New or existing
PM_{10}	UK	50µg/m³ by end of 2004 (max 35 exceedances a year)	24-hour Mean	1st January 2005	50µg/m³ by end of 2004 (max 35 exceedances a year)	1st January 2005	Retain Existing
	UK	40µg/m³ by end of 2004	Annual Mean	1st January 2005	40µg/m³	1st January 2005	
$PM_{2.5}$	UK	20µg/m³	Annual Mean	1st January 2020	-	-	Retain Existing
NO_2	UK	200µg/m³ not to be exceeded more than 18 times a year	1-Hour Mean	31st December 2005	200µg/m³ not to be exceeded more than 18 times a year	1st January 2010	Retain Existing
	UK	40µg/m³	Annual Mean	31st December 2005	40µg/m³	1st January 2010	

Table 2-2. Ecological Air Quality Standards, Objectives, Limit and Target Values

Pollutant	Applies	Objective	Concentration Measured as
NO_X	UK	30µg/m³	Annual Mean

Within the context of this assessment, the annual mean objectives are those against which facades of residential receptors will be assessed and the short-term objectives apply to all other receptor locations, where people may be exposed over a short duration, both residential and non-residential such as using gardens, balconies, walking along streets, using playgrounds, footpaths or external areas of employment uses.

Local Air Quality Management

Under Section 82 of the Environment Act (1995) (Part IV) Local Authorities (LAs) are required to periodically review and assess air quality within their area of jurisdiction under the system of Local Air Quality Management (LAQM). This review and assessment of air quality involves assessing present and likely future air quality against the AQOs. If it is predicted that levels at the façade of buildings where members of the public are regularly present (normally residential properties) are likely to be exceeded, the LA is required to declare an Air Quality Management Area (AQMA).

Environment Act 2021

The Environment Act (2021) introduces a commitment to create a legally binding duty on government to reduce the concentrations of fine particulate matter ($PM_{2.5}$) in ambient air, and to set a long-term target expected to be 10 µg/m^3, a reduction from the current Air Quality objective of 20 µg/m^3 set out within the Air Quality Standards Regulations (Amendment 2016). A draft of a statutory instrument (or drafts of statutory instruments) containing regulations setting the $PM_{2.5}$ air quality target must be laid before Parliament on or before 31st October 2022 and is expected to come into force thereafter.

2.3 PLANNING AND POLICY GUIDANCE

National Policy

The National Planning Policy Framework (NPPF), revised July 2021, principally brings together and summarises the suite of Planning Policy Statements (PPS) and Planning Policy Guidance (PPG) which previously guided planning policy making. The NPPF states that:

Paragraph 174

> *"Planning policies and decisions should contribute to and enhance the natural and local environment by:*
>
> *e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans."*

Paragraph 186

> *"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications.*

Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

Paragraph 188

"The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities."

The Planning Practice Guidance (PPG) web-based resource was updated by the Department for Levelling Up, Housing and Communities' (DLUHC) on 1st November 2019 to support the National Planning Policy Framework and make it more accessible. A review of PPG: Air Quality identified the following guidance (Paragraph: 001 Reference ID: 32-001-20191101):

"The 2008 Ambient Air Quality Directive sets legally binding limits for concentrations in outdoor air of major air pollutants that affect public health such as particulate matter (PM10 and PM2.5) and nitrogen dioxide (NO_2).

The UK also has national emission reduction commitments for overall UK emissions of 5 damaging air pollutants:

- *fine particulate matter ($PM_{2.5}$);*
- *ammonia (NH_3);*
- *nitrogen oxides (NO_x);*
- *sulphur dioxide (SO_2); and*
- *non-methane volatile organic compounds (NMVOCs).*

As well as having direct effects on public health, habitats and biodiversity, these pollutants can combine in the atmosphere to form ozone, a harmful air pollutant (and potent greenhouse gas) which can be transported great distances by weather systems. Odour and dust can also be a planning concern, for example, because of the effect on local amenity. "

Local Policy

Following a review of the Fareham Borough Council 2011 Local Plan Part 1: Core Strategy, the following policy concerning air quality was identified:

"Policy CS7: Development in Fareham

…Development will be permitted within the Fareham settlement boundary where it contributes to one or more of the following:

…development of the Bus Rapid Transit South East Hampshire Harbour Link and improvements to air quality.

…Development will only be permitted where it does not significantly affect the setting and landscape character of the town or diminish the town's, community, historic, biodiversity and cultural resources nor have an adverse impact on air quality."

"Policy CS12: Daedalus Airfield Strategic Development Allocation

…The Daedalus Airfield is allocated for strategic employment development. Development will be permitted where:

…it does not have an adverse impact on air quality."

3.0 ASSESSMENT METHODOLOGY

There is potential for environmental effects during the operational phase of the proposed development due to emissions from proposed vehicle movements. The significance of potential environmental effects is assessed according to the latest guidance produced by EPUK and IAQM in January 2017 '*Land-Use Planning & Development Control: Planning for Air Quality*' and May 2020 '*A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites*'.

The methodology used to determine the potential air quality effects of the construction phase of the proposed development has been derived from the IAQM '*Guidance on the Assessment of the Impacts of Dust from Demolition and Construction'* document and is summarised in Section 5.

3.1 DETERMINING IMPACT DESCRIPTION OF THE AIR QUALITY EFFECTS

The impact description of the effects during the operational phase of the development is based on the latest guidance produced by EPUK and IAQM in January 2017. The guidance provides a basis for a consistent approach that could be used by all parties associated with the planning process to professionally judge the overall impact description of the air quality effects based on severity of air quality impacts.

The following rationale is used in determining the severity of the air quality effects at individual receptors:

1. The change in concentration of air pollutants, air quality effects, are quantified and evaluated in the context of AQOs. The effects are provided as a percentage of the Air Quality Objective (AQO), which may be an AQO, EU limit or target value, or an Environment Agency 'Environmental Assessment Level (EAL)';
2. The absolute concentrations are also considered in terms of the AQO and are divided into categories for long term concentration. The categories are based on the sensitivity of the individual receptor in terms of harm potential. The degree of harm potential to change increases as absolute concentrations are close to or above the AQO;
3. Severity of the effect is described as qualitative descriptors; negligible, slight, moderate or substantial, by taking into account in combination the harm potential and air quality effect. This means that a small increase at a receptor which is already close to or above the AQO will have higher severity compared to a relatively large change at a receptor which is significantly below the AQO;
4. The effects can be adverse when pollutant concentrations increase or beneficial when concentrations decrease as a result of development;
5. The judgement of overall impact description of the effects is then based on severity of effects on all the individual receptors considered; and,
6. Where a development is not resulting in any change in emissions itself, the impact description of effect is based on the effect of surrounding sources on new residents or users of the development, i.e., will they be exposed to levels above the AQO.

Table 3-1. Impact Descriptors for Individual Receptors

Long term average concentration at receptor in assessment year	% Change in concentration relative to AQO			
	1	2-5	6-10	>10
≤75% of AQO	Negligible	Negligible	Slight	Moderate
76-94% of AQO	Negligible	Slight	Moderate	Moderate
95-102% of AQO	Slight	Moderate	Moderate	Substantial
103-109 of AQO	Moderate	Moderate	Substantial	Substantial
≥110 of AQO	Moderate	Substantial	Substantial	Substantial

In accordance with explanation note 2 of Table 6.3 of the EPUK & IAQM guidance, the Table is intended to be used by rounding the change in percentage pollutant concentration to whole numbers, which then makes it clearer which cell the impact falls within. The user is encouraged to treat the numbers with recognition of their likely accuracy and not assume a false level of precision. Changes of 0%, i.e. less than 0.5%, will be described as Negligible.

4.0 BASELINE CONDITIONS

4.1 AIR QUALITY REVIEW

This section provides a review of the existing air quality in the vicinity of the application site in order to provide a benchmark against which to assess potential air quality impacts of the proposed development. Baseline air quality in the vicinity of the application site has been defined from several sources, as described in the following sections.

Local Air Quality Management (LAQM)

As required under section 82 of the Environment Act 1995, Fareham Borough Council (FBC) has undertaken an ongoing exercise to review and assess air quality within its area of jurisdiction. The assessments have indicated that concentrations of NO_2 are above the relevant AQOs at locations of relevant public exposure within the Borough. Therefore, FBC has designated two Air Quality Management Area (AQMAs).

Table 4-1. Local Authority AQMA Details

AQMA	Description	Date Declared	Date Amended	Pollutants Declared
Portland Street AQMA	An area encompassing residential properties and the Sacred Heart Catholic Church on Portland Street and the southern end of Hartland Road Fareham.	01/12/2007	01/11/2017	Nitrogen Dioxide NO_2
Gosport Road AQMA	An area encompassing the junction of Gosport Road, Redlands Lane and Newgate Lane Fareham and the surrounding area up to the Quay Street roundabout Fareham.	01/04/2006	01/11/2017	Nitrogen Dioxide NO_2

The proposed development site is situated to the 1 km south of the Gosport Road AQMA, therefore existing receptors within the AQMA have been included as part of the modelling assessment.

However, it should be noted that the extent of this AQMA is based on work undertaken in 2006 and therefore potentially out of date. Similarly, it should be noted that both AQMAs were amended in 2017.

As such, the modelling work in this assessment, which is verified to local monitoring, should be considered to be a more precise and up to date assessment of pollutant levels at the site. The assessment considers potential exposure to pollutants by future occupiers rather than simply considering the extent of the AQMA represents a theoretical delineation of harm. It should be also noted that the AQMA is a management area, where pollutant levels should be "managed" by the local authority air quality action plan and should not be considered to be a planning constraint in itself.

Air Quality Monitoring

Monitoring of air quality within FBC has been undertaken through both automatic and non-automatic monitoring methods in 2019. These have been reviewed in order to provide an indication of existing air quality in the area surrounding the application site. The most recent monitoring data within FBC was undertaken during 2019.

Automatic Monitoring

FBC undertook automatic pollution monitoring during 2019 at three different locations. The closest monitoring location is FAR1, which is located at Gosport Road, approximately 1.3 km north of the application site. The most recently available data is from 2019 which is presented in **Table 4-2**.

Table 4-2. Monitored Annual Mean NO_2 Concentrations at Automatic Monitoring Locations

Site ID	Location	Site Type	Distance from Kerb of Nearest Road (m)	Inlet Height (m)	2019 NO_2 Annual Mean Concentration (µg/m³)	2019 PM_{10} Annual Mean Concentration (µg/m³)
GOS1	Tichborne Way	Roadside	5	3	20.4	17.4
FAR1*	Gosport Road	Roadside	1.5	2	28.3	N/A
FAR2	Portland Street	Roadside	1.5	1.5	29.6	N/A
*Located within AQMA						

As outlined in **Table 4-2**, the monitoring locations monitored annual average NO_2 concentrations below the AQO for NO_2 and PM_{10} (40 µg/m³ annual mean) during 2019.

Non - Automatic Monitoring

FBC operates a network of 45 passive diffusion tubes. The closest diffusion tube is diffusion tube G2A, which is located on Gosport Road, approximately 1.3 km north of the application site. The most recently available diffusion tube data is from 2019 which is presented in **Table 4-3**.

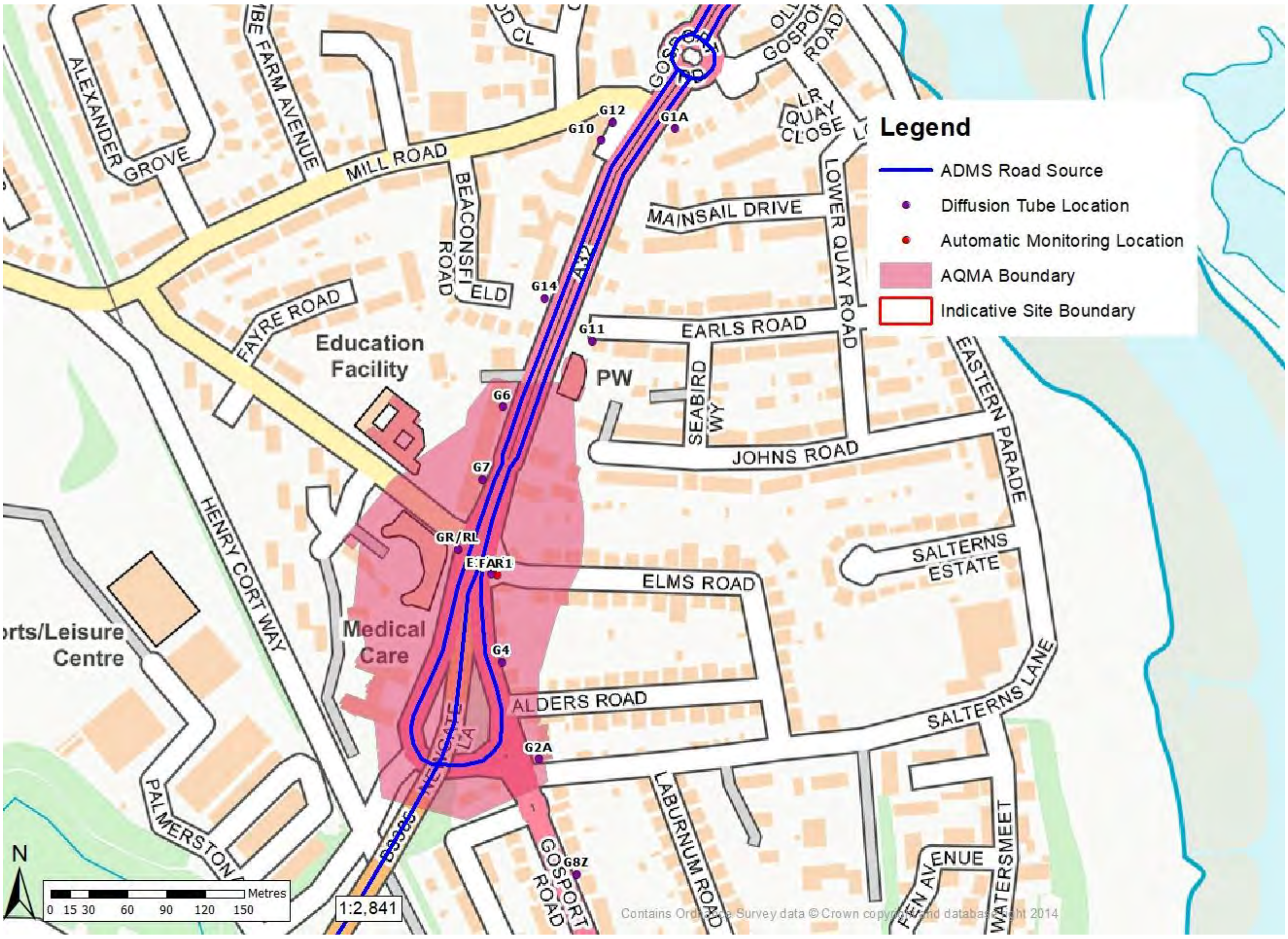
Table 4-3. Monitored Annual Mean NO_2 Concentrations at Diffusion Tubes

Site ID	Location	Site Type	Distance from Kerb (m)	Inlet Height (m)	Monitored 2019 Annual Mean NO_2 Concentration (µg/m³)
GR/RL*	Corner of Gosport Road and Redlands Lane	Roadside	1.5	2.1	21.2
G1A*	30 Old Gosport Road	Roadside	10	2.3	27.0
G2A*	138 Gosport Road	Other	9.5	1.8	26.0
G4*	122 Gosport Road	Roadside	6	2.5	24.0
G6*	171 Gosport Road	Roadside	6	2.3	27.3
G7*	193 Gosport Road	Roadside	6.5	3.0	36.5
G10*	107 Gosport Road	Roadside	14	2.6	31.6
G11*	2 Earls Road	Roadside	5	2.1	22.7
G12*	Two Saints, 101 Gosport Road	Roadside	15	2.6	30.5
G14*	Bottom of Beaconsfield Road	Other	6.9	2.5	26.8
*Located within AQMA					

As indicated in **Table 4-3**, all diffusion tubes located within the Air Quality Assessment area monitored annual average NO_2 concentrations below the AQO for NO_2 (40 µg/m³ annual mean) during 2019.

It should be noted that as part of the model verification a review of diffusion tubes locations and monitoring heights was undertaken. As part of this process, the locations and monitoring heights were adjusted following desk-based review using Google Maps.

Figure 4-1. Local Authority Monitoring Locations

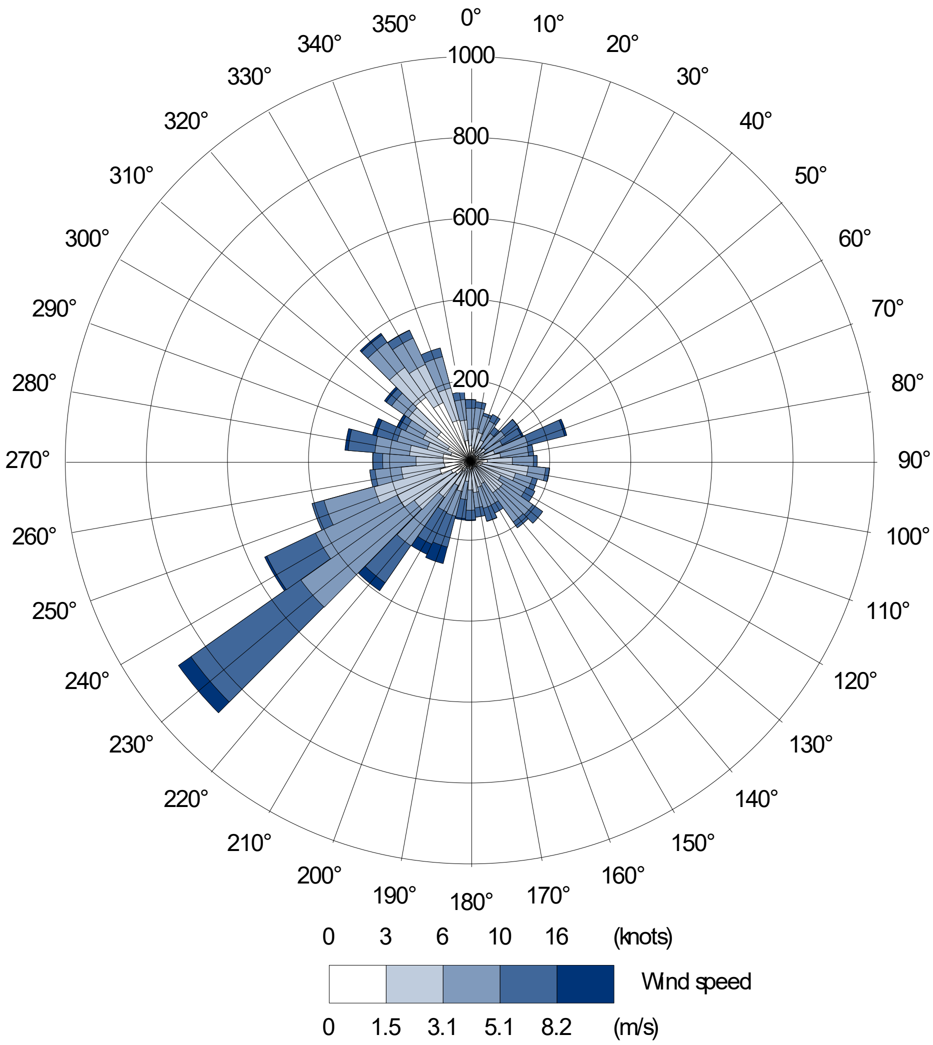


4.2 METEOROLOGY

Meteorological conditions have significant influence over air pollutant concentrations and dispersion. Pollutant levels can vary significantly from hour to hour as well as day to day, thus any air quality predictions need to be based on detailed meteorological data. The ADMS (Atmospheric Dispersion Modelling System) model calculates the dispersion of pollutants on an hourly basis using a year of local meteorological data.

The 2019 meteorological data used in the assessment is derived from Gosport Fleetlands Meteorological Station. This is the nearest meteorological station, which is considered representative of the application site, with all the complete parameters necessary for the ADMS model. Reference should be made to **Figure 4-2** for an illustration of the prevalent wind conditions at Gosport Fleetlands Meteorological Station site.

Figure 4-2. Gosport Fleetlands 2019 Wind Rose



4.3 EMISSION SOURCES

A desktop assessment has identified that traffic movements are likely to be the most significant local source of pollutants affecting the site and its surroundings. The principal traffic derived pollutants likely to impact local receptors are NO_2, PM_{10} and $PM_{2.5}$.

The assessment has therefore modelled all roads within the immediate vicinity of the application site which are considered likely to experience significant changes in traffic flow as a result of the proposed development. Reference should be made to **Figure A-1** for a graphical representation of the traffic data utilised within the ADMS Roads 5.0.0.1 model.

It should be noted that the pollutant contribution of minor roads and rail sources that are not included within the dispersion model is considered to be accounted for via the use of background air quality levels.

4.4 SENSITIVE RECEPTORS

Receptors that are considered as part of the air quality assessment are primarily those existing receptors that are situated along routes predicted to experience significant changes in traffic flow as a result of the proposed development.

The existing receptor locations are summarised in **Table 4-4** and the spatial locations of all of the receptors are illustrated in **Figure 4-3**.

Table 4-4. Modelled Sensitive Receptor Locations

Existing Sensitive Receptor		X	Y	Receptor Height (m)
R1	HMS Collingwood	457243	104107	1.5
R2	Tudor Lodge Nursing Home	457110	103802	1.5
R3	2 Woodcote Lane	457286	103007	1.5
R4	9 Newgate Lane	457112	102664	1.5
R5	4 Marks Road	456970	101746	1.5
R6	CEMAST Engineering School	457627	102423	1.5
R7	1 Staples Reach	458282	101874	1.5
R8	Rowner Health Centre	459060	101681	1.5
R9	Tichborne Way	459315	101784	1.5
R10	Brune Medical Centre	457546	105066	1.5
R11*	1 Geoffrey Cresent	457516	105171	1.5
R12*	Youngbridge Court	457556	105299	1.5
R13*	Gracewell Care Home	457592	105258	1.5
R14	112 Gosport Road	457727	105620	1.5
R15	30 Gosport Road	457740	105721	1.5
R16	12 Eden Rise	457955	105920	1.5
R17	25 Gosport Road	456844	104813	1.5
R18	3 Longfield Avenue	456261	105351	1.5
R19	132 Longfield Avenue	456020	102746	1.5
R20	2 Davis Way (Non-Residential)	457417	104658	1.5
Proposed Sensitive Receptor		**X**	**Y**	**Receptor Height (m)**
PR1	Proposed Receptor	457296	103434	1.5
PR2	Proposed Receptor	457404	103738	1.5
PR3	Proposed Receptor	457582	103975	1.5
PR4	Proposed Receptor	457550	103415	1.5
PR5	Proposed Receptor	457676	103923	1.5

*Located in the AQMA

Five proposed residential and twenty amenity sensitive receptors have been assessed to determine the effect of air quality, associated with the proposed development. The locations of the receptor are identified on **Figure 4-3**.

4.5 ECOLOGICAL RECEPTORS

Air quality impacts associated with the proposed re-development have the potential to impact on receptors of ecological sensitivity within the vicinity of the site. The IAQM guidance on ‘Air Quality Impacts on Designated

Nature Conservation Sites' (2020) outlines the types of designated nature sites within 2 km of the proposed development which require air quality assessment. These are inclusive of;

- Sites of Special Scientific Interest (SSSIs);
- Special Areas of Conservation (SACs);
- Special Protection Areas (SPAs);
- Ramsar Sites;
- Areas of Special Scientific Interest (ASSIs);
- National Nature Reserves (NNRs);
- Local Nature Reserves (LNRs);
- Local Wildlife Sites (LWSs); and,
- Areas of Ancient Woodland (AW).

The Conservation of Habitats and Species Regulations (2019) additionally requires competent authorities to review planning applications and consents that have the potential to impact on European designated sites (e.g. Special Protection Areas).

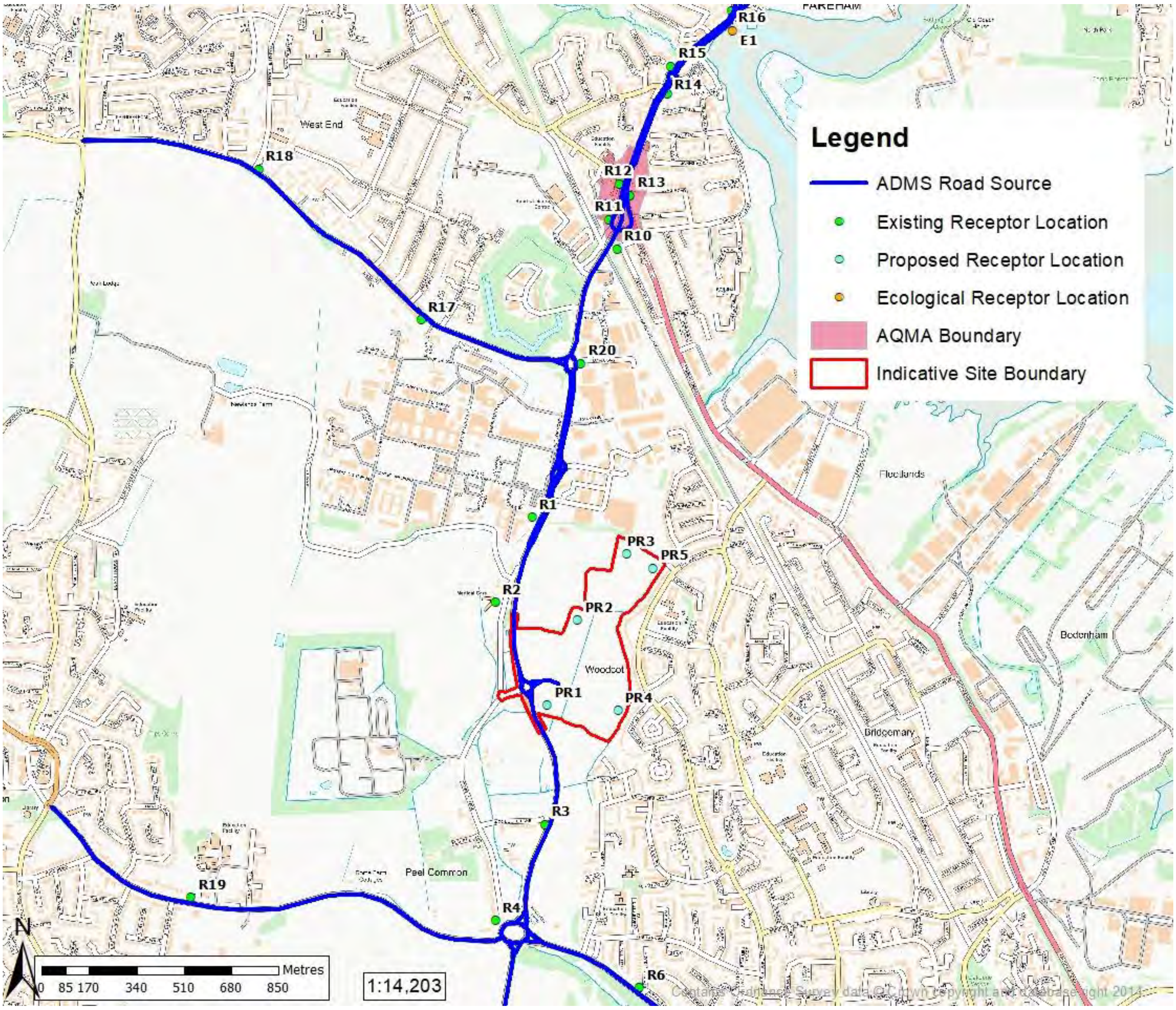
A study was undertaken to identify any statutory designated sites of ecological or nature conservation importance within the extents of the dispersion modelling assessment. This was completed using the Multi-Agency Geographic Information for the Countryside (MAGIC) web-based interactive mapping service, which draws together information on key environmental schemes and designations. Following a search within a 2 km radius of the site boundary, the following ecological receptors were identified:

Table 4-5. Ecological Sensitive Receptor Locations

Site ID	Site	Designation	UK NGR (m)		Distance from Site (km)	Distance from Nearest Affected Road (m)
			X	Y		
E1	Portsmouth Harbour	SSSI / SAC / SPA	457876	104523	0.8	25
E2	The Wild Grounds	LNR	457823	101475	1.9	>200
E3	Tips Copse	AW	455961	103391	1.3	>200

It should be noted that the IAQM Guidance only requires the assessment of ecological receptors which are located within 200 m of the affected road network. Therefore, ecological receptors E2 and E3 have been scoped out of this assessment.

Figure 4-3. Sensitive Receptor Locations



5.0 ASSESSMENT OF AIR QUALITY IMPACTS - CONSTRUCTION PHASE

5.1 POLLUTANT SOURCES

The main emissions during construction are likely to be dust and particulate matter generated during earth moving (particularly during dry months) or from construction materials. The main potential effects of dust and particulate matter are:

- Visual - dust plume, reduced visibility, coating and soiling of surfaces leading to annoyance, loss of amenity, the need to clean surfaces;
- Physical and/or chemical contamination and corrosion of artefacts;
- Coating of vegetation and soil contamination; and,
- Health effects due to inhalation e.g. asthma or irritation of the eyes.

A number of other factors such as the amount of precipitation and other meteorological conditions will also greatly influence the amount of particulate matter generated.

Construction activities can give rise to short-term elevated dust/PM_{10} concentrations in neighbouring areas. This may arise from vehicle movements, soiling of the public highway, demolition or windblown stockpiles.

5.2 PARTICULATE MATTER (PM_{10})

The UK Air Quality Standards seek to control the health implications of respirable PM_{10}. However, the majority of particles released from construction will be greater than this in size.

Construction works on site have the potential to elevate localised PM_{10} concentrations in the area. On this basis, mitigation measures should still be taken to minimise these emissions as part of good site practice.

5.3 DUST

Particles greater than 10µm are likely to settle out relatively quickly and may cause annoyance due to their soiling capability. Although there are no formal standards or criteria for nuisance caused by deposited particles, the IAQM 'Guidance on Monitoring in the Vicinity of Demolition and Construction Sites' (October 2018) and the Environment Agency Technical Guidance Note (TGN) M17 states that dust is usually compared with a 'complaints likely' guideline of 200mg/m^2/day. Therefore, a deposition rate of 200mg/m^2/day is often presented as a threshold for serious nuisance though this is usually only applied to long term exposure as people are generally more tolerant of dust for a short or defined period. Significant nuisance is likely when the dust coverage of surfaces is visible in contrast with adjacent clean areas, especially when it happens regularly. Severe dust nuisance occurs when the dust is perceptible without a clean reference surface.

Construction activities have the potential to suspend dust, which could result in annoyance of residents surrounding the site. Measures will be taken to minimise the emissions of dust as part of good site practice.

Recommended mitigation measures proportionate to the risk associated with the development and based on best practice guidance are discussed in the following sections.

5.4 METHODOLOGY

The construction phase assessment utilises the IAQM Guidance on the Assessment of Dust from Demolition and Construction document published in February 2014.

Four construction processes are considered; these are demolition, earthworks, construction and trackout. For each of these phases, the impact description of the potential dust impacts is derived following the determination of a dust emission magnitude and the distance of activities to the nearest sensitive receptor, therefore assessing worst case impacts. A full explanation of the methodology is contained in Appendix A.

5.5 ASSESSMENT RESULTS

Based on the methodology detailed in Appendix A, the scale of the anticipated works has determined the potential dust emission magnitude for each process, as presented in the **Table 5-1** below.

Table 5-1. Dust Emission Magnitude

Construction Process	Site Criteria	Dust Emission Magnitude
Demolition	No demolition required	N/A
Earthworks	Total Site Area: >10,000 m^2	Large
Construction	Total Building Volume >100,000 m^3	Large
Trackout	Assumed 10 - 50 HDV outward movements in any one day	Medium

The sensitivity of the surrounding area to each construction process has been determined following stage 2B of the IAQM guidance. The assessment has determined the area sensitivities as shown in the **Table 5-2**.

The sensitivity of the ecological receptors is considered not applicable within the construction phase assessment due to the distance from the application site which is greater than 500m. This is in accordance with Table 4 of the IAQM Guidance.

Table 5-2. Sensitivity of the Area

<table>
<tr><th rowspan="2">Source</th><th colspan="6">Area Sensitivity</th></tr>
<tr><th>Dust Soiling</th><th>Site Sensitivity Criteria</th><th>Health Effects of PM_{10}</th><th>Site Sensitivity Criteria</th><th>Ecological</th><th>Site Sensitivity Criteria</th></tr>
<tr><td>Demolition</td><td>N/A</td><td>No demolition required</td><td>N/A</td><td>No demolition required</td><td>N/A</td><td>No demolition required</td></tr>
<tr><td>Earthworks</td><td>Medium</td><td rowspan="2">10-100 Highly Sensitive Receptors within 50m</td><td>Low</td><td rowspan="2">Annual Mean of <24 ug/m^3 for PM_{10}
10-100 Highly Sensitive Receptors within 50m</td><td>N/A</td><td rowspan="2">>50 m from site boundary</td></tr>
<tr><td>Construction</td><td>Medium</td><td>Low</td><td>N/A</td></tr>
<tr><td>Trackout</td><td>Medium</td><td>10-100 Highly Sensitive Receptors within 50m of roads within 500m of site</td><td>Low</td><td>Annual Mean of <24 ug/m^3 for PM_{10}
10-100 Highly Sensitive Receptors within 50m of roads within 500m of site</td><td>N/A</td><td>>50 m from roads within 500 m from site boundary</td></tr>
</table>

The dust emission magnitude determined in **Table 5-1** has been combined with the sensitivity of the area determined in **Table 5-2**, to determine the risk of impacts prior to the implementation of appropriate mitigation measures. The potential impact significance of dust emissions associated with the development, without mitigation, is presented in **Table 5-3**.

Table 5-3. Impact Description of Construction Activities without Mitigation

Source	Summary Risk of Impacts Prior to Mitigation		
	Dust Soiling	Health Effects of PM_{10}	Ecological
Demolition	N/A	N/A	N/A
Earthworks	Medium	Low	N/A
Construction	Medium	Low	N/A
Trackout	Low	Low	N/A

Appropriate mitigation measures are detailed and presented in Section 7. Following the adoption of these measures, the subsequent impact significance of the construction phase is not predicted to be significant.

6.0 ASSESSMENT OF AIR QUALITY IMPACTS - OPERATIONAL PHASE

In the context of the proposed development, road traffic is identified as the dominant emission source that is likely to cause potential risk of exposure of air pollutants at receptors.

The operational phase assessment therefore consists of the quantified predictions of the change in NO_2, PM_{10} and $PM_{2.5}$ for the operational phase of the development due to changes in traffic movement. Predictions of air quality at the site have been undertaken for the operational phase of the development using ADMS Roads.

In accordance with the provided traffic data, the operational phase assessment has been undertaken with an operational opening year of 2028 The assessment scenarios are therefore:

- 2019 Baseline = Existing Baseline Conditions (2019);
- 2028 "Do Minimum" = Baseline Conditions + Committed Development Flows + Unconsented Development Sensitivity Test (Included within traffic data at request of local authority); and,
- 2028 "Do Something" = Baseline Conditions + Committed Development + Sensitivity Test + Proposed Development.

6.1 EXISTING AND PREDICTED TRAFFIC FLOWS

Baseline 2019 traffic data, projected 2028 'Do Minimum' and 'Do Something' traffic data, and average vehicle speeds have been obtained for the operational phase assessment in the form of Annual Average Daily Traffic figures (AADT).

Traffic data for all scenarios, inclusive of HGV numbers and average speeds have been provided by i-Transport LLP for all road links.

To calculate the 2028 'Do Something' operational year traffic flows, the proposed development traffic flows have been distributed across the model area and have been added onto the 2028 'Do Minimum' scenario flows.

Emission factors for the 2019 baseline and 2028 projected 'Do Minimum' and 'Do Something' scenarios have been calculated using the Emission Factor Toolkit (EFT) Version 11.0 (November 2021).

It is assumed the average vehicle speeds on the local road network in an opening year of 2028 will be broadly the same as the ones in 2019. A 50 m 20 km/hr slow down phase is included on each link at every junction and roundabout within the assessment. All of the roads within the dispersion model are illustrated in **Figure A-1**. Detailed traffic figures are provided in the

Table 6-1.

Table 6-1. Traffic Data

Link	Speed (km/h)	2019 Baseline		2028 Do Minimum		2028 Do Something	
		AADT	HGV %	AADT	%HGV	AADT	%HGV
B3385 Newgate Lane East (North of Site)	63	32,696	2.93	31,189	2.63	32,220	2.55
B3385 Newgate Lane East (South of Longfield Ave)	63	36,541	2.85	35,131	2.80	36,161	2.72
B3385 Newgate Lane East (North of Longfield Ave)	48	28,585	3.17	31,835	2.99	32,496	2.93
A32 Gosport Road (North of Gosport Roundabout)	48	61,966	4.00	66,454	3.88	67,114	3.84
A32 Gosport Road (South of A27)	48	59,347	4.19	63,706	4.06	64,367	4.02
B3385 Newgate Lane East (South of Site)	63	32,689	2.91	31,266	2.60	32,879	2.47
B3334 Gosport Road (West)	48	15,747	1.49	31,828	1.40	32,489	1.37
B3334 Rowner Road (East)	48	25,956	2.47	26,229	1.70	27,022	1.65
B3385 Broom Way	48	22,453	2.46	31,055	1.74	31,213	1.73
Longfield Avenue	48	15,583	2.42	10,605	2.45	10,975	2.37
Site Access	20	0	0.00	0	0.00	2,643	0.00

6.2 BACKGROUND CONCENTRATIONS

The use of background concentrations within the modelling process ensures that pollutant sources other than traffic are represented appropriately. Background sources of pollutants include industrial, domestic and rail emissions within the vicinity of the study site. Several sources have been used to obtain representative background levels as discussed below.

The background concentrations used within the assessment have been determined with reference to the IAQM Guidance and Technical Guidance (TG) (16).

The IAQM Guidance states:

> "*A matter of judgement should take into account the background and future background air quality and whether it is likely to approach or exceed the value of the AQO.*"

Additionally, TG (16) states:

> "*Typically, only the process contributions from local sources are represented within an output by the dispersion model. In these circumstances, it is necessary to add an appropriate background concentration(s) to the modelled source contributions to derive the total pollutant concentrations.*"

<u>Defra Published Background Concentrations for 2019</u>

The background concentrations shown in **Table 6-2** were referenced from the UK National Air Quality Information Archive database based on the National Grid Co-ordinates of 1 x 1 km grid squares nearest to the application site. In August 2020, Defra issued revised 2018 based background maps for nitrogen oxide (NO_X), NO_2, PM_{10} and $PM_{2.5}$.

Table 6-2. Published Background Air Quality Levels (µg/m^3)

Receptor Location		2019			
		NO_X	NO_2	PM_{10}	$PM_{2.5}$
Proposed Site					
457404	103738	18.08	13.29	14.95	10.19
Local Authority Monitoring					
FAR1		23.34	16.72	15.47	10.93
G7		23.34	16.72	15.47	10.93
G10		23.34	16.72	15.47	10.93
Existing Sensitive Receptors					
R1		23.22	16.52	14.33	10.03
R2		18.08	13.29	14.95	10.19
R3		18.08	13.29	14.95	10.19
R4		18.94	13.85	14.12	10.00
R5		16.53	12.26	13.20	9.34
R6		18.94	13.85	14.12	10.00
R7		17.78	13.10	14.57	10.33
R8		20.40	14.80	15.15	10.80
R9		20.40	14.80	15.15	10.80
R10		23.34	16.72	15.47	10.93
R11*		23.34	16.72	15.47	10.93
R12*		23.34	16.72	15.47	10.93
R13*		23.34	16.72	15.47	10.93
R14		23.34	16.72	15.47	10.93
R15		23.34	16.72	15.47	10.93
R16		23.34	16.72	15.47	10.93
R17		17.19	12.70	14.53	9.71
R18		18.68	13.70	14.95	10.53
R19		17.17	12.68	13.55	9.46
R20		23.22	16.52	14.33	10.03
Proposed Sensitive Receptors					
PR1 – PR5		18.08	13.29	14.95	10.19
Ecological Sensitive Receptors					
E1		23.34	16.72	15.47	10.93

*Located in the AQMA

All the Defra background concentrations detailed in **Table 6-2** for 2019, show that the background levels are predicted to be below the relevant AQO within the study area.

A breakdown of the background source apportionment of NO_X concentrations at each monitoring location and receptor is shown in

Table 6-3.

Table 6-3. Pollutant Source Apportionment of NO_X (µg/m³)

Receptor Location	2019						
	Total NO_x	% of NO_x from Road Sources	% of NO_x from Industrial Sources	% of NO_x from Domestic Sources	% of NO_x from Aircraft Sources	% of NO_x from Rail Sources	% of NO_x from Other Sources
Local Authority Monitoring							
FAR1	23.34	37.83	4.03	8.03	0.02	0.38	49.70
G7	23.34	37.83	4.03	8.03	0.02	0.38	49.70
G10	23.34	37.83	4.03	8.03	0.02	0.38	49.70
Existing Sensitive Receptors							
R1	23.22	25.37	5.92	7.60	0.02	0.18	60.92
R2	18.08	22.47	5.04	8.80	0.02	0.16	63.51
R3	18.08	22.47	5.04	8.80	0.02	0.16	63.51
R4	18.94	22.11	5.13	8.59	0.02	0.15	64.00
R5	16.53	19.34	4.28	7.02	0.02	0.11	69.22
R6	18.94	22.11	5.13	8.59	0.02	0.15	64.00
R7	17.78	22.18	4.05	9.16	0.02	0.11	64.48
R8	20.40	26.48	3.41	9.19	0.02	0.09	60.81
R9	20.40	26.48	3.41	9.19	0.02	0.09	60.81
R10	23.34	37.83	4.03	8.03	0.02	0.38	49.70
R11*	23.34	37.83	4.03	8.03	0.02	0.38	49.70
R12*	23.34	37.83	4.03	8.03	0.02	0.38	49.70
R13*	23.34	37.83	4.03	8.03	0.02	0.38	49.70
R14	23.34	37.83	4.03	8.03	0.02	0.38	49.70
R15	23.34	37.83	4.03	8.03	0.02	0.38	49.70
R16	23.34	37.83	4.03	8.03	0.02	0.38	49.70
R17	17.19	20.92	5.14	8.36	0.02	0.23	65.33
R18	18.68	25.33	4.64	9.63	0.02	0.37	59.99
R19	17.17	17.99	4.70	7.43	0.02	0.16	69.70
R20	23.22	25.37	5.92	7.60	0.02	0.18	60.92
Proposed Sensitive Receptors							
PR1 – PR5	18.08	22.47	5.04	8.80	0.02	0.16	63.51
Ecological Sensitive Receptors							
E1	23.34	37.83	4.03	8.03	0.02	0.38	49.70

*Located in the AQMA

Table 6-3 shows that the major background source of NO_X at the monitoring, sensitive receptor locations where sources have been identified are mainly comprised of road sources.

A review of the Defra background site has determined that they are in line with the Local Authority monitoring within FBC.

Table 6-4 shows the background concentrations utilised within the assessment.

Table 6-4. Utilised Background Concentrations (µg/m^3)

Receptor Location	2019		Source
	NO_x	NO_2	
Local Authority Monitoring			
FAR1	23.34	16.72	Defra Background Maps
G7	23.34	16.72	
G10	23.34	16.72	
Existing Sensitive Receptors			
R1	23.22	16.52	Defra Background Maps
R2	18.08	13.29	
R3	18.08	13.29	
R4	18.94	13.85	
R5	16.53	12.26	
R6	18.94	13.85	
R7	17.78	13.10	
R8	20.40	14.80	
R9	20.40	14.80	
R10	23.34	16.72	
R11*	23.34	16.72	
R12*	23.34	16.72	
R13*	23.34	16.72	
R14	23.34	16.72	
R15	23.34	16.72	
R16	23.34	16.72	
R17	17.19	12.70	
R18	18.68	13.70	
R19	17.17	12.68	
R20	23.22	16.52	
Proposed Sensitive Receptors			
PR1 – PR5	18.08	13.29	Defra Background Maps
Ecological Sensitive Receptors			
E1	25.07	-	APIS

*Located in the AQMA

6.3 MODEL VERIFICATION

Model verification involves the comparison of modelled data to monitored data in order to gain the best possible representation of current pollutant concentrations for the assessment years. The verification process is in general accordance with that contained in Section 7 of the TG16 guidance note and uses the most recently available diffusion tube monitoring data to best represent this.

The verification process consists of using the monitoring data and the published background air quality data in the UK National Air Quality Information Archive to calculate the road traffic contribution of NO_X at the monitoring locations. Outputs from the ADMS Roads model are provided as predicted road traffic contribution NO_X emissions. These are converted into predicted roadside contribution NO_2 exposure at the relevant receptor locations based on the updated approach to deriving NO_2 from NO_X for road traffic sources published in Local

Air Quality Management TG16. The calculation was derived using the NO_X to NO_2 worksheet in the online LAQM tools website hosted by Defra. **Table 6-5** summarises the final model/monitored data correlation following the application of the model correction factor.

Table 6-5. Comparison of Roadside Modelling & Monitoring Results for NO_2

Monitoring Site	NO_2 µg/m^3		
	Monitored NO_2	**Modelled NO_2**	**Difference (%)**
FAR1	29.30	36.32	23.96
G7	36.50	29.25	-19.85
G10	31.60	27.08	-14.30

*Located in the AQMA

The final model produced data at the monitoring locations to within 25% of the monitoring results at all of the verification points, as required by TG16 guidance.

The final verification model correlation coefficient (representing the model uncertainty) is 1.49. This was achieved by applying a model correction factor of 1.00 to roadside predicted NO_X concentrations before converting to NO_2. This figure demonstrates that the model predictions were in line with the road traffic emissions at the monitoring locations.

It should be noted that TG (16) states that in the absence of any Particulate Matter (PM_{10} and $PM_{2.5}$) monitoring data for verification, it may be appropriate to apply the NO_X-NO_2 adjustment factor to the modelled Particulate Matter.

TG(16) also states that care needs to be taken when applying model adjustment based on one monitoring site only as the adjustment may not be representative of other locations.

As there is no suitable PM_{10} or $PM_{2.5}$ monitoring data within the study area, it is not possible to perform a model verification for these pollutants. As such, the NO_2 adjustment factor has also been applied to the PM_{10} and $PM_{2.5}$ modelled results, in accordance with LAQM.TG(16).

6.4 ADMS-ROADS MODEL INPUTS

Table 6-6. Summary of ADMS Roads Model Inputs

Parameter	Description	Input Value
Chemistry	A facility within ADMS-Roads to calculate the chemical reactions in the atmosphere between Nitric Oxide (NO), NO_2, Ozone (O_3) and Volatile organic compounds (VOCs).	No atmospheric chemistry parameters included
Meteorology	Representative meteorological data from a local source	**Gosport Fleetlands 2019 Meteorological Station**, hourly sequential data
Surface Roughness	A setting to define the surface roughness of the model area based upon its location.	**0.5m** representing a typical surface roughness for **Parkland Open Suburbia** was used for the Site and for the meteorological measurement site.
Latitude	Allows the location of the model area to be set	United Kingdom = **50.8**
Monin-Obukhov Length	This allows a measure of the stability of the atmosphere within the model area to be specified depending upon its character.	Cities and Large Towns= **30m** was used for the Site Cities and Large Towns = 3**0m** was used for the met. Measurement site.

Elevation of Road	Allows the height of the road link above ground level to be specified.	All other road links were set at ground level = **0m**.
Road Width	Allows the width of the road link to be specified.	Road width used depended on data obtained from OS map data for the specific road link
Topography	This enables complex terrain data to be included within the model in order to account for turbulence and plume spread effects of topography	No topographical information used
Time Varied Emissions	This enables daily, weekly or monthly variations in emissions to be applied to road sources	No time varied emissions used
Road Type	Allows the effect of different types of roads to be assessed.	**Urban (Not London)** settings were used for the relevant links
Road Speeds	Enables individual road speeds to be added for each road link	Based on national speed limits
Canyon Height	Allows the model to take account turbulent flow patterns occurring inside a street with relatively tall buildings on both sides, known as a "street canyon".	No canyons used within the model
Road Source Emissions	Road source emission rates are calculated from traffic flow data using the in-built EFT database of traffic emission factors.	The **EFT** Version **11.0 (2021)** dataset was used.
Year	Predicted EFT emissions rates depend on the year of emission.	**2019** data for verification and baseline Operational Phase Assessment. **2028** data for the Operational Phase Traffic Assessment.

6.5 ADMS MODELLING RESULTS

6.5.1 Traffic Assessment

The ADMS Model has predicted concentrations of NO_2, PM_{10} and $PM_{2.5}$ at relevant receptor locations adjacent to roads likely to be affected by the development, as summarised in the following tables. Only receptors close to roads where there is predicted to be a change in emissions have been assessed.

6.5.2 Assessment Scenarios

For the operational year of 2028, assessment of the effects of emissions from the proposed traffic associated with the scheme, has been undertaken using the Emissions Factor Toolkit (EFT) 2028 emissions rates which take into account of the rate of reduction in emission from road vehicles into the future with the following factors:

- 2019 Baseline = Existing Baseline Conditions (2019);
- 2028 "Do Minimum" = Baseline Conditions + Committed Development Flows + Unconsented Development Sensitivity Test (Included within traffic data at request of local authority); and,
- 2028 "Do Something" = Baseline Conditions + Committed Development + Sensitivity Test + Proposed Development.

6.5.3 Operational Traffic Assessment

<u>Nitrogen Dioxide</u>

Table 6-7 presents a summary of the predicted change in NO_2 concentrations at relevant receptor locations, due to changes in traffic flow associated with the proposed development, based on modelled 'Do Minimum' and 'Do Something' scenarios.

Table 6-7. Predicted Annual Average Concentrations of NO_2 at Receptor Locations

Receptor		NO_2 (µg/m³)			
		2019 Baseline	2028 Do Minimum	2028 Do Something	Development Contribution
R1	HMS Collingwood	20.83	18.07	18.11	0.04
R2	Tudor Lodge Nursing Home	14.98	13.94	13.96	0.02
R3	2 Woodcote Lane	19.39	15.63	15.74	0.11
R4	9 Newgate Lane	18.96	16.18	16.26	0.08
R5	4 Marks Road	16.14	14.28	14.30	0.02
R6	CEMAST Engineering School	21.23	16.75	16.84	0.09
R7	1 Staples Reach	22.61	16.75	16.85	0.10
R8	Rowner Health Centre	24.60	18.56	18.66	0.10
R9	Tichborne Way	21.13	17.24	17.31	0.07
R10	Brune Medical Centre	23.85	19.68	19.73	0.05
R11*	1 Geoffrey Cresent	23.73	19.49	19.51	0.02
R12*	Youngbridge Court	25.96	20.41	20.44	0.03
R13*	Gracewell Care Home	38.32	25.78	25.85	0.07
R14	112 Gosport Road	43.21	27.96	28.05	0.09
R15	30 Gosport Road	34.44	23.85	23.92	0.07
R16	12 Eden Rise	33.24	23.38	23.44	0.06
R17	25 Gosport Road	16.47	13.74	13.78	0.04
R18	3 Longfield Avenue	19.68	15.29	15.34	0.05
R19	132 Longfield Avenue	16.54	15.67	15.73	0.06
R20	2 Davis Way (Non-Residential)	34.16	23.28	23.45	0.17
PR1	Proposed Receptor	-	-	15.64	-
PR2	Proposed Receptor	-	-	13.89	-
PR3	Proposed Receptor	-	-	13.74	-
PR4	Proposed Receptor	-	-	13.78	-
PR5	Proposed Receptor	-	-	13.67	-
Annual Mean AQO		**40 µg/m³**			
*Located in the AQMA					

All modelled existing receptors are predicted to be below the AQO for NO_2 in both the 'Do Minimum' and 'Do Something' scenarios.

As indicated in **Table 6-7**, the maximum predicted increase in annual average exposure to NO_2 at any existing receptor, due to changes in traffic movements associated with the proposed development is likely to be 0.17 µg/m³ at 2 Davis Way (R20).

The maximum predicted annual average exposure to NO_2 at any proposed receptor at the ground floor is 15.64 µg/m³. All modelled proposed residential receptors are predicted to be below the annual average AQO for NO_2.

The predicted long-term NO_2 concentrations at all proposed and existing receptors are well below 60 µg/m³ in all scenarios. Therefore, it is unlikely there will be any exceedances for the short-term NO_2 AQO at all modelled receptors as outlined in LAQM TG16 technical guidance.

Figure 6-1 and **Figure 6-2** below, illustrate the Total Long Term Annual Average Nitrogen Dioxide (NO_2) Contribution and Concentration at the Proposed Development (µg/m³).

Figure 6-1. Annual Average Long-Term Nitrogen Dioxide (NO_2) Contribution from Proposed Development (µg/m³)

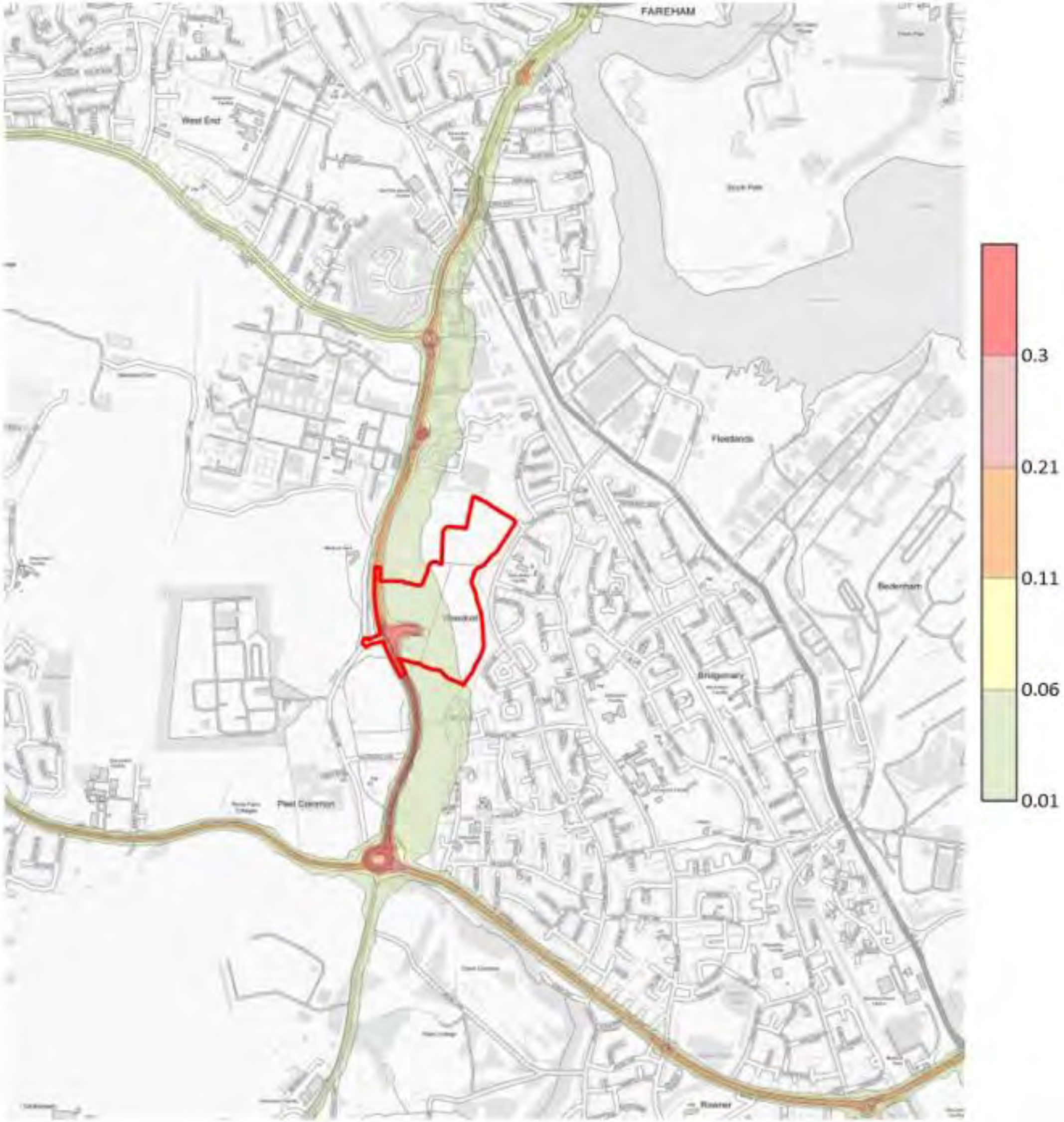
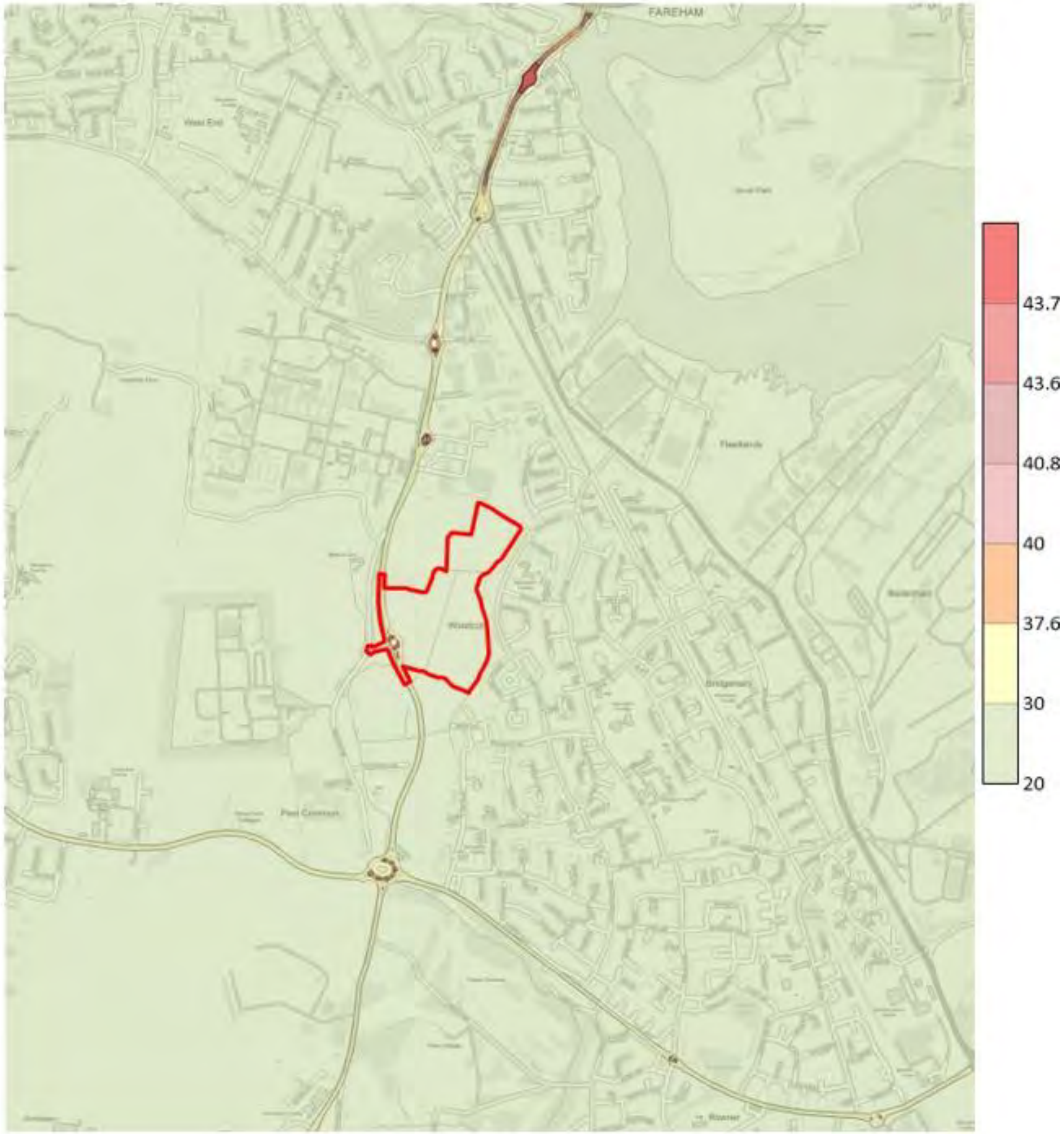


Figure 6-2. Total Long Term Annual Average Nitrogen Dioxide (NO_2) Concentration Across the Study Area ($\mu g/m^3$)



The impact description of changes in traffic flow associated with the proposed development with respect to annual mean NO_2 exposure has been assessed with reference to the criteria in Section 3. The outcomes of the assessment are summarised in **Table 6-8**.

Table 6-8. Impact Description of Effects at Key Receptors (NO_2)

Impact Description of NO_2 Effects at Key Receptors					
Receptor	**Change Due to Development (DS-DM) (µg/m³)**	**Change due to Development (% of AQO)**	**% Change in Concentration Relative to AQO**	**% Annual Mean Concentration in Assessment Year**	**Impact Description**
R1	0.04	0.10	0%	≤75% of AQO	Negligible
R2	0.02	0.05	0%	≤75% of AQO	Negligible
R3	0.11	0.28	0%	≤75% of AQO	Negligible
R4	0.08	0.20	0%	≤75% of AQO	Negligible
R5	0.02	0.05	0%	≤75% of AQO	Negligible
R6	0.09	0.23	0%	≤75% of AQO	Negligible
R7	0.10	0.25	0%	≤75% of AQO	Negligible
R8	0.10	0.25	0%	≤75% of AQO	Negligible
R9	0.07	0.18	0%	≤75% of AQO	Negligible
R10	0.05	0.13	0%	≤75% of AQO	Negligible
R11*	0.02	0.05	0%	≤75% of AQO	Negligible
R12*	0.03	0.08	0%	≤75% of AQO	Negligible
R13*	0.07	0.18	0%	≤75% of AQO	Negligible
R14	0.09	0.23	0%	≤75% of AQO	Negligible
R15	0.07	0.18	0%	≤75% of AQO	Negligible
R16	0.06	0.15	0%	≤75% of AQO	Negligible
R17	0.04	0.10	0%	≤75% of AQO	Negligible
R18	0.05	0.13	0%	≤75% of AQO	Negligible
R19	0.06	0.15	0%	≤75% of AQO	Negligible
R20	0.17	0.43	0%	≤75% of AQO	Negligible
+0% means a change of <0.5% as per explanatory note 2 of table 6.3 of the EPUK IAQM Guidance.					
*Located in the AQMA					

The impact description of the effects of changes in traffic flow as a result of the proposed development, with respect to NO_2 exposure for existing receptors, is determined to be 'negligible' at all modelled receptors. This is based on the methodology outlined in section 3. Given the quantitative nature of the assessment and the verification of the air quality dispersion model, the level of accuracy of the assessment results is considered to be 'high'.

Particulate Matter (PM_{10})

Table 6-9 presents a summary of the predicted change in annual mean PM_{10} concentrations at relevant receptor locations, due to changes in traffic flow associated with the proposed development, based on modelled 'Do Minimum' and 'Do Something' scenarios.

Table 6-9. Predicted Annual Average Concentrations of PM_{10} at Receptor Locations

Receptor		PM_{10} ($\mu g/m^3$)			
		2019 Baseline	2028 Do Minimum	2028 Do Something	Development Contribution
R1	HMS Collingwood	15.07	14.98	15.00	0.02
R2	Tudor Lodge Nursing Home	15.30	15.27	15.28	0.01
R3	2 Woodcote Lane	16.25	16.17	16.22	0.05
R4	9 Newgate Lane	15.03	15.13	15.17	0.04
R5	4 Marks Road	14.01	14.22	14.23	0.01
R6	CEMAST Engineering School	15.72	15.63	15.68	0.05
R7	1 Staples Reach	16.19	16.06	16.10	0.04
R8	Rowner Health Centre	16.80	16.67	16.71	0.04
R9	Tichborne Way	16.40	16.32	16.35	0.03
R10	Brune Medical Centre	16.88	16.92	16.94	0.02
R11*	1 Geoffrey Cresent	16.76	16.73	16.74	0.01
R12*	Youngbridge Court	17.26	17.22	17.24	0.01
R13*	Gracewell Care Home	19.74	19.76	19.79	0.03
R14	112 Gosport Road	20.40	20.37	20.43	0.05
R15	30 Gosport Road	18.48	18.37	18.41	0.04
R16	12 Eden Rise	18.54	18.46	18.51	0.05
R17	25 Gosport Road	15.28	15.04	15.05	0.02
R18	3 Longfield Avenue	16.15	15.73	15.75	0.02
R19	132 Longfield Avenue	14.31	14.98	15.02	0.04
R20	2 Davis Way (Non-Residential)	17.52	17.21	17.29	0.08
PR1	Proposed Receptor	-	-	15.99	-
PR2	Proposed Receptor	-	-	15.23	-
PR3	Proposed Receptor	-	-	15.16	-
PR4	Proposed Receptor	-	-	15.19	-
PR5	Proposed Receptor	-	-	15.12	-
Annual Mean AQO		**40 $\mu g/m^3$**			
*Located in the AQMA					

All modelled existing receptors are predicted to be below the AQO for PM_{10} in both the 'Do Minimum' and 'Do Something' scenarios.

As indicated in **Table 6-9**, the maximum predicted increase in annual average exposure to PM_{10} at any existing receptor, due to changes in traffic movements associated with the proposed development is 0.08 $\mu g/m^3$ at 2 Davis Way (R20).

The maximum predicted annual average exposure to PM_{10} at any proposed receptor at the ground floor is 15.99 $\mu g/m^3$. All modelled proposed residential receptors are predicted to be below the annual average AQO for PM_{10}.

The impact description of changes in traffic flow associated with the proposed development with respect to annual mean PM_{10} exposure has been assessed with reference to the criteria in Section 3. The outcomes of the assessment are summarised in **Table 6-10**.

Table 6-10. Impact Description of Effects at Key Receptors (PM_{10})

Impact Description of PM_{10} Effects at Key Receptors					
Receptor	**Change Due to Development (DS-DM) (µg/m³)**	**Change due to Development (% of AQO)**	**% Change in Concentration Relative to AQO**	**% Annual Mean Concentration in Assessment Year**	**Impact Description**
R1	0.02	0.05	0%	≤75% of AQO	Negligible
R2	0.01	0.03	0%	≤75% of AQO	Negligible
R3	0.05	0.12	0%	≤75% of AQO	Negligible
R4	0.04	0.09	0%	≤75% of AQO	Negligible
R5	0.01	0.02	0%	≤75% of AQO	Negligible
R6	0.05	0.12	0%	≤75% of AQO	Negligible
R7	0.04	0.11	0%	≤75% of AQO	Negligible
R8	0.04	0.11	0%	≤75% of AQO	Negligible
R9	0.03	0.08	0%	≤75% of AQO	Negligible
R10	0.02	0.05	0%	≤75% of AQO	Negligible
R11*	0.01	0.02	0%	≤75% of AQO	Negligible
R12*	0.01	0.03	0%	≤75% of AQO	Negligible
R13*	0.03	0.07	0%	≤75% of AQO	Negligible
R14	0.05	0.14	0%	≤75% of AQO	Negligible
R15	0.04	0.10	0%	≤75% of AQO	Negligible
R16	0.05	0.11	0%	≤75% of AQO	Negligible
R17	0.02	0.04	0%	≤75% of AQO	Negligible
R18	0.02	0.06	0%	≤75% of AQO	Negligible
R19	0.04	0.09	0%	≤75% of AQO	Negligible
R20	0.08	0.19	0%	≤75% of AQO	Negligible
+0% means a change of <0.5% as per explanatory note 2 of table 6.3 of the EPUK IAQM Guidance.					
*Located in the AQMA					

The impact description of the effects of changes in traffic as a result of the proposed development, with respect to annual mean PM_{10} exposure for existing receptors is determined to be 'negligible' based on the methodology outlined in section 3. Given the quantitative nature of the assessment and the verification of the air quality dispersion model, the level of accuracy of the assessment results is considered to be 'high'.

<u>Particulate Matter ($PM_{2.5}$)</u>

Table 6-11 presents a summary of the predicted change in annual mean $PM_{2.5}$ concentrations at relevant receptor locations, due to changes in traffic flow associated with the proposed development, based on modelled 'Do Minimum' and 'Do Something' scenarios.

Table 6-11. Predicted Annual Average Concentrations of $PM_{2.5}$ at Receptor Locations

Receptor		$PM_{2.5}$ ($\mu g/m^3$)			
		2019 Baseline	2028 Do Minimum	2028 Do Something	Development Contribution
R1	HMS Collingwood	10.47	10.39	10.40	0.01
R2	Tudor Lodge Nursing Home	10.39	10.37	10.37	0.01
R3	2 Woodcote Lane	10.94	10.86	10.89	0.03
R4	9 Newgate Lane	10.53	10.56	10.58	0.02
R5	4 Marks Road	9.80	9.90	9.90	0.00
R6	CEMAST Engineering School	10.92	10.83	10.85	0.02
R7	1 Staples Reach	11.27	11.16	11.18	0.02
R8	Rowner Health Centre	11.77	11.65	11.67	0.03
R9	Tichborne Way	11.53	11.45	11.47	0.02
R10	Brune Medical Centre	11.75	11.73	11.75	0.01
R11*	1 Geoffrey Cresent	11.68	11.63	11.64	0.01
R12*	Youngbridge Court	11.97	11.90	11.91	0.01
R13*	Gracewell Care Home	13.43	13.30	13.32	0.02
R14	112 Gosport Road	13.83	13.66	13.69	0.03
R15	30 Gosport Road	12.71	12.55	12.57	0.02
R16	12 Eden Rise	12.73	12.59	12.61	0.02
R17	25 Gosport Road	10.14	9.99	10.00	0.01
R18	3 Longfield Avenue	11.22	10.96	10.97	0.01
R19	132 Longfield Avenue	9.91	10.26	10.28	0.02
R20	2 Davis Way (Non-Residential)	11.90	11.63	11.68	0.04
PR1	Proposed Receptor	-	-	10.77	-
PR2	Proposed Receptor	-	-	10.35	-
PR3	Proposed Receptor	-	-	10.31	-
PR4	Proposed Receptor	-	-	10.32	-
PR5	Proposed Receptor	-	-	10.29	-
Annual Mean AQO		**20 $\mu g/m^3$**			
*Located in the AQMA					

All modelled existing receptors are predicted to be below the AQO for $PM_{2.5}$ in both the 'Do Minimum' and 'Do Something' scenarios.

As indicated in **Table 6-11**, the maximum predicted increase in annual average exposure to $PM_{2.5}$ at any existing receptor, due to changes in traffic movements associated with the proposed development is 0.04 $\mu g/m^3$ at 2 Davis Way (R20).

The maximum predicted annual average exposure to NO_2 at any proposed receptor at the ground floor is 10.77 $\mu g/m^3$. All modelled proposed residential receptors are predicted to be below the annual average AQO for $PM_{2.5}$.

The impact description of changes in traffic flow associated with the proposed development with respect to annual mean $PM_{2.5}$ exposure has been assessed with reference to the criteria in Section 3. The outcomes of the assessment are summarised in **Table 6-12**.

Table 6-12. Impact Description of Effects at Key Receptors ($PM_{2.5}$)

Impact Description of $PM_{2.5}$ Effects at Key Receptors					
Receptor	**Change Due to Development (DS-DM) (µg/m³)**	**Change due to Development (% of AQO)**	**% Change in Concentration Relative to AQO**	**% Annual Mean Concentration in Assessment Year**	**Impact Description**
R1	0.01	0.05	0%	≤75% of AQO	Negligible
R2	0.01	0.03	0%	≤75% of AQO	Negligible
R3	0.03	0.16	0%	≤75% of AQO	Negligible
R4	0.02	0.10	0%	≤75% of AQO	Negligible
R5	0.00	0.02	0%	≤75% of AQO	Negligible
R6	0.02	0.12	0%	≤75% of AQO	Negligible
R7	0.02	0.12	0%	≤75% of AQO	Negligible
R8	0.03	0.13	0%	≤75% of AQO	Negligible
R9	0.02	0.09	0%	≤75% of AQO	Negligible
R10	0.01	0.07	0%	≤75% of AQO	Negligible
R11*	0.01	0.03	0%	≤75% of AQO	Negligible
R12*	0.01	0.05	0%	≤75% of AQO	Negligible
R13*	0.02	0.10	0%	≤75% of AQO	Negligible
R14	0.03	0.13	0%	≤75% of AQO	Negligible
R15	0.02	0.09	0%	≤75% of AQO	Negligible
R16	0.02	0.08	0%	≤75% of AQO	Negligible
R17	0.01	0.05	0%	≤75% of AQO	Negligible
R18	0.01	0.07	0%	≤75% of AQO	Negligible
R19	0.02	0.08	0%	≤75% of AQO	Negligible
R20	0.04	0.21	0%	≤75% of AQO	Negligible
+0% means a change of <0.5% as per explanatory note 2 of table 6.3 of the EPUK IAQM Guidance.					
*Located in the AQMA					

The impact description of the effects of changes in traffic as a result of the proposed development, with respect to annual mean PM_{10} exposure for existing receptors is determined to be 'negligible' based on the methodology outlined in section 3. Given the quantitative nature of the assessment and the verification of the air quality dispersion model, the level of accuracy of the assessment results is considered to be 'high'.

6.5.4 Ecological Sensitive Receptor Locations

Background concentrations at each of the ecologically sensitive sites were determined through a review of the NO_X pollutants published on the APIS website.

The below assessment has been undertaken in accordance with A Guide to the Assessment of Air Quality Impacts in Designated Nature Conservation Sites (IAQM, 2020).

<u>Nitrogen Oxide</u>

Table 6-13 presents a summary of the predicted change in NO_X concentrations at relevant receptor locations, due to changes in traffic flow associated with the development, based on modelled 'Do Minimum' and 'Do Something' scenarios.

Table 6-13. Predicted Annual Average Concentrations of NO_X at Ecological Receptor Locations

Ecological Receptor		Predicted Maximum Annual Mean Concentration (µg/m³)				
		Do Minimum 2028 NO_X	Do Something 2028 NO_X	Process Contribution (PC)	PC as %age of AQO	Background
E1	Portsmouth Harbour	33.67	33.76	0.09	0.29	25.07
Annual Mean AQO/Critical Level (CL)		30 µg/m³				

As indicated in **Table 6-13**, the maximum predicted increase in the annual average exposure to NO_X at any ecological receptor, due to changes in traffic movements associated with the development, is 0.09 µg/m³ at Portsmouth Harbour (SSSI / SAC / SPA) (E1).

Section 5.5.4.1 of *A Guide to the Assessment of Air Quality Impacts in Designated Nature Conservation Sites*', IAQM 2020 states:

> *Where the assessment indicates that changes in annual mean NO_x concentrations within a designated site cannot be dismissed as imperceptible (i.e. an increase of over 0.4 µg/m³) and the NO_x critical level is exceeded, then changes in nutrient nitrogen deposition should be calculated as supporting information to further assist in the evaluation of significance.*

The maximum predicted increase in the annual average exposure to NO_x at the identified ecological receptor, due to changes in traffic movements associated with the development, is 0.09 µg/m³ at Portsmouth Harbour (SSSI / SAC / SPA) (E1) which is below the 0.40 µg/m³ development contribution stated within the guidance of '*A Guide to the Assessment of Air Quality Impacts in Designated Nature Conservation Sites*', IAQM 2020.

As a result, no further assessment is required and the impact at Portsmouth Harbour (SSSI / SAC / SPA) (E1) as this is considered to be negligible.

7.0 MITIGATION

7.1 CONSTRUCTION PHASE

The dust risk categories have been determined in Section 5 for each of the construction activities. The assessment has determined that the potential impact description of dust emissions associated with the construction phase of the proposed development is ‘medium risk’ at the worst affected receptors.

Using the methodology described in Appendix A, appropriate site-specific mitigation measures associated with the determined level of risk can be found in Section 8.2 of the ‘IAQM Guidance on the Assessment of Dust from Demolition and Construction’.

The mitigation measures have been divided into general measures applicable to all sites and measures applicable specifically to earthworks, construction and trackout. They are categorised into ‘highly recommended’ and ‘desirable’ measures.

The mitigation measures for the proposed development are detailed in **Table 7-1** and **Table 7-2**.

Table 7-1. IAQM Guidance on the Assessment of Dust from Demolition and Construction ‘Highly Recommended’ Mitigation Measures

Communications
Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
Display the head or regional office contact information.
Dust Management
Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real time PM_{10} continuous monitoring and/or visual inspections.
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
Make the complaints log available to the local authority when asked.
Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.
Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
Fully enclose site or specific operations where there is a high potential for dust production and the site is actives for an extensive period.
Avoid site runoff of water or mud.
Keep site fencing, barriers and scaffolding clean using wet methods.
Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.

Cover, seed or fence stockpiles to prevent wind whipping.
Ensure all vehicles switch off engines when stationary - no idling vehicles.
Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable.
Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.
Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
Use enclosed chutes and conveyors and covered skips.
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
Avoid bonfires and burning of waste materials.
Earthworks
No Action Required.
Construction
Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
Trackout
Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
Avoid dry sweeping of large areas.
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
Record all inspections of haul routes and any subsequent action in a site log book.
Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
Access gates to be located at least 10m from receptors where possible.

Table 7-2. IAQM Guidance on the Assessment of Dust from Demolition and Construction 'Desirable' Mitigation Measures

Communications
No Action Required.
Dust Management
Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100m of site boundary, with cleaning to be provided if necessary.
Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on un-surfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).
Earthworks
Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
Only remove the cover in small areas during work and not all at once.

Construction
Avoid scabbling (roughening of concrete surfaces) if possible.
Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.
Trackout
No Action Required.

Following the implementation of the mitigation measures detailed in the tables above, the impact description of the construction phase is not considered to be significant

8.0 ODOUR IMPACT BRIEFING

8.1 PREVIOUS ODOUR ASSESSMENT

The proposed development is located approximately 500m east of the closest point of a Southern Water's wastewater treatment works (WwTW).

Tetra Tech have undertaken an odour assessment in support of the planning application for a proposed residential development at land at Newgate Lane, Fareham, PO14 1TR in 2018. An odour assessment report was titled as "Miller Homes and Bargate Homes, Land at Newgate Lane, Fareham, PO14 1TR, Odour Survey and Odour Assessment", Report Reference: A097690, dated 9th July 2018.

2018 odour assessment studied the potential magnitude and significance of potential odour impact from the wastewater treatment works on sensitive receptor locations at the proposed development site.

The major scopes of the 2018 odour assessment included:

- Completed 4 field odour sniffing surveys between 14th June 2018 and 2nd July 2018;
- Analysed the odour sniffing results in the identification of any significant odour impact from the wastewater treatment works on the proposed residential development; and
- Identified odour effect zones.

8.2 IDENTIFIED ODOUR EFFECT ZONES

2018 odour assessment has identified following odour effect zones and presented in **Figure 8-1**.

Odour Effect Zone A (Salmon)

Given the results of the survey, it is considered that odour nuisance is likely to occur over a limited area surrounding the sewage works. In Zone A the odour nuisance impacts may occur 1 – 4 times per week by odour from sewage works operations.

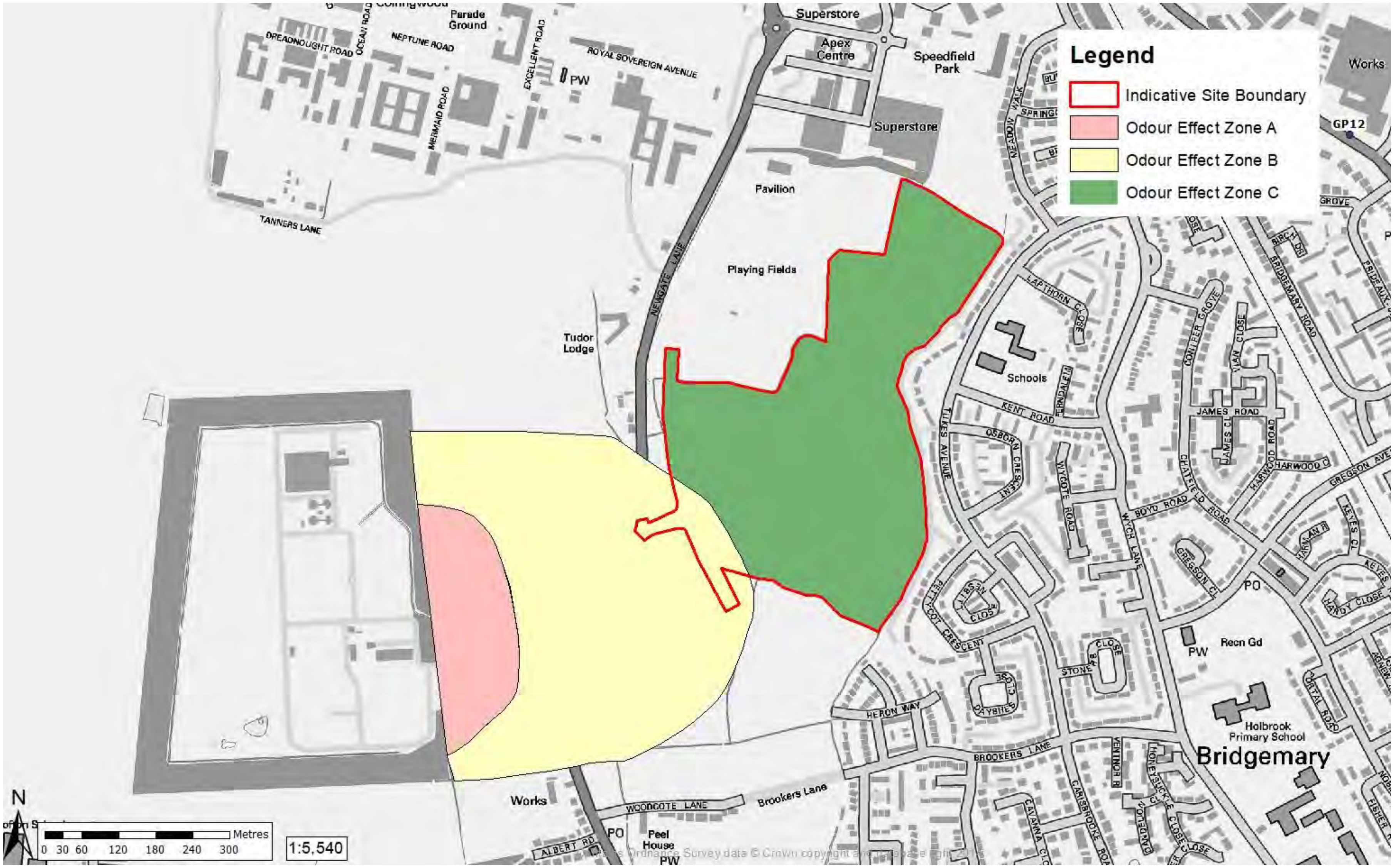
Odour Effect Zone B (Yellow)

Zone B is only likely to experience odour from time to time, depending on weather conditions and operations at the sewage work. In Zone B, there remains a risk of odour being detected but the risk is minimal.

Odour Effect Zone C (Green)

The assessment concluded that the proposed residential development site will be mostly located within Zone C, the majority of which is unlikely to experience odour from the wastewater treatment works. Whilst it is considered that the odour may be potentially detectable at the south corner of the development site on occasions, the odour impacts on the entire proposed residential development from the wastewater treatment works are not significant, as such no mitigation will be required in this area.

Figure 8-1 Odour Effect Zones



8.3 ODOUR IMPACT BRIEFING SUMMARY

Tetra Tech has reviewed 2018 odour assessment and it is confirmed that the odour zone remains the same, assuming that there are no major operation changes on the wastewater treatment works since.

Therefore, the proposed residential development site will mostly be located within an identified odour effect of Zone C and the majority area is unlikely to experience odour from the wastewater treatment works. It is considered that the odour may be potentially detectable at the western corner of the development site (Zone B) on occasions and as such, no built development is proposed in Odour Zone B.

9.0 CONCLUSIONS

This report presents the findings of an air quality assessment undertaken to assess road traffic emission and construction dust impacts in support of a planning application for the construction of a new residential development, on the site of Land East of Newgate Lane East, Fareham.

Construction Phase

Prior to the implementation of appropriate mitigation measures, the potential impact description of dust emissions associated with the construction phase of the proposed development is ‘medium risk’ at the worst affected receptors without mitigation. However, appropriate site-specific mitigation measures have been proposed based on Section 8.2 of the IAQM Guidance on the Assessment of Dust from Demolition, Earthworks, Construction and Trackout. It is anticipated that with these appropriate mitigation measures in place, the risk of adverse effects due to dust emissions from the construction phase will not be significant.

Operational Assessment

The 2028 assessment of the effect of emissions from traffic associated with the scheme, has determined that the maximum predicted increase in the annual average exposure to NO_2 at any existing receptor is likely to be 0.17 $\mu g/m^3$ 2 Davis Way (R20).

The maximum predicted annual average exposure to NO_2 at any proposed receptor at the ground floor is 14.83 $\mu g/m^3$. All modelled proposed residential receptors are predicted to be below the annual average AQO for NO_2.

For PM_{10}, the maximum predicted increase in the annual average exposure is likely to be 0.08 $\mu g/m^3$ at 2 Davis Way (R20). For $PM_{2.5}$, the maximum predicted increase in the annual average exposure is likely to be 0.04 $\mu g/m^3$ at 2 Davis Way (R20).

The impact description of the effects of changes in traffic flow as a result of the proposed development, with respect to NO_2, PM_{10} and $PM_{2.5}$ exposure, is determined to be ‘negligible’ at all existing receptors.

At any proposed sensitive receptors, there is not predicted to be any exceedances of the NO_2, PM_{10} or $PM_{2.5}$ pollutant concentrations and therefore, mitigation is not required at the proposed development.

Operational Assessment – Ecology

The maximum predicted increase in the annual average exposure to NO_X at the identified ecological receptor, due to changes in traffic movements associated with the development, is 0.09 $\mu g/m^3$ at Portsmouth Harbour (SSSI / SAC / SPA) (E1) which is below the 0.40 $\mu g/m^3$ development contribution stated within the guidance of ‘*A Guide to the Assessment of Air Quality Impacts in Designated Nature Conservation Sites*’, IAQM 2020. As a result, no further assessment is required and the impact at Portsmouth Harbour (SSSI / SAC / SPA) (E1) as this is considered to be negligible.

Given the quantitative nature of the assessment and the verification of the air quality dispersion model, the level of accuracy of the assessment results is considered to be ‘high’.

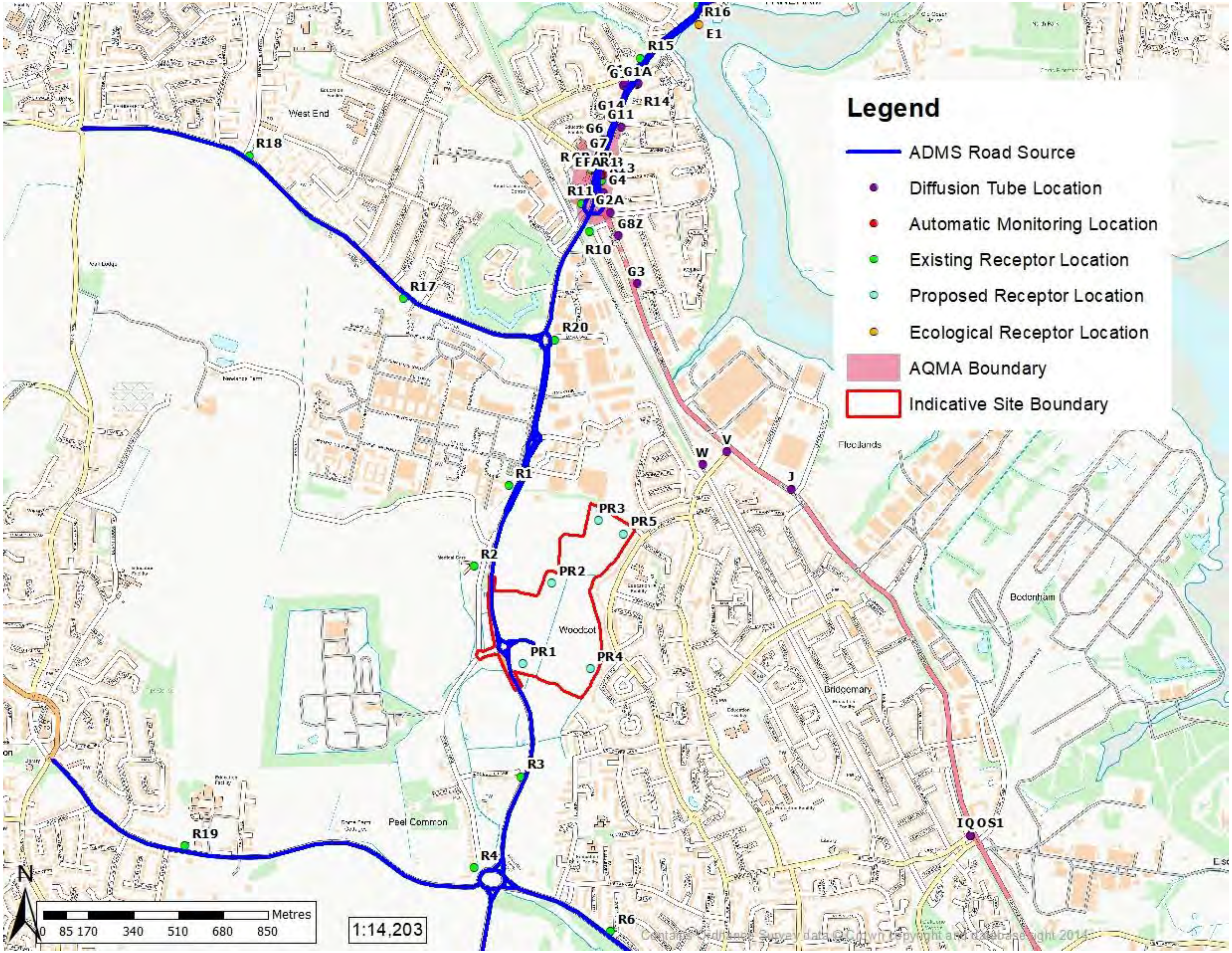
Odour Impact Briefing

It is concluded that the proposed residential development site will mostly be located within an area (Zone C) where the odour impacts on the entire proposed residential development from the waste water treatment works are not significant, as such no mitigation will be required in this area. It is considered that the odour may be potentially detectable at the western corner of the development site (Zone B) on occasions and as such, no built development is proposed in Odour Zone B.

In conclusion, the development is not considered to be contrary to any of the national and local planning policies regarding air quality.

APPENDIX A - FIGURES

Figure A-1 Air Quality Assessment Area



APPENDIX B - CONSTRUCTION PHASE ASSESSMENT METHODOLOGY

The following information sets out the adopted approach to the construction phase impact assessment in accordance with the aforementioned IAQM guidance[1].

Step 1 – Screen the Requirement for a more Detailed Assessment

An assessment is required if there are sensitive receptors within 350m of the site boundary, within 50m of the route(s) used by construction vehicles on the surrounding road network, or within 500m from the site entrance. A detailed assessment is also required if there is an ecological receptor within 50m of the site boundary.

Step 2A – Define the Potential Dust Emission Magnitude

Demolition

The dust emission magnitude for the demolition phase has been determined based on the below criteria:

- *Large*: Total building volume >50 000m^3, potentially dusty construction (e.g. concrete), on-site crushing and screening, demolition activities >20m above ground level;
- *Medium*: Total building volume 20 000m^3 – 50 000m^3, potentially dusty construction material, demolition activities 10-20m above ground level; and,
- *Small*: Total building volume <20 000m^3, construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <10m above ground, demolition during wetter months.

Earthworks

The dust emission magnitude for the planned earthworks has been determined based on the below criteria:

- *Large:* Total site area >10 000m^2, potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size), > 10 heavy earth moving vehicles active at any one time, formation of bunds >8m in height, total material moved >100 000 tonnes;
- *Medium*: Total site area 2 500m^2 – 10 000m^2, moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 4m-8m in height, total material moved 20 000 tonnes – 100 000 tonnes; and
- *Small:* Total site area <2 500 m^2, soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4 m in height, total material moved <10 000 tonnes, earthworks during wetter months.

Construction

The dust emission magnitude for the construction phase has been determined based on the below criteria:

- *Large:* Total building volume >100 000m^3, on site concrete batching; sandblasting
- *Medium:* Total building volume 25 000m^3 – 100 000m^3, potentially dusty construction material (e.g. concrete), on site concrete batching; and,
- *Small:* Total building volume <25 000m^3, construction material with low potential for dust release (e.g. metal cladding or timber).

Trackout

The dust emission magnitude for trackout has been determined based on the below criteria:

- *Large:* >50 HGV (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100m;
- *Medium:* 10-50 HGV (>3.5t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50m – 100m; and,
- *Small:* <10 HGV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50m.

Step 2B - Defining the Sensitivity of the Area

Sensitivities of People to Dust Soiling Effects

- *High:*
  - Users can reasonably expect an enjoyment of a high level of amenity;
  - The appearance, aesthetics or value of their property would be diminished by soiling; and the people or property would reasonably expect to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land; and,
  - Indicative examples include dwellings, museums and other culturally important collections, medium- and long-term car parks

[1] Institute of Air Quality Management 2014. *Guidance on the Assessment of dust from demolition and construction.*

and car showrooms.

- *Medium:*
  - Users can reasonably expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home;
  - The appearance, aesthetics or value of their property could be diminished by soiling;
  - The people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land; and,
  - Indicative examples include parks and places of work.
- *Low:*
  - The enjoyment of amenity would not reasonably be expected;
  - Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling;
  - There is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land; and,
  - Indicative examples include playing fields, farmland (unless commercially sensitive horticultural), footpaths, short term car parks and roads.

The sensitivity of the area should be derived for each of the four activities: demolition, construction, earthworks and trackout, using the following table:

Table B-1. Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		<20	<50	<100	<350
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Note - The likely routes the construction traffic will use should also be included to enable the presence of trackout receptors to be included in the assessment. As a general guidance, without site-specific mitigation, trackout may occur along the public highway up to 500 m from large sites (as defined in step 2A), 200 m from medium sites and 50 m from small sites, as measured from the site exit.

Sensitivities of People to the Health Effects of PM_{10}

- *High:*
  - Locations where members of the public are exposed over a time period relevant to the air quality objective for PM_{10} (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day);
  - Indicative examples include residential properties. Hospitals, schools and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.
- *Medium:*
  - Locations where the people exposed are workers, and exposure is over a time period relevant to the air quality objective for PM_{10} (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day); and,
  - Indicative examples include office and shop workers, but will generally not include workers occupationally exposed to PM_{10}, as protection is covered by Health and Safety at Work legislation.
- *Low:*
  - Locations where human exposure is transient; and,
  - Indicative examples include public footpaths, playing fields, parks and shopping streets.

The sensitivity of the area should be derived for each of the four activities: demolition, construction, earthworks and trackout, using the following table:

Table B-2. Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM_{10} Concentration	Number of Receptors	Distance from the Source (m)				
			<20	<50	<100	<200	<350
High	>32 µg/m^3	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28 - 32 µg/m^3	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24 – 28 µg/m^3	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24 µg/m^3	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	-	>10	High	Medium	Low	Low	Low
	-	1-10	Medium	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low	Low

Note - The likely routes the construction traffic will use should also be included to enable the presence of trackout receptors to be included in the assessment. As a general guidance, without site-specific mitigation, trackout may occur along the public highway up to 500 m from large sites (as defined in step 2A), 200 m from medium sites and 50 m from small sites, as measured from the site exit.

Sensitivities of Receptors to Ecological Effects

- *High:*
  - Locations with an international or national designation and the designated features may be affected by dust soiling;
  - Locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List for Great Britain; and,
  - Indicative examples include a Special Area of Conservation (SAC) designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.
- *Medium:*
  - Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown;
  - Locations with a national designation where the features may be affected by dust deposition; and,
  - Indicative example is a Site of Special Scientific Interest (SSSI) with dust sensitive features.
- *Low:*
  - Locations with a local designation where the features may be affected by dust deposition; and,
  - Indicative example is a local Nature Reserve with dust sensitive features.

The sensitivity of the area should be derived for each of the four activities: demolition, construction, earthworks and trackout, using the following table:

Table B-3. Sensitivity of the Area to Ecological Impacts

Receptor Sensitivity	Distance from Source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Note - The likely routes the construction traffic will use should also be included to enable the presence of trackout receptors to be included in the assessment. As a general guidance, without site-specific mitigation, trackout may occur along the public highway up to 500 m from large sites (as defined in step 2A), 200 m from medium sites and 50 m from small sites, as measured from the site exit.

Step 2C - Defining the Risk of Impacts

The risk of impacts with no mitigation is determined by combining the dust emission magnitude determined in Step 2A and the sensitivity of the area determined in Step 2B.

The following tables provide a method of assigning the level of risk for each activity.

Demolition

Table B-4. Risk of Dust Impacts, Demolition

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

Earthworks

Table B-5. Risk of Dust Impacts, Earthworks

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Construction

Table B-6. Risk of Dust Impacts, Construction

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Trackout

Table B-7. Risk of Dust Impacts, Trackout

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

Step 3 – Site Specific Mitigation

The dust risk categories for each of the four activities determined in Step 2C should be used to define the appropriate, site-specific mitigation measures to be adopted.

These mitigation measures are contained within section 8.2 of the IAQM Guidance on the Assessment of Dust from Demolition and Construction.

APPENDIX C - REPORT TERMS & CONDITIONS

This Report has been prepared using reasonable skill and care for the sole benefit of Miller Homes and Bargate Homes ("the Client") for the proposed uses stated in the report by [Tetra Tech Limited] ("Tetra Tech"). Tetra Tech exclude all liability for any other uses and to any other party. The report must not be relied on or reproduced in whole or in part by any other party without the copyright holder's permission.

No liability is accepted, or warranty given for; unconfirmed data, third party documents and information supplied to Tetra Tech or for the performance, reliability, standing etc. of any products, services, organisations or companies referred to in this report. Tetra Tech does not purport to provide specialist legal, tax or accounting advice.

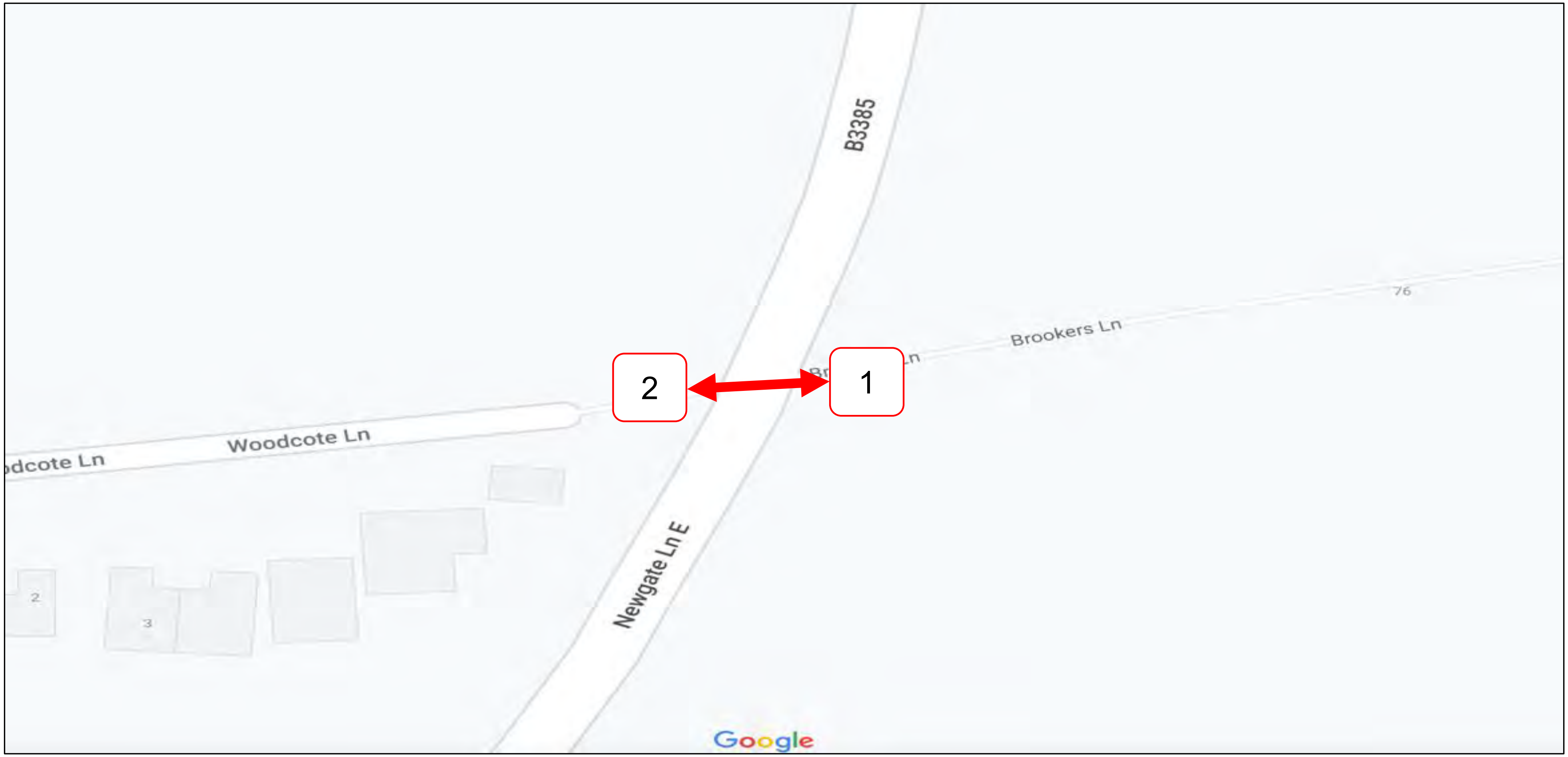
The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary, and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The "shelf life" of the Report will be determined by a number of factors including; its original purpose, the Client's instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

APPENDIX U. Brookers Lane Toucan Assessment

Job ID	Project Name	Site Location	Google Coordinates	Survey Date	Survey Day	Survey Timings	Weather AM	Weather Inter Peak	Weather PM
IW0042	Newgate Lane, Gosport	Newgate Lane East	50.824053, -1.187579	10/05/2022	Tuesday	0000-0000hrs	Dry	Dry	Dry
				11/05/2022	Wednesday	0000-0000hrs	Dry	Rain	Rain
				12/05/2022	Thursday	0000-0000hrs	Dry	Dry	Dry



Project ID and Name: IW0042 Newgate Lane, Gosport
Junction name: Newgate Lane East

Survey Date: 10/05/2022
Survey Day: Tuesday

Time Interval		Movement - 1		Movement - 2	
		Pedestrians	Cyclists	Pedestrians	Cyclists
00:00	00:15	0	0	0	0
00:15	00:30	0	0	0	0
00:30	00:45	0	0	0	0
00:45	01:00	0	0	0	0
01:00	01:15	0	0	0	0
01:15	01:30	0	0	0	0
01:30	01:45	0	0	0	0
01:45	02:00	0	0	0	0
02:00	02:15	0	0	0	0
02:15	02:30	0	0	0	0
02:30	02:45	0	0	0	0
02:45	03:00	0	0	0	0
03:00	03:15	0	0	0	0
03:15	03:30	0	0	0	0
03:30	03:45	0	0	0	0
03:45	04:00	0	0	0	0
04:00	04:15	0	0	0	0
04:15	04:30	0	0	0	0
04:30	04:45	0	0	0	0
04:45	05:00	0	0	0	0
05:00	05:15	0	0	0	0
05:15	05:30	0	0	0	0
05:30	05:45	0	0	0	1
05:45	06:00	0	0	1	0
06:00	06:15	0	1	0	1
06:15	06:30	0	0	0	0
06:30	06:45	1	0	0	0
06:45	07:00	0	0	0	1
07:00	07:15	0	0	1	1
07:15	07:30	0	1	1	2
07:30	07:45	0	1	3	0
07:45	08:00	0	1	5	1
08:00	08:15	1	0	4	3
08:15	08:30	0	0	0	12
08:30	08:45	0	0	1	4
08:45	09:00	0	0	0	0
09:00	09:15	0	0	3	0
09:15	09:30	0	0	0	0
09:30	09:45	0	0	1	0
09:45	10:00	1	0	0	0
10:00	10:15	0	0	0	1
10:15	10:30	0	0	0	0
10:30	10:45	0	0	0	0
10:45	11:00	0	0	0	1
11:00	11:15	0	0	0	0
11:15	11:30	0	0	0	0
11:30	11:45	1	1	0	0
11:45	12:00	0	0	0	0
12:00	12:15	0	0	0	0
12:15	12:30	0	0	0	0
12:30	12:45	1	0	0	0
12:45	13:00	0	0	1	0
13:00	13:15	0	0	1	0
13:15	13:30	0	0	0	0
13:30	13:45	0	0	2	0
13:45	14:00	0	0	0	0
14:00	14:15	1	0	0	0
14:15	14:30	0	1	1	0
14:30	14:45	1	0	1	0
14:45	15:00	0	0	0	0
15:00	15:15	0	0	1	0
15:15	15:30	1	10	3	0
15:30	15:45	5	4	3	2
15:45	16:00	1	2	1	1
16:00	16:15	0	0	0	2
16:15	16:30	0	2	0	1
16:30	16:45	0	0	1	0
16:45	17:00	3	1	2	1
17:00	17:15	1	1	1	2
17:15	17:30	0	0	2	0
17:30	17:45	2	3	0	0
17:45	18:00	2	1	1	1
18:00	18:15	2	2	0	1
18:15	18:30	0	0	1	0
18:30	18:45	1	0	1	0
18:45	19:00	3	0	0	0
19:00	19:15	0	0	0	0
19:15	19:30	2	0	0	0
19:30	19:45	1	1	0	0
19:45	20:00	0	1	0	0
20:00	20:15	1	2	0	0
20:15	20:30	0	1	0	0
20:30	20:45	0	1	1	0
20:45	21:00	0	0	0	0
21:00	21:15	1	0	0	0
21:15	21:30	0	0	0	0
21:30	21:45	0	0	0	0
21:45	22:00	0	0	0	0
22:00	22:15	0	0	0	0
22:15	22:30	0	0	1	0
22:30	22:45	0	0	0	0
22:45	23:00	0	0	0	0
23:00	23:15	0	0	0	0
23:15	23:30	0	0	0	0
23:30	23:45	0	0	0	0
23:45	00:00	0	0	0	0
0000-0000hrs - Total		**33**	**38**	**45**	**39**

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Project ID and Name: IW0042 Newgate Lane, Gosport
Junction name: Newgate Lane East
Survey Date: 11/05/2022
Survey Day: Wednesday

Time Interval		Movement - 1		Movement - 2	
		Pedestrians	Cyclists	Pedestrians	Cyclists
00:00	00:15	0	0	0	0
00:15	00:30	0	0	0	0
00:30	00:45	0	0	0	0
00:45	01:00	0	0	0	0
01:00	01:15	0	0	0	0
01:15	01:30	0	0	0	0
01:30	01:45	0	0	0	0
01:45	02:00	0	0	0	0
02:00	02:15	0	0	0	0
02:15	02:30	0	0	0	0
02:30	02:45	0	0	0	0
02:45	03:00	0	0	0	0
03:00	03:15	0	0	0	0
03:15	03:30	0	0	0	0
03:30	03:45	0	0	0	0
03:45	04:00	0	0	0	0
04:00	04:15	0	0	0	0
04:15	04:30	0	0	0	0
04:30	04:45	0	0	0	0
04:45	05:00	0	0	0	0
05:00	05:15	0	0	0	0
05:15	05:30	0	0	0	0
05:30	05:45	0	0	0	0
05:45	06:00	0	0	0	1
06:00	06:15	0	1	1	0
06:15	06:30	0	0	0	0
06:30	06:45	0	0	0	0
06:45	07:00	1	0	1	1
07:00	07:15	0	0	1	0
07:15	07:30	0	0	1	1
07:30	07:45	0	1	4	0
07:45	08:00	0	0	7	1
08:00	08:15	1	0	4	10
08:15	08:30	0	0	0	8
08:30	08:45	1	0	0	7
08:45	09:00	0	0	1	0
09:00	09:15	0	0	1	1
09:15	09:30	1	0	0	0
09:30	09:45	0	1	0	0
09:45	10:00	1	0	0	0
10:00	10:15	1	0	1	0
10:15	10:30	0	0	0	0
10:30	10:45	0	0	0	0
10:45	11:00	0	0	0	0
11:00	11:15	0	0	0	0
11:15	11:30	1	0	1	0
11:30	11:45	0	0	0	0
11:45	12:00	0	0	1	0
12:00	12:15	1	0	0	0
12:15	12:30	1	0	0	0
12:30	12:45	1	0	0	0
12:45	13:00	0	0	0	0
13:00	13:15	0	0	0	0
13:15	13:30	0	0	0	0
13:30	13:45	0	0	0	0
13:45	14:00	1	0	0	0
14:00	14:15	0	1	0	0
14:15	14:30	2	11	0	0
14:30	14:45	5	3	1	0
14:45	15:00	0	0	1	0
15:00	15:15	0	0	0	0
15:15	15:30	0	1	0	0
15:30	15:45	0	0	0	0
15:45	16:00	0	2	0	2
16:00	16:15	0	1	0	0
16:15	16:30	0	1	0	0
16:30	16:45	0	0	0	0
16:45	17:00	0	1	0	0
17:00	17:15	0	0	0	0
17:15	17:30	0	0	1	0
17:30	17:45	0	1	0	0
17:45	18:00	0	1	0	0
18:00	18:15	0	1	0	0
18:15	18:30	0	1	0	0
18:30	18:45	0	0	1	1
18:45	19:00	1	0	1	0
19:00	19:15	0	0	0	0
19:15	19:30	0	0	2	0
19:30	19:45	0	1	2	0
19:45	20:00	0	0	1	0
20:00	20:15	2	0	0	0
20:15	20:30	1	0	3	0
20:30	20:45	0	0	0	0
20:45	21:00	2	0	1	0
21:00	21:15	0	0	0	0
21:15	21:30	0	1	0	0
21:30	21:45	0	0	0	0
21:45	22:00	0	0	0	0
22:00	22:15	1	0	0	0
22:15	22:30	0	0	0	1
22:30	22:45	0	0	0	0
22:45	23:00	0	0	0	0
23:00	23:15	0	0	0	0
23:15	23:30	0	0	0	0
23:30	23:45	0	1	0	0
23:45	00:00	0	0	0	0
0000-0000hrs - Total		**25**	**31**	**38**	**34**

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INNOWISE WORKS

Project ID and Name: IW0042 Newgate Lane, Gosport
Junction name: Newgate Lane East

Survey Date: 12/05/2022
Survey Day: Thursday

Time Interval		Movement - 1 Pedestrians	Movement - 1 Cyclists	Movement - 2 Pedestrians	Movement - 2 Cyclists
00:00	00:15	0	0	0	0
00:15	00:30	0	0	0	0
00:30	00:45	0	0	0	0
00:45	01:00	0	0	0	0
01:00	01:15	0	0	0	0
01:15	01:30	0	0	0	0
01:30	01:45	0	0	0	0
01:45	02:00	0	0	0	0
02:00	02:15	0	0	0	0
02:15	02:30	0	0	0	0
02:30	02:45	0	0	0	0
02:45	03:00	0	0	0	0
03:00	03:15	0	0	0	0
03:15	03:30	0	0	0	0
03:30	03:45	0	0	0	0
03:45	04:00	0	0	0	0
04:00	04:15	0	0	0	0
04:15	04:30	0	0	0	0
04:30	04:45	0	0	0	0
04:45	05:00	0	0	0	0
05:00	05:15	0	0	0	0
05:15	05:30	0	0	0	0
05:30	05:45	0	0	0	0
05:45	06:00	0	0	1	0
06:00	06:15	0	1	0	1
06:15	06:30	0	0	1	0
06:30	06:45	1	0	0	0
06:45	07:00	0	0	0	0
07:00	07:15	0	0	0	1
07:15	07:30	0	1	1	1
07:30	07:45	0	0	1	0
07:45	08:00	0	1	1	4
08:00	08:15	1	1	4	8
08:15	08:30	0	0	3	10
08:30	08:45	2	1	1	6
08:45	09:00	1	0	0	3
09:00	09:15	1	0	0	0
09:15	09:30	0	0	0	0
09:30	09:45	0	0	1	0
09:45	10:00	0	0	0	0
10:00	10:15	0	0	0	1
10:15	10:30	0	0	0	0
10:30	10:45	1	0	0	0
10:45	11:00	0	0	0	0
11:00	11:15	0	0	1	0
11:15	11:30	0	0	0	0
11:30	11:45	1	0	2	0
11:45	12:00	0	0	0	0
12:00	12:15	0	0	1	0
12:15	12:30	1	0	0	0
12:30	12:45	1	0	0	0
12:45	13:00	0	0	0	0
13:00	13:15	0	0	0	0
13:15	13:30	0	1	0	0
13:30	13:45	1	0	0	0
13:45	14:00	0	0	1	0
14:00	14:15	0	0	0	0
14:15	14:30	1	0	1	0
14:30	14:45	0	0	2	0
14:45	15:00	0	0	1	0
15:00	15:15	0	0	0	0
15:15	15:30	1	5	1	0
15:30	15:45	4	7	1	0
15:45	16:00	6	4	0	1
16:00	16:15	1	3	0	0
16:15	16:30	0	1	1	1
16:30	16:45	2	0	0	0
16:45	17:00	0	3	0	1
17:00	17:15	0	0	0	1
17:15	17:30	1	0	1	1
17:30	17:45	1	0	4	1
17:45	18:00	2	1	0	0
18:00	18:15	0	1	2	0
18:15	18:30	0	0	0	1
18:30	18:45	3	1	1	0
18:45	19:00	0	0	1	0
19:00	19:15	0	0	1	0
19:15	19:30	0	0	0	0
19:30	19:45	0	0	0	2
19:45	20:00	0	0	0	0
20:00	20:15	0	2	2	0
20:15	20:30	2	2	0	0
20:30	20:45	2	0	0	0
20:45	21:00	1	0	0	0
21:00	21:15	0	0	0	0
21:15	21:30	0	0	2	0
21:30	21:45	0	0	1	0
21:45	22:00	0	0	0	0
22:00	22:15	0	0	0	1
22:15	22:30	0	0	0	0
22:30	22:45	0	0	0	0
22:45	23:00	0	1	1	0
23:00	23:15	0	0	0	0
23:15	23:30	0	0	0	0
23:30	23:45	0	0	0	0
23:45	00:00	0	0	0	0
0000-0000hrs - Total		**38**	**37**	**42**	**45**

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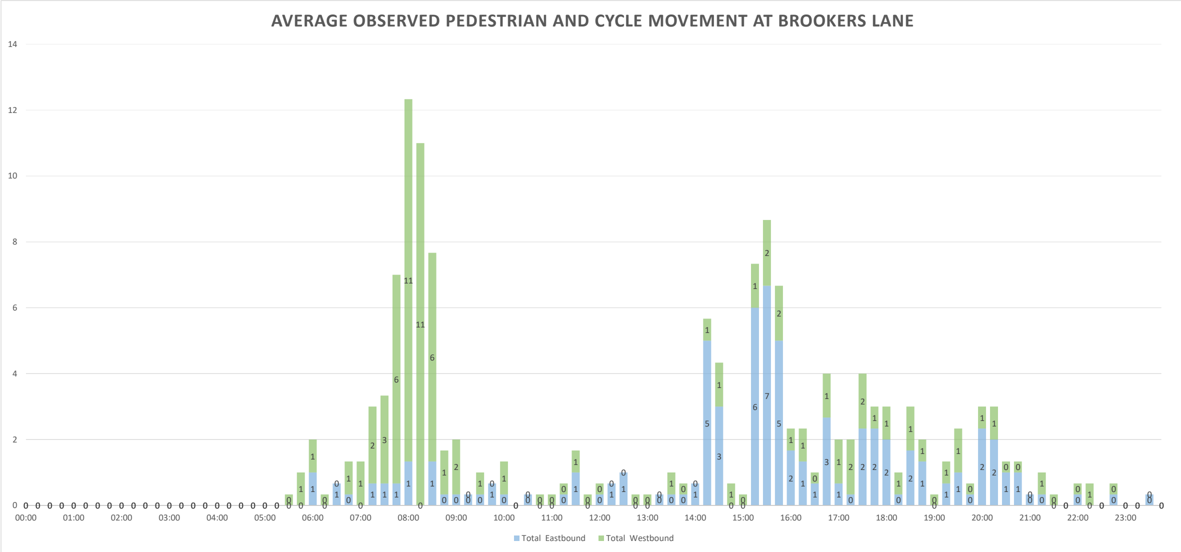
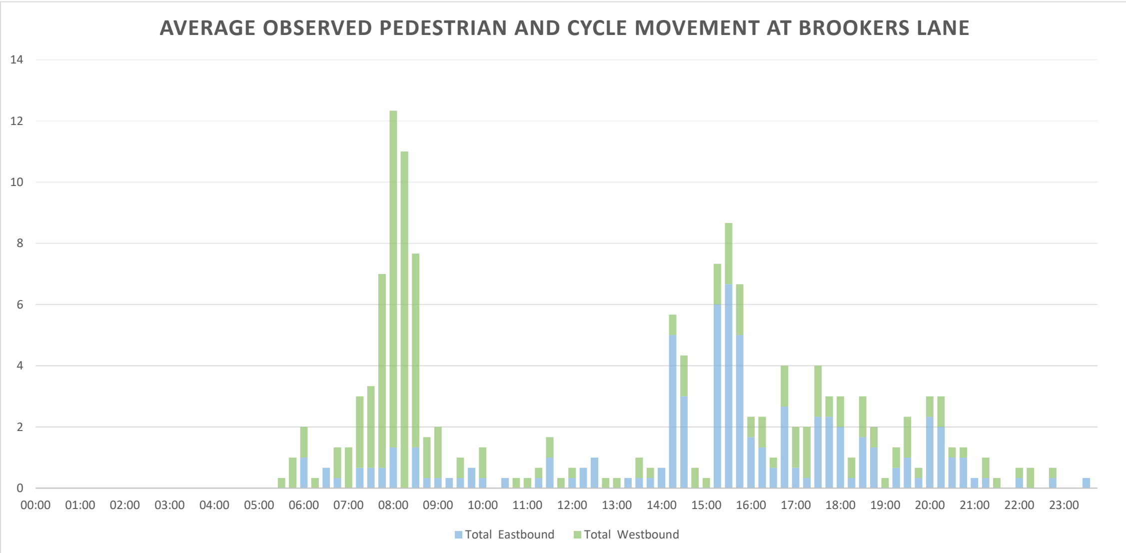
Time Interval	10/05/2022				11/05/2022				12/05/2022				Total (Average)				Total		
	Eastbound		Westbound		Eastbound		Westbound		Eastbound		Westbound		Eastbound		Westbound		Eastbound	Westbound	Total
	Pedestrians	Cyclists	Pedestrians	Cyclists	Pedestrians	Cyclists	Pedestrians	Cyclists	Pedestrians	Cyclists	Pedestrians	Cyclists	Pedestrians	Cyclists	Pedestrians	Cyclists			
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	1	0	0	0	0	1	0	0	1	0	0	0	1	0	0	1	1
06:00	0	1	0	1	0	1	1	0	0	1	0	1	0	1	0	1	1	1	2
06:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
06:30	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1
06:45	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	1	0	1	1
07:00	0	0	1	1	0	0	1	0	0	0	0	1	0	0	1	1	0	1	1
07:15	0	1	1	2	0	0	1	1	0	1	1	1	0	1	1	1	1	2	3
07:30	0	1	3	0	0	1	4	0	0	0	1	0	0	1	3	0	1	3	3
07:45	0	1	**5**	**1**	0	0	**7**	**1**	0	1	**1**	**4**	0	1	4	2	1	6	7
08:00	1	0	**4**	**3**	1	0	**4**	**10**	1	1	**4**	**8**	1	0	4	7	1	11	12
08:15	0	0	**0**	**12**	0	0	**0**	**8**	0	0	**3**	**10**	0	0	1	10	0	11	11
08:30	0	0	**1**	**4**	1	0	**0**	**7**	2	1	**1**	**6**	1	0	1	6	1	6	8
08:45	0	0	0	0	0	0	1	0	1	0	0	3	0	0	0	1	0	1	2
09:00	0	0	3	0	0	0	1	1	1	0	0	0	0	0	1	0	0	2	2
09:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	0	1	1
09:45	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	1
10:00	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	1	0	1	1
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:15	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11:30	1	1	0	0	0	0	0	0	1	0	2	0	1	0	1	0	1	1	2
11:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:00	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
12:15	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	1
12:30	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	1
12:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
13:30	0	0	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1
13:45	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
14:00	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1
14:15	0	1	1	0	2	11	0	0	1	0	1	0	1	4	1	0	5	1	6
14:30	1	0	1	0	5	3	1	0	0	0	2	0	2	1	1	0	3	1	4
14:45	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	1
15:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	1	10	3	0	0	1	0	0	1	5	1	0	1	5	1	0	6	1	7
15:30	5	4	3	2	0	0	0	0	4	7	1	0	3	4	1	1	7	2	9
15:45	1	2	1	1	0	2	0	2	6	4	0	1	2	3	0	1	5	2	7
16:00	0	0	0	2	0	1	0	0	1	3	0	0	0	1	0	1	2	1	2
16:15	0	2	0	1	0	1	0	0	0	1	1	1	0	1	0	1	1	1	2
16:30	0	0	1	0	0	0	0	0	2	0	0	0	1	0	0	0	1	0	1
16:45	3	1	2	1	0	1	0	0	0	3	0	1	1	2	1	1	3	1	4
17:00	1	1	1	2	0	0	0	0	0	0	0	1	0	0	0	1	1	1	2
17:15	0	0	2	0	0	0	1	0	1	0	1	1	0	0	1	0	0	2	2
17:30	2	3	0	0	0	1	0	0	1	0	4	1	1	1	1	0	2	2	4
17:45	2	1	1	1	0	1	0	0	2	1	0	0	1	1	0	0	2	1	3
18:00	2	2	0	1	0	1	0	0	0	1	2	0	1	1	1	0	2	1	3
18:15	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1
18:30	1	0	1	0	0	0	1	1	3	1	1	0	1	0	1	0	2	1	3
18:45	3	0	0	0	1	0	1	0	0	0	1	0	1	0	1	0	1	1	2
19:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
19:15	2	0	0	0	0	0	2	0	0	0	0	0	1	0	1	0	1	1	1
19:30	1	1	0	0	0	1	2	0	0	0	0	2	0	1	1	1	1	1	2
19:45	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
20:00	1	2	0	0	2	0	0	0	0	2	2	0	1	1	1	0	2	1	3
20:15	0	1	0	0	1	0	3	0	2	2	0	0	1	1	1	0	2	1	3
20:30	0	1	1	0	0	0	0	0	2	0	0	0	1	0	0	0	1	0	1
20:45	0	0	0	0	2	0	1	0	1	0	0	0	1	0	0	0	1	0	1
21:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	1	0	0	0	0	2	0	0	0	1	0	0	1	1
21:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
22:15	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



AVERAGE OBSERVED PEDESTRIAN AND CYCLE MOVEMENT AT BROOKERS LANE
Total Eastbound
Total Westbound

Observed Crossing Demands

		10.05.22			11.05.22			12.05.22			Average		
		EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
07:45	08:00	1	6	0	0	8	0	1	5	0	1	6	2
08:00	08:15	1	7	0	1	14	0	2	12	0	1	11	3
08:15	08:30	0	12	0	0	8	0	0	13	0	0	11	3
08:30	08:45	0	5	0	1	7	0	3	7	0	1	6	2
Sub-Total		2	30	0	2	37	0	6	37	0	3	35	9
16:00	16:15	0	2	0	1	0	0	4	0	0	2	1	0
16:15	16:30	2	1	0	1	0	0	1	2	0	1	1	0
16:30	16:45	0	1	0	0	0	0	2	0	0	1	0	0
16:45	17:00	4	3	0	1	0	0	3	1	0	3	1	0
Sub-Total		6	7	0	3	0	0	10	3	0	6	3	20
Daily		71	84	155	56	72	128	75	87	162	67	81	148



	AM Peak		
	10/05/2022	11/05/2022	12/05/2022
	1	2	2
	2	2	1
	1	1	1
	2	2	1
	1	1	1
	1	1	3
	1	1	1
	1	1	1
	1	2	1
	1	1	1
	2	1	2
	1	2	2
	1	1	1
	1	2	1
	1	1	1
	2	1	1
	3	1	1
	2	2	1
	1	1	1
	1	1	1
	1	1	1
	1	1	2
	2	2	2
		1	1
		1	2
		2	1
		1	1
		1	2
		1	1
		2	1
		1	1
			1
			1
No. of Movements	31	41	42
Counts	23	31	33
	74%	76%	79%

Average
76%

	10.05.22	11.05.22	12.05.22	Average	Crossings	Cycle Time
Observed demar	31	41	42	38		
Observed crossir	23	31	33	29		
% Events	74%	76%	79%	76%		
Forecast Total Demand AM				44	34	107
Forecast Total Demand PM				20	15	236

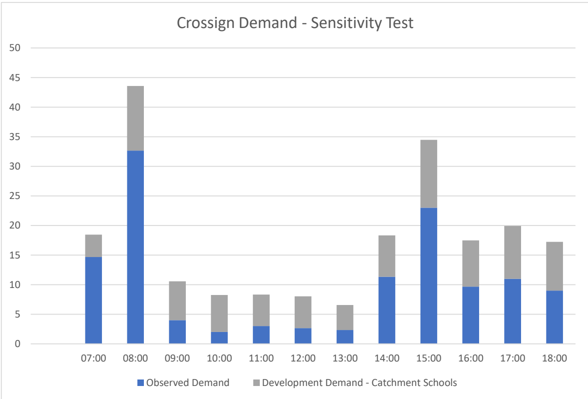
Time Interva	Total Observed		
	Eastbound	Westbound	Total
00:00	0	0	0
00:15	0	0	0
00:30	0	0	0
00:45	0	0	0
01:00	0	0	0
01:15	0	0	0
01:30	0	0	0
01:45	0	0	0
02:00	0	0	0
02:15	0	0	0
02:30	0	0	0
02:45	0	0	0
03:00	0	0	0
03:15	0	0	0
03:30	0	0	0
03:45	0	0	0
04:00	0	0	0
04:15	0	0	0
04:30	0	0	0
04:45	0	0	0
05:00	0	0	0
05:15	0	0	0
05:30	0	0	0
05:45	0	1	1
06:00	1	1	2
06:15	0	0	0
06:30	1	0	1
06:45	0	1	1
07:00	0	1	1
07:15	1	2	3
07:30	1	3	3
07:45	1	6	7
08:00	1	11	12
08:15	0	11	11
08:30	1	6	8
08:45	0	1	2
09:00	0	2	2
09:15	0	0	0
09:30	0	1	1
09:45	1	0	1
10:00	0	1	1
10:15	0	0	0
10:30	0	0	0
10:45	0	0	0
11:00	0	0	0
11:15	0	0	1
11:30	1	1	2
11:45	0	0	0
12:00	0	0	1
12:15	1	0	1
12:30	1	0	1
12:45	0	0	0
13:00	0	0	0
13:15	0	0	0
13:30	0	1	1
13:45	0	0	1
14:00	1	0	1
14:15	5	1	6
14:30	3	1	4
14:45	0	1	1
15:00	0	0	0
15:15	6	1	7
15:30	7	2	9
15:45	5	2	7
16:00	2	1	2
16:15	1	1	2
16:30	1	0	1
16:45	3	1	4
17:00	1	1	2
17:15	0	2	2
17:30	2	2	4
17:45	2	1	3
18:00	2	1	3
18:15	0	1	1
18:30	2	1	3
18:45	1	1	2
19:00	0	0	0
19:15	1	1	1
19:30	1	1	2
19:45	0	0	1
20:00	2	1	3
20:15	2	1	3
20:30	1	0	1
20:45	1	0	1
21:00	0	0	0
21:15	0	1	1
21:30	0	0	0
21:45	0	0	0
22:00	0	0	1
22:15	0	1	1
22:30	0	0	0
22:45	0	0	1
23:00	0	0	0
23:15	0	0	0
23:30	0	0	0
23:45	0	0	0

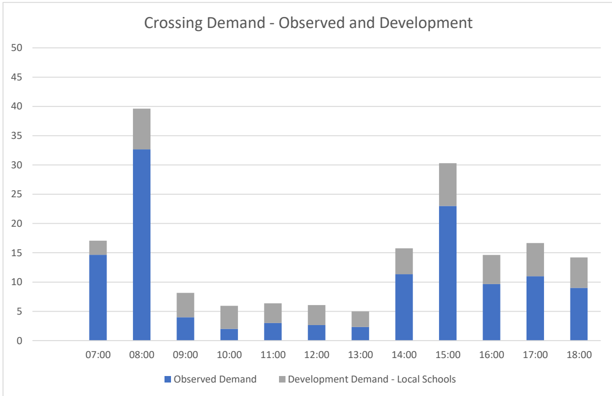
Catchment Schools

Hour	Observed Demand	Development Demand - Catchment Schools	Total Demand
07:00	15	4	18
08:00	33	11	44
09:00	4	7	11
10:00	2	6	8
11:00	3	5	8
12:00	3	5	8
13:00	2	4	7
14:00	11	7	18
15:00	23	11	34
16:00	10	8	17
17:00	11	9	20
18:00	9	8	17
Total 07-19	125	86	211

Local Schools

Hour	Observed Demand	Development Demand - Local Schools	Total Demand
07:00	15	2	17
08:00	33	7	40
09:00	4	4	8
10:00	2	4	6
11:00	3	3	6
12:00	3	3	6
13:00	2	3	5
14:00	11	4	16
15:00	23	7	30
16:00	10	5	15
17:00	11	6	17
18:00	9	5	14
Total 07-19	125	54	180



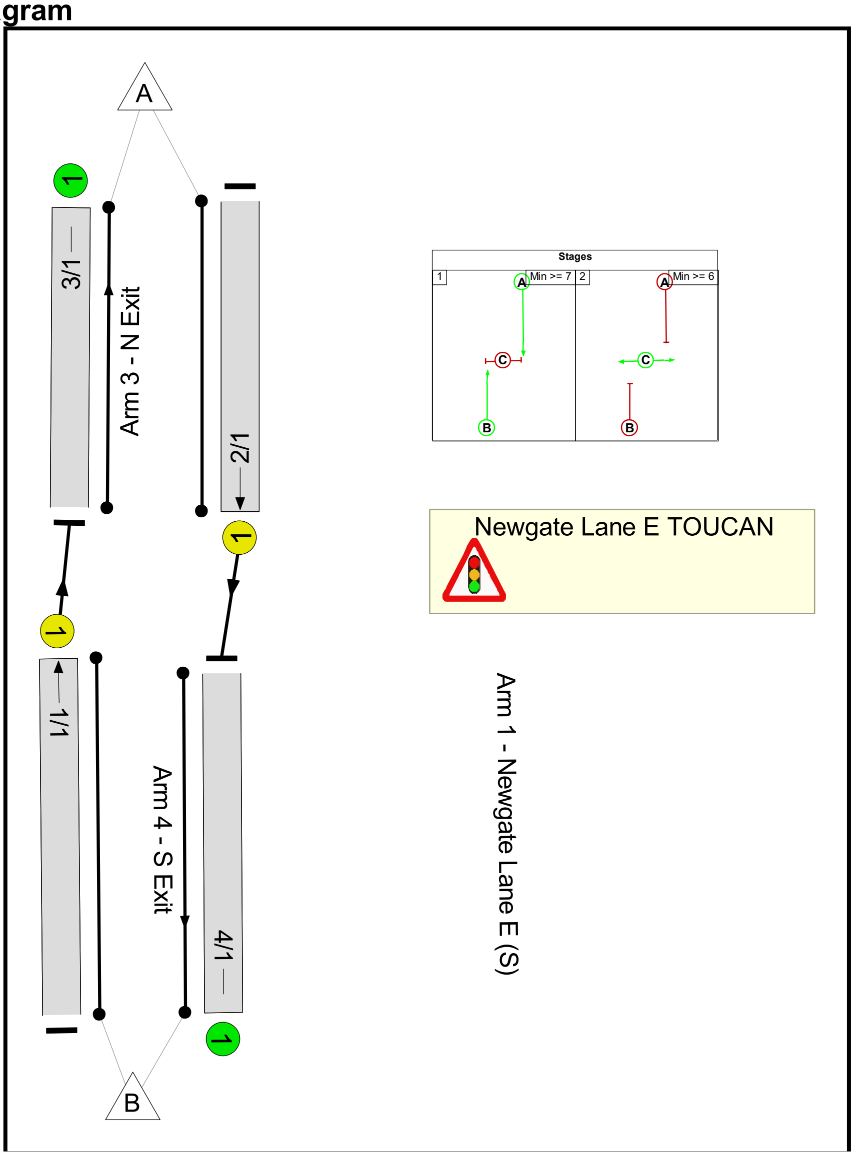


Full Input Data And Results

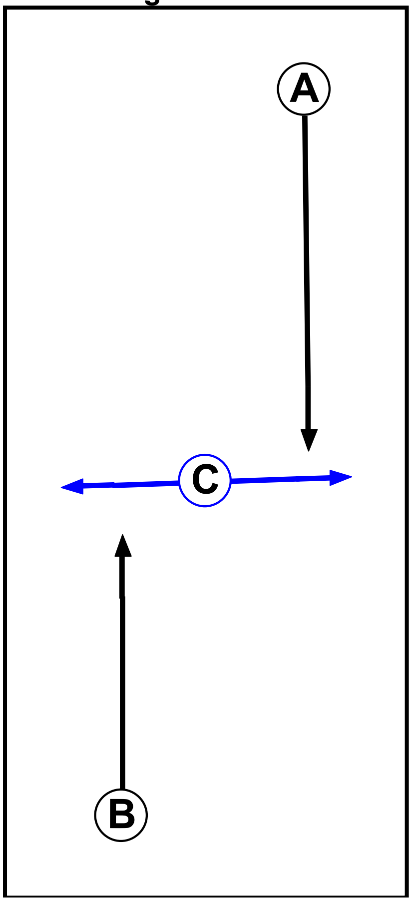
User and Project Details

Project:	
Title:	**Newgate Lane E TOUCAN**
Location:	
Additional detail:	
File name:	Newgate Lane E TOUCAN.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



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	Pedestrian		6	6

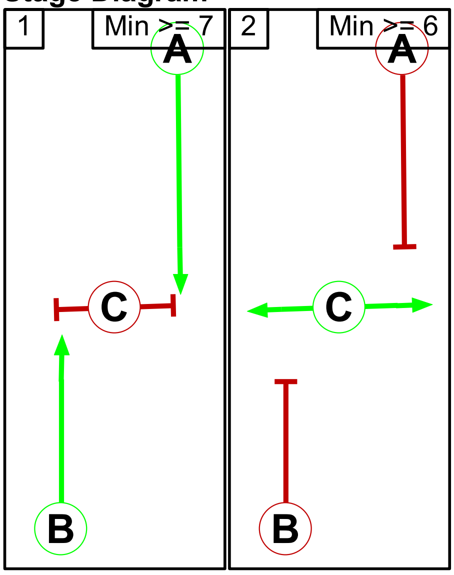
Phase Intergreens Matrix

		Starting Phase		
Terminating Phase		A	B	C
	A		-	6
	B	-		6
	C	8	8	

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	C

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage	
From Stage		1	2
	1		6
	2	8	

Give-Way Lane Input Data

Junction: Newgate Lane E TOUCAN
There are no Opposed Lanes in this Junction

Lane Input Data

Junction: Newgate Lane E TOUCAN												
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 (Newgate Lane E (S))	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 3 Ahead	Inf
2/1 (Newgate Lane E (N))	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 4 Ahead	Inf
3/1 (N Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
4/1 (S Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2021 AM Baseline (DS2)'	07:45	08:45	01:00	
2: '2021 PM Baseline (DS2)'	16:00	17:00	01:00	
3: '2028 AM Base + Com (DS2)'	07:45	08:45	01:00	
4: '2028 PM Base + Com (DS2)'	16:00	17:00	01:00	
5: '2028 AM Base + Com - Sens Test (DS2)'	07:45	08:45	01:00	
6: '2028 PM Base + Com - Sens Test (DS2)'	16:00	17:00	01:00	
7: '2028 AM Base + Com + Dev (DS2)'	07:45	08:45	01:00	
8: '2028 PM Base + Com + Dev (DS2)'	16:00	17:00	01:00	
9: '2028 AM Base + Com + Dev - Sens test (DS2)'	07:45	08:45	01:00	
10: '2028 PM Base + Com + Dev - Sens test (DS2)'	16:00	17:00	01:00	
11: '2037 AM Base + Com (DS2)'	07:45	08:45	01:00	
12: '2037 PM Base + Com (DS2)'	16:00	17:00	01:00	
13: '2037 AM Base + Com - Sens Test (DS2)'	07:45	08:45	01:00	
14: '2037 PM Base + Com - Sens Test (DS2)'	16:00	17:00	01:00	
15: '2037 AM Base + Com + Dev (DS2)'	07:45	08:45	01:00	
16: '2037 PM Base + Com + Dev (DS2)'	16:00	17:00	01:00	
17: '2037 AM Base + Com + Dev - Sens Test (DS2)'	07:45	08:45	01:00	
18: '2037 PM Base + Com + Dev - Sens Test (DS2)'	16:00	17:00	01:00	
19: '2019 AM Baseline (DS1)'	07:45	08:45	01:00	
20: '2019 PM Baseline (DS1)'	16:00	17:00	01:00	

Scenario 1: '1' (FG1: '2021 AM Baseline (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination		
		A	B	Tot.
Origin	A	0	615	615
	B	1300	0	1300
	Tot.	1300	615	1915

Traffic Lane Flows

Lane	Scenario 1: 1
Junction: Newgate Lane E TOUCAN	
1/1	1300
2/1	615
3/1	1300
4/1	615

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2' (FG2: '2021 PM Baseline (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination		
		A	B	Tot.
Origin	A	0	924	924
	B	555	0	555
	Tot.	555	924	1479

Traffic Lane Flows

Lane	Scenario 2: 2
Junction: Newgate Lane E TOUCAN	
1/1	555
2/1	924
3/1	555
4/1	924

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: '3' (FG3: '2028 AM Base + Com (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination		
		A	B	Tot.
Origin	A	0	797	797
	B	1420	0	1420
	Tot.	1420	797	2217

Traffic Lane Flows

Lane	Scenario 3: 3
Junction: Newgate Lane E TOUCAN	
1/1	1420
2/1	797
3/1	1420
4/1	797

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: '4' (FG4: '2028 PM Base + Com (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
		A	B	Tot.
Origin	A	0	1008	1008
	B	774	0	774
	Tot.	774	1008	1782

Traffic Lane Flows

Lane	Scenario 4: 4
Junction: Newgate Lane E TOUCAN	
1/1	774
2/1	1008
3/1	774
4/1	1008

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: '5' (FG5: '2028 AM Base + Com - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
		A	B	Tot.
Origin	A	0	808	808
	B	1420	0	1420
	Tot.	1420	808	2228

Traffic Lane Flows

Lane	Scenario 5: 5
Junction: Newgate Lane E TOUCAN	
1/1	1420
2/1	808
3/1	1420
4/1	808

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 6: '6' (FG6: '2028 PM Base + Com - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination		
		A	B	Tot.
Origin	A	0	1021	1021
	B	805	0	805
	Tot.	805	1021	1826

Traffic Lane Flows

Lane	Scenario 6: 6
Junction: Newgate Lane E TOUCAN	
1/1	805
2/1	1021
3/1	805
4/1	1021

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 7: '7' (FG7: '2028 AM Base + Com + Dev (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
Origin		A	B	Tot.
	A	0	872	872
	B	1445	0	1445
	Tot.	1445	872	2317

Traffic Lane Flows

Lane	Scenario 7: 7
Junction: Newgate Lane E TOUCAN	
1/1	1445
2/1	872
3/1	1445
4/1	872

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 8: '8' (FG8: '2028 PM Base + Com + Dev (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
Origin		A	B	Tot.
	A	0	1038	1038
	B	845	0	845
	Tot.	845	1038	1883

Traffic Lane Flows

Lane	Scenario 8: 8
Junction: Newgate Lane E TOUCAN	
1/1	845
2/1	1038
3/1	845
4/1	1038

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 9: '9' (FG9: '2028 AM Base + Com + Dev - Sens test (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
Origin		A	B	Tot.
	A	0	883	883
	B	1445	0	1445
	Tot.	1445	883	2328

Traffic Lane Flows

Lane	Scenario 9: 9
Junction: Newgate Lane E TOUCAN	
1/1	1445
2/1	883
3/1	1445
4/1	883

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 10: '10' (FG10: '2028 PM Base + Com + Dev - Sens test (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
Origin		A	B	Tot.
	A	0	1051	1051
	B	876	0	876
	Tot.	876	1051	1927

Traffic Lane Flows

Lane	Scenario 10: 10
Junction: Newgate Lane E TOUCAN	
1/1	876
2/1	1051
3/1	876
4/1	1051

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 11: '11' (FG11: '2037 AM Base + Com (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
Origin		A	B	Tot.
	A	0	830	830
	B	1488	0	1488
	Tot.	1488	830	2318

Traffic Lane Flows

Lane	Scenario 11: 11
Junction: Newgate Lane E TOUCAN	
1/1	1488
2/1	830
3/1	1488
4/1	830

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 12: '12' (FG12: '2037 PM Base + Com (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
Origin		A	B	Tot.
	A	0	1057	1057
	B	804	0	804
	Tot.	804	1057	1861

Traffic Lane Flows

Lane	Scenario 12: 12
Junction: Newgate Lane E TOUCAN	
1/1	804
2/1	1057
3/1	804
4/1	1057

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 13: '13' (FG13: '2037 AM Base + Com - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
Origin		A	B	Tot.
	A	0	841	841
	B	1488	0	1488
	Tot.	1488	841	2329

Traffic Lane Flows

Lane	Scenario 13: 13
Junction: Newgate Lane E TOUCAN	
1/1	1488
2/1	841
3/1	1488
4/1	841

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 14: '14' (FG14: '2037 PM Base + Com - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination		
		A	B	Tot.
Origin	A	0	1070	1070
	B	835	0	835
	Tot.	835	1070	1905

Traffic Lane Flows

Lane	Scenario 14: 14
Junction: Newgate Lane E TOUCAN	
1/1	835
2/1	1070
3/1	835
4/1	1070

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 15: '15' (FG15: '2037 AM Base + Com + Dev (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
		A	B	Tot.
Origin	A	0	904	904
	B	1513	0	1513
	Tot.	1513	904	2417

Traffic Lane Flows

Lane	Scenario 15: 15
Junction: Newgate Lane E TOUCAN	
1/1	1513
2/1	904
3/1	1513
4/1	904

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 16: '16' (FG16: '2037 PM Base + Com + Dev (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
Origin		A	B	Tot.
	A	0	1088	1088
	B	875	0	875
	Tot.	875	1088	1963

Traffic Lane Flows

Lane	Scenario 16: 16
Junction: Newgate Lane E TOUCAN	
1/1	875
2/1	1088
3/1	875
4/1	1088

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 17: '17' (FG17: '2037 AM Base + Com + Dev - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
		A	B	Tot.
Origin	A	0	915	915
	B	1513	0	1513
	Tot.	1513	915	2428

Traffic Lane Flows

Lane	Scenario 17: 17
Junction: Newgate Lane E TOUCAN	
1/1	1513
2/1	915
3/1	1513
4/1	915

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 18: '18' (FG18: '2037 PM Base + Com + Dev - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination			
Origin		A	B	Tot.
	A	0	1101	1101
	B	906	0	906
	Tot.	906	1101	2007

Traffic Lane Flows

Lane	Scenario 18: 18
Junction: Newgate Lane E TOUCAN	
1/1	906
2/1	1101
3/1	906
4/1	1101

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 19: '19' (FG19: '2019 AM Baseline (DS1)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination		
		A	B	Tot.
Origin	A	0	927	927
	B	1574	0	1574
	Tot.	1574	927	2501

Traffic Lane Flows

Lane	Scenario 19: 19
Junction: Newgate Lane E TOUCAN	
1/1	1574
2/1	927
3/1	1574
4/1	927

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 20: '20' (FG20: '2019 PM Baseline (DS1)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination		
		A	B	Tot.
Origin	A	0	1440	1440
	B	1000	0	1000
	Tot.	1000	1440	2440

Traffic Lane Flows

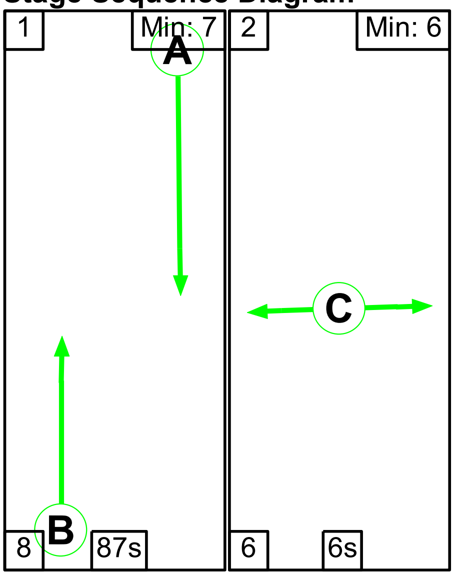
Lane	Scenario 20: 20
Junction: Newgate Lane E TOUCAN	
1/1	1000
2/1	1440
3/1	1000
4/1	1440

Lane Saturation Flows

Junction: Newgate Lane E TOUCAN								
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 (Newgate Lane E (S))	3.65	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1980	1980
2/1 (Newgate Lane E (N))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
3/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '1' (FG1: '2021 AM Baseline (DS2)', Plan 1: 'Network Control Plan 1')

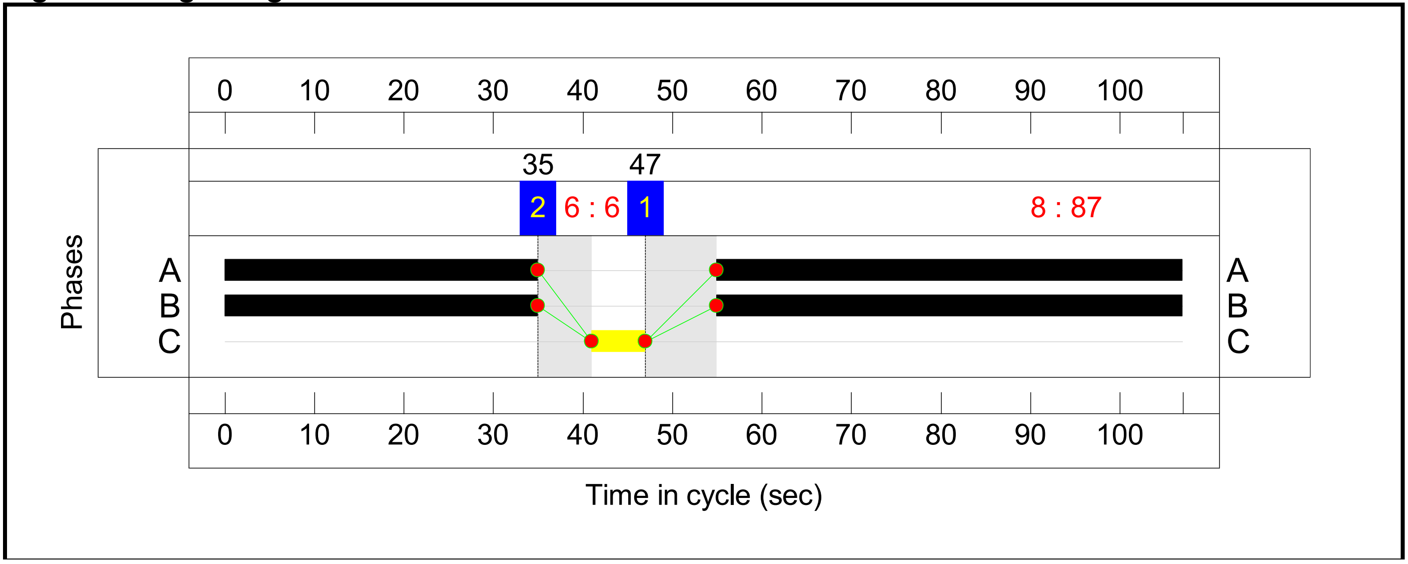
Stage Sequence Diagram



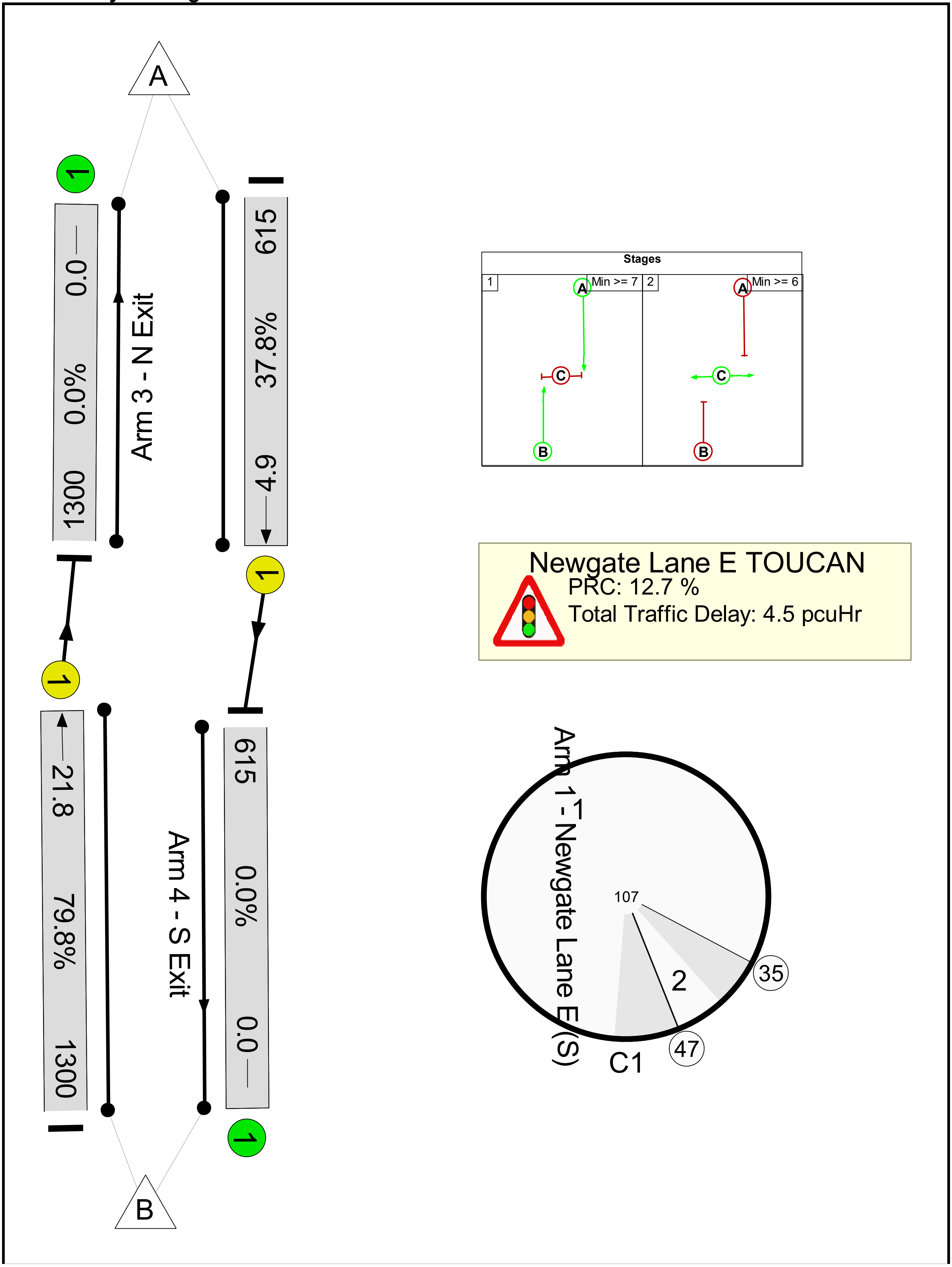
Stage Timings

Stage	1	2
Duration	87	6
Change Point	47	35

Signal Timings Diagram



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: Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.8%**
Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.8%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	87	-	1300	1980	1628	79.8%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	87	-	615	1980	1628	37.8%
3/1	N Exit	U	N/A	N/A	-		-	-	-	1300	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	615	Inf	Inf	0.0%

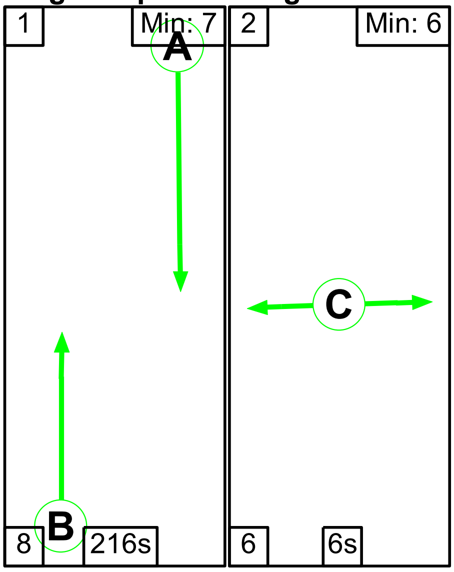
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**2.2**	**2.3**	**0.0**	**4.5**	**-**	**-**	**-**	**-**
Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**2.2**	**2.3**	**0.0**	**4.5**	**-**	**-**	**-**	**-**
1/1	1300	1300	-	-	-	1.8	2.0	-	3.7	10.3	19.9	2.0	21.8
2/1	615	615	-	-	-	0.4	0.3	-	0.7	4.2	4.6	0.3	4.9
3/1	1300	1300	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	615	615	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 12.7 Total Delay for Signalled Lanes (pcuHr): 4.45 Cycle Time (s): 107
PRC Over All Lanes (%): 12.7 Total Delay Over All Lanes(pcuHr): 4.45

Full Input Data And Results

Scenario 2: '2' (FG2: '2021 PM Baseline (DS2)', Plan 1: 'Network Control Plan 1')

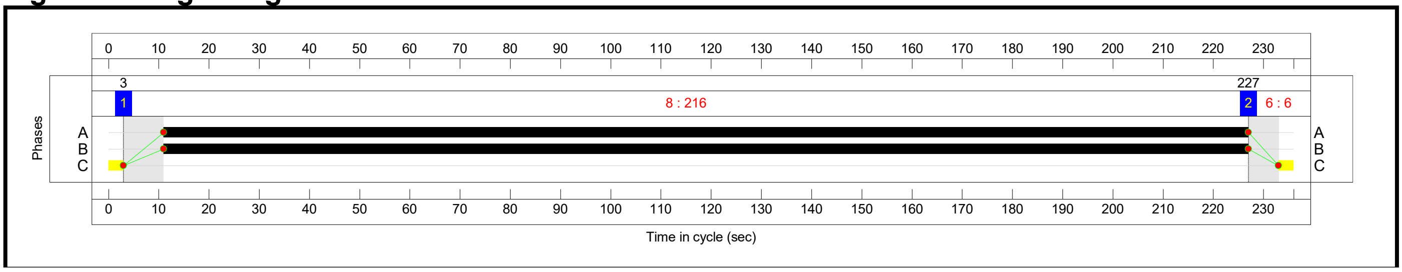
Stage Sequence Diagram



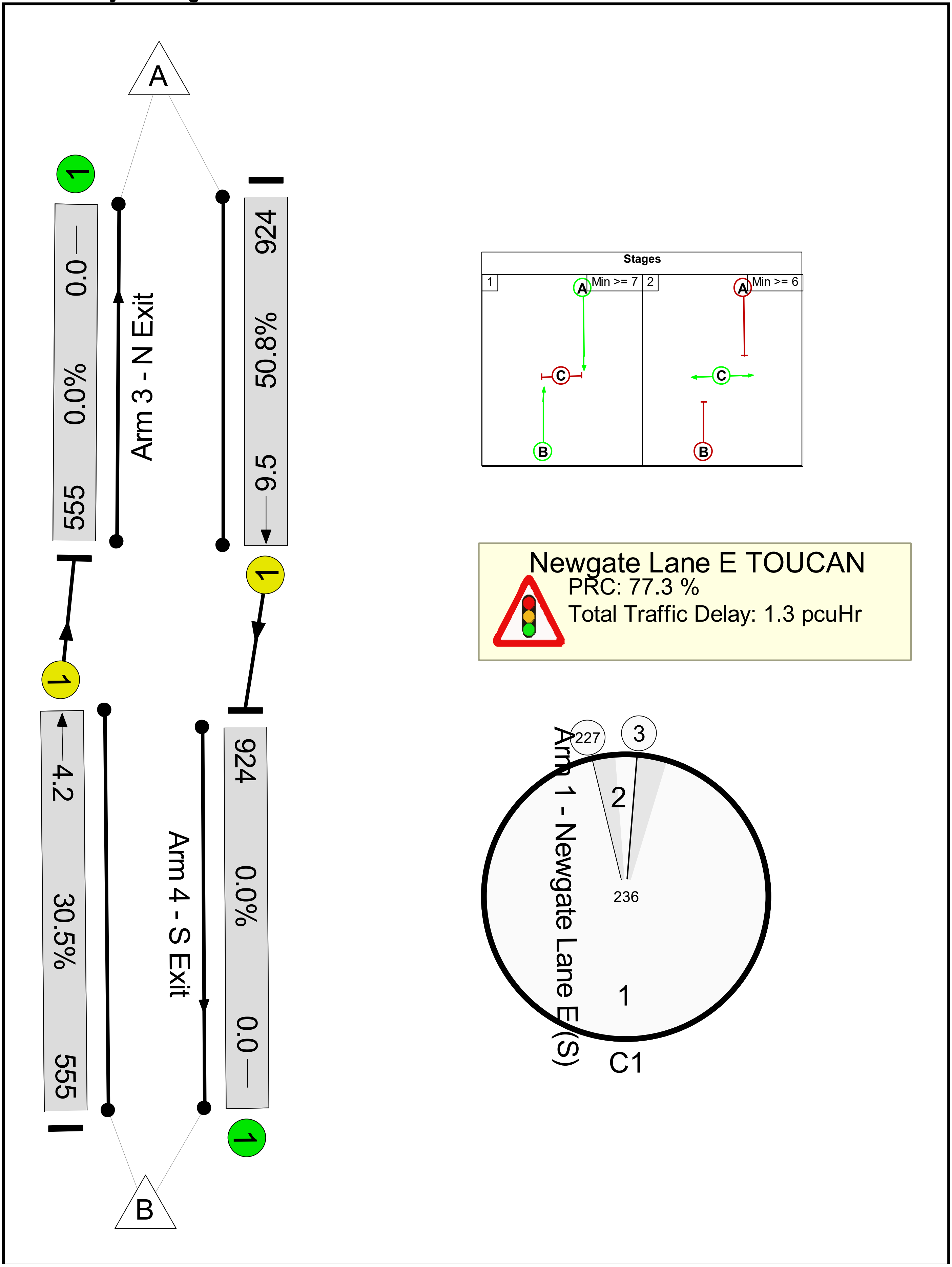
Stage Timings

Stage	1	2
Duration	216	6
Change Point	3	227

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**50.8%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**50.8%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	216	-	555	1980	1821	30.5%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	216	-	924	1980	1821	50.8%
3/1	N Exit	U	N/A	N/A	-		-	-	-	555	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	924	Inf	Inf	0.0%

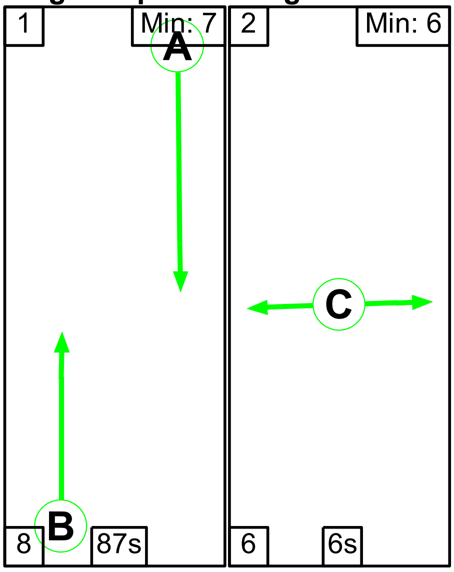
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.5**	**0.7**	**0.0**	**1.3**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.5**	**0.7**	**0.0**	**1.3**	-	-	-	-
1/1	555	555	-	-	-	0.2	0.2	-	0.4	2.5	4.0	0.2	4.2
2/1	924	924	-	-	-	0.4	0.5	-	0.9	3.4	9.0	0.5	9.5
3/1	555	555	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	924	924	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 77.3 Total Delay for Signalled Lanes (pcuHr): 1.27 Cycle Time (s): 236
PRC Over All Lanes (%): 77.3 Total Delay Over All Lanes(pcuHr): 1.27

Full Input Data And Results

Scenario 3: '3' (FG3: '2028 AM Base + Com (DS2)', Plan 1: 'Network Control Plan 1')

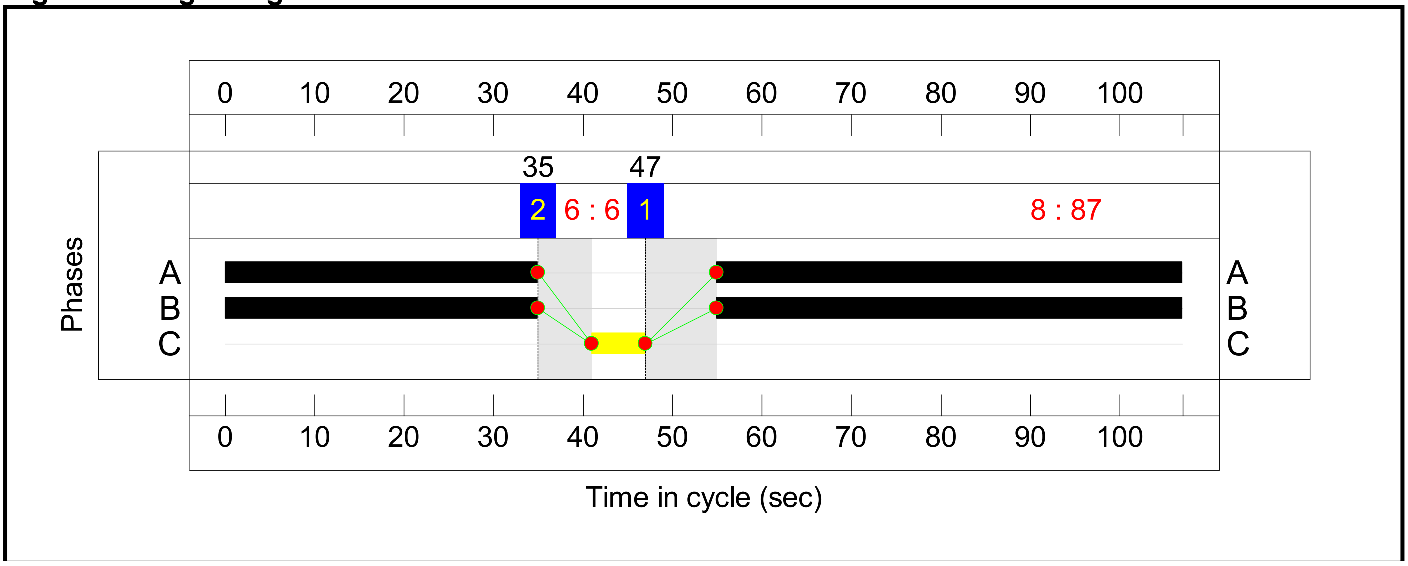
Stage Sequence Diagram



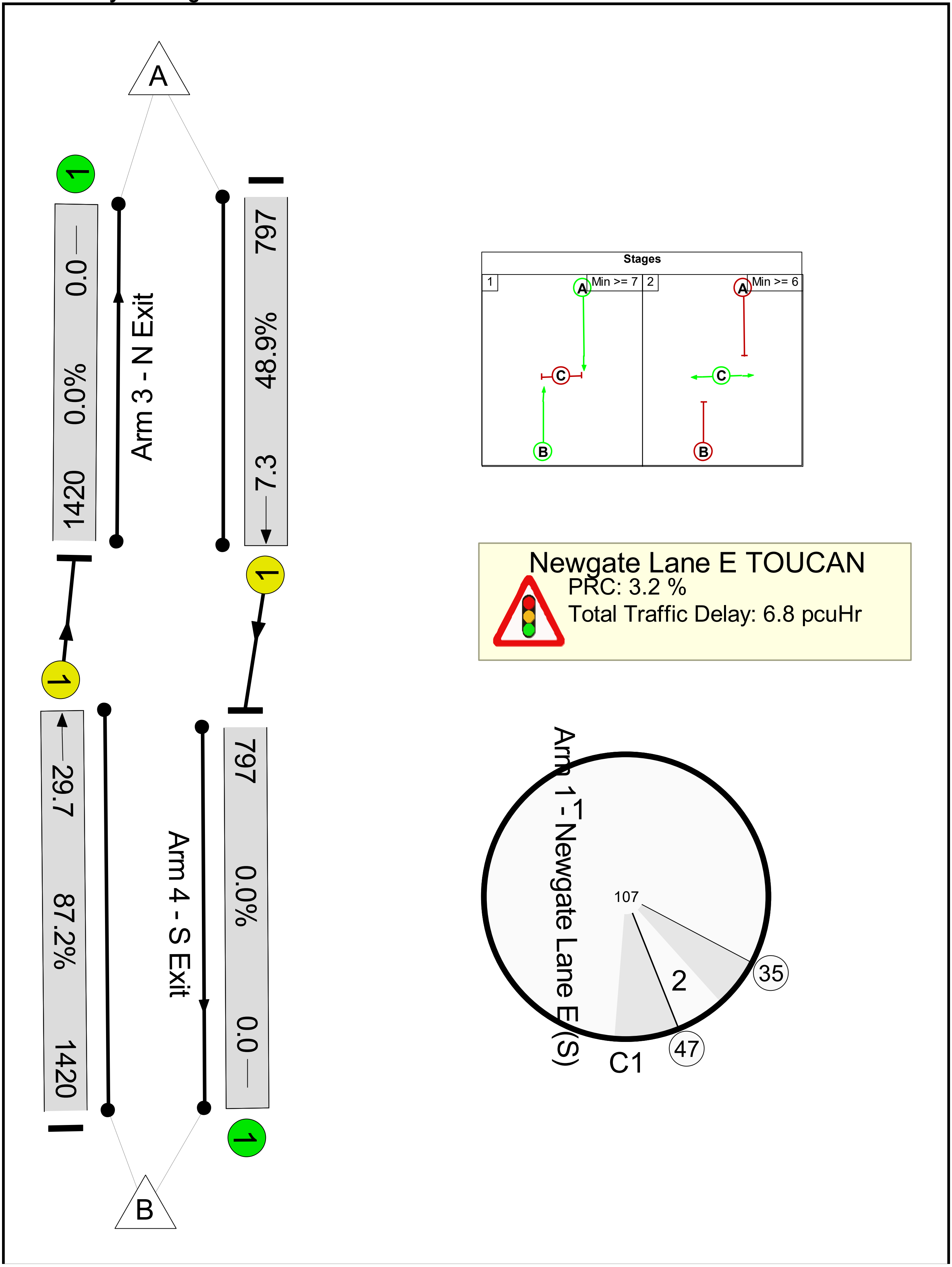
Stage Timings

Stage	1	2
Duration	87	6
Change Point	47	35

Signal Timings Diagram



Network Layout Diagram



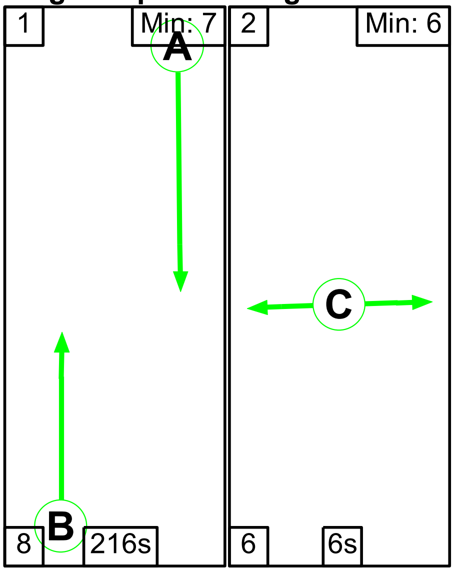
Full Input Data And Results

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: Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**87.2%**
Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**87.2%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	87	-	1420	1980	1628	87.2%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	87	-	797	1980	1628	48.9%
3/1	N Exit	U	N/A	N/A	-		-	-	-	1420	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	797	Inf	Inf	0.0%

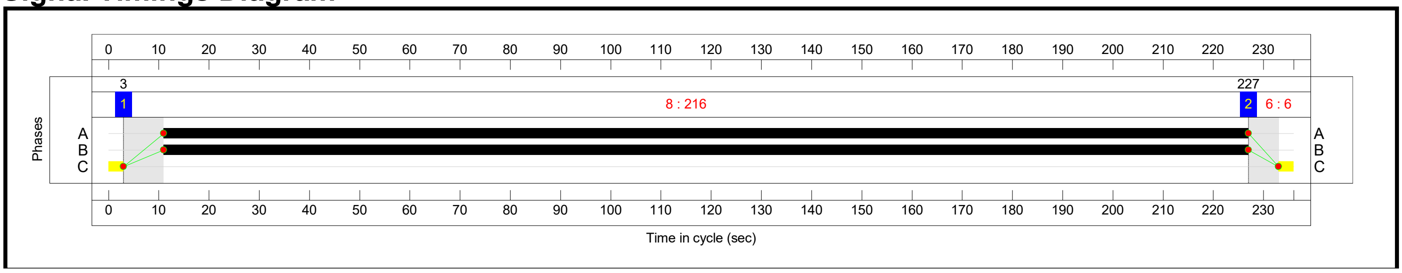
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**3.0**	**3.8**	**0.0**	**6.8**	**-**	**-**	**-**	**-**
Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**3.0**	**3.8**	**0.0**	**6.8**	**-**	**-**	**-**	**-**
1/1	1420	1420	-	-	-	2.4	3.3	-	5.7	14.3	26.4	3.3	29.7
2/1	797	797	-	-	-	0.6	0.5	-	1.1	5.0	6.9	0.5	7.3
3/1	1420	1420	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	797	797	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 3.2 Total Delay for Signalled Lanes (pcuHr): 6.76 Cycle Time (s): 107
PRC Over All Lanes (%): 3.2 Total Delay Over All Lanes(pcuHr): 6.76

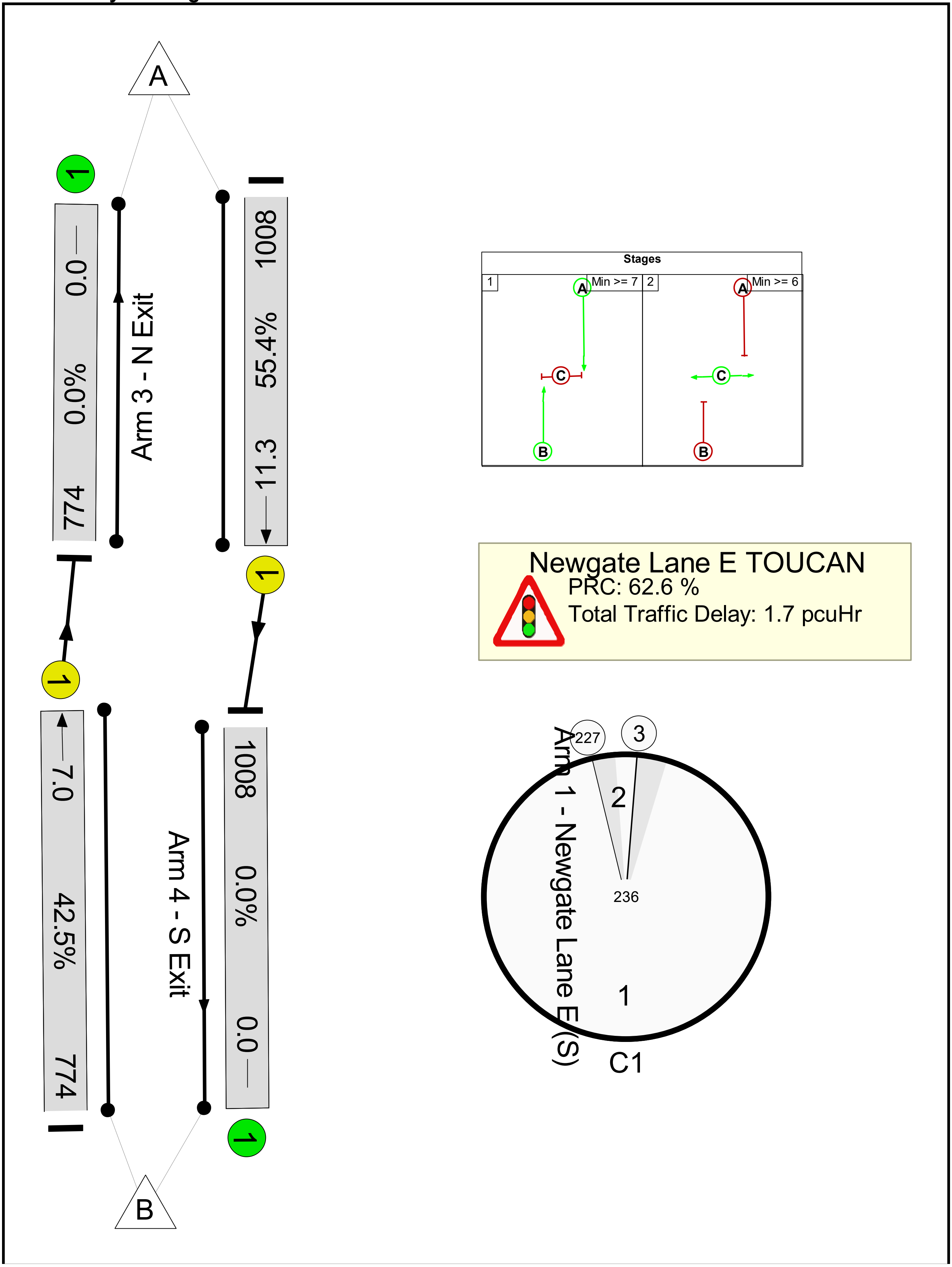
Full Input Data And Results
Scenario 4: '4' (FG4: '2028 PM Base + Com (DS2)', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram


Stage Timings

Stage	1	2
Duration	216	6
Change Point	3	227

Signal Timings Diagram


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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**55.4%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**55.4%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	216	-	774	1980	1821	42.5%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	216	-	1008	1980	1821	55.4%
3/1	N Exit	U	N/A	N/A	-		-	-	-	774	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	1008	Inf	Inf	0.0%

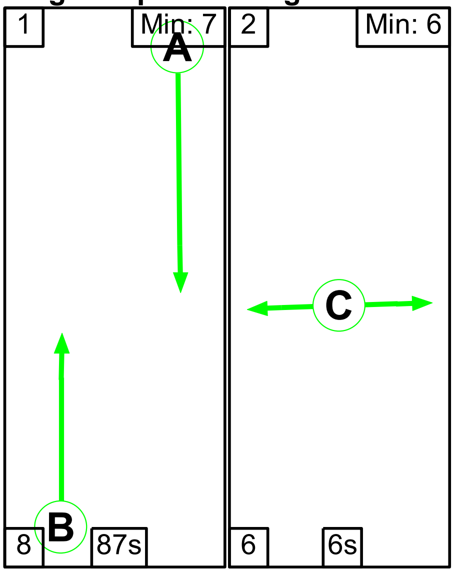
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.7**	**1.0**	**0.0**	**1.7**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.7**	**1.0**	**0.0**	**1.7**	-	-	-	-
1/1	774	774	-	-	-	0.3	0.4	-	0.6	3.0	6.7	0.4	7.0
2/1	1008	1008	-	-	-	0.4	0.6	-	1.1	3.8	10.6	0.6	11.3
3/1	774	774	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	1008	1008	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 62.6 Total Delay for Signalled Lanes (pcuHr): 1.70 Cycle Time (s): 236
PRC Over All Lanes (%): 62.6 Total Delay Over All Lanes(pcuHr): 1.70

Full Input Data And Results

Scenario 5: '5' (FG5: '2028 AM Base + Com - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

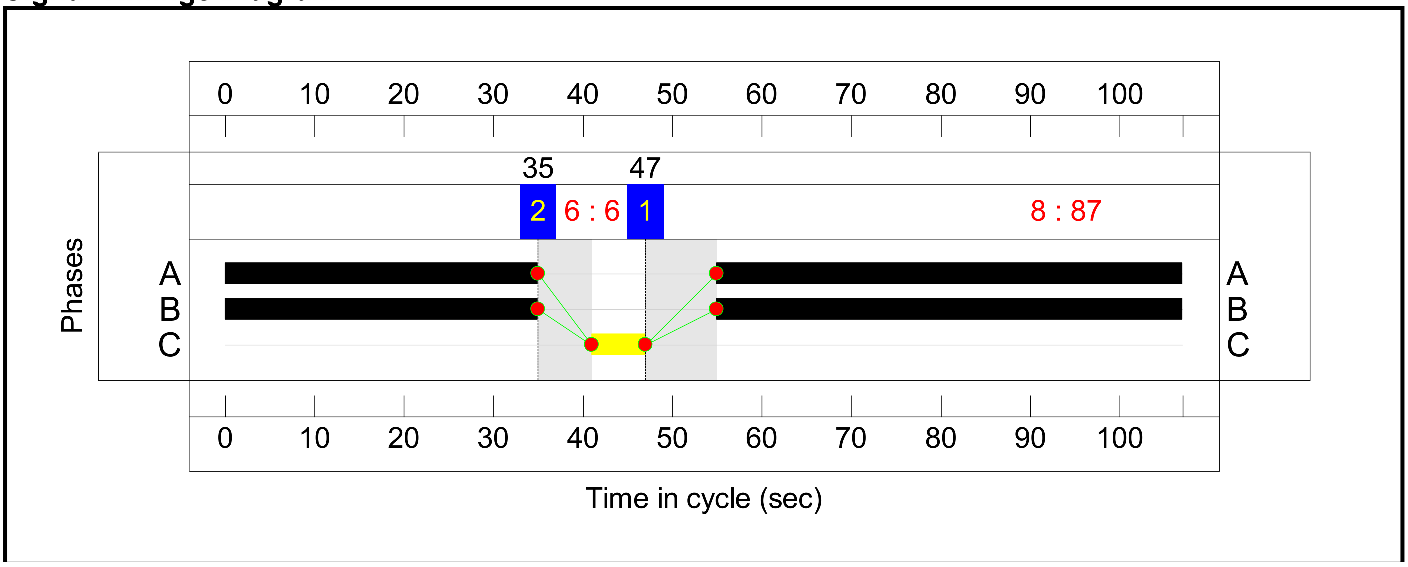
Stage Sequence Diagram



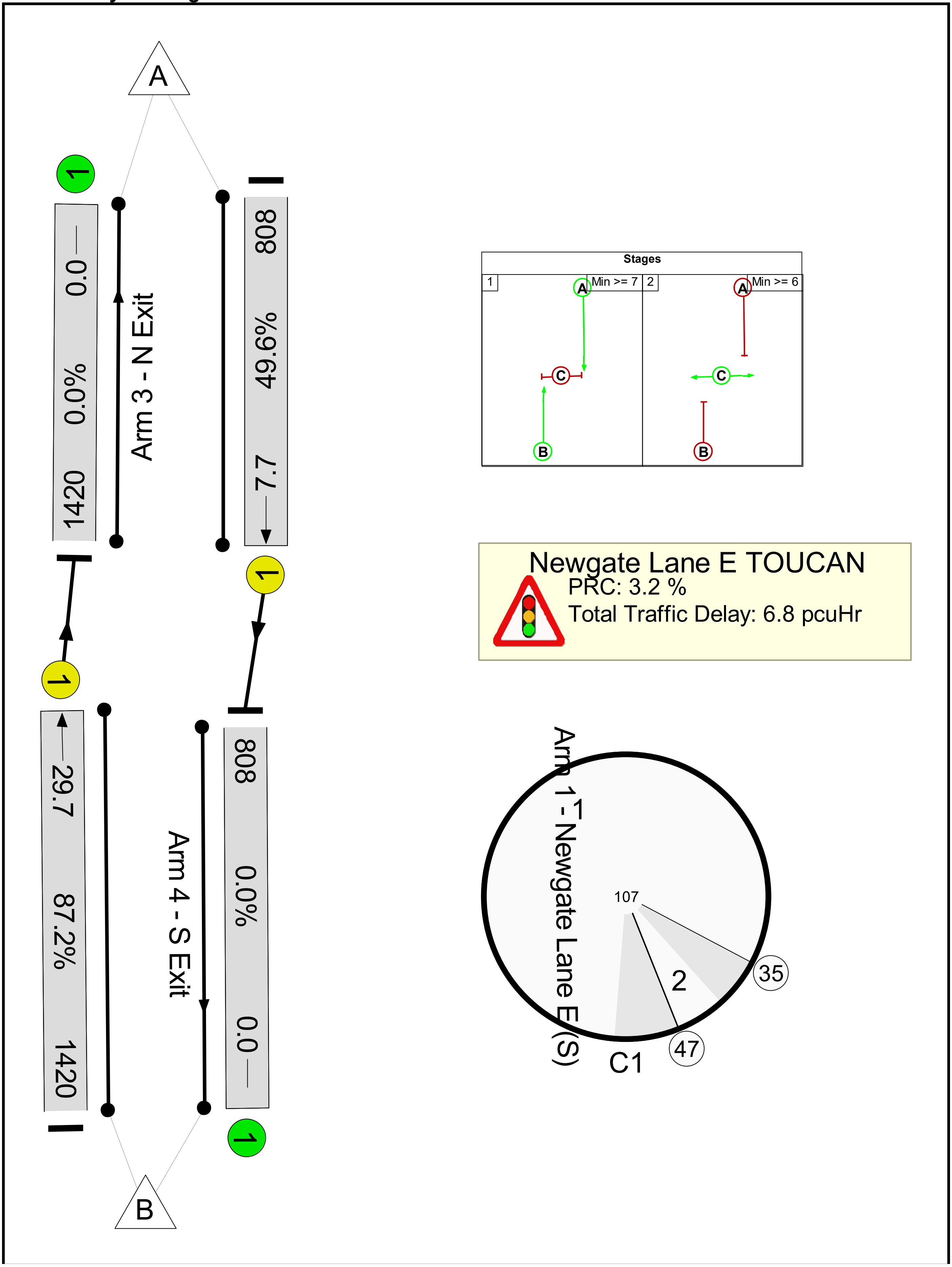
Stage Timings

Stage	1	2
Duration	87	6
Change Point	47	35

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

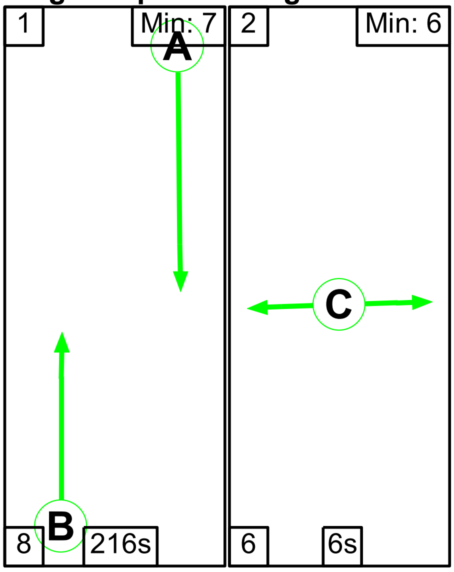
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**87.2%**
Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**87.2%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	87	-	1420	1980	1628	87.2%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	87	-	808	1980	1628	49.6%
3/1	N Exit	U	N/A	N/A	-		-	-	-	1420	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	808	Inf	Inf	0.0%

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: Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**3.0**	**3.8**	**0.0**	**6.8**	**-**	**-**	**-**	**-**
Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**3.0**	**3.8**	**0.0**	**6.8**	**-**	**-**	**-**	**-**
1/1	1420	1420	-	-	-	2.4	3.3	-	5.7	14.3	26.4	3.3	29.7
2/1	808	808	-	-	-	0.6	0.5	-	1.1	5.0	7.2	0.5	7.7
3/1	1420	1420	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	808	808	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 3.2 Total Delay for Signalled Lanes (pcuHr): 6.79 Cycle Time (s): 107
PRC Over All Lanes (%): 3.2 Total Delay Over All Lanes(pcuHr): 6.79

Full Input Data And Results
Scenario 6: '6' (FG6: '2028 PM Base + Com - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

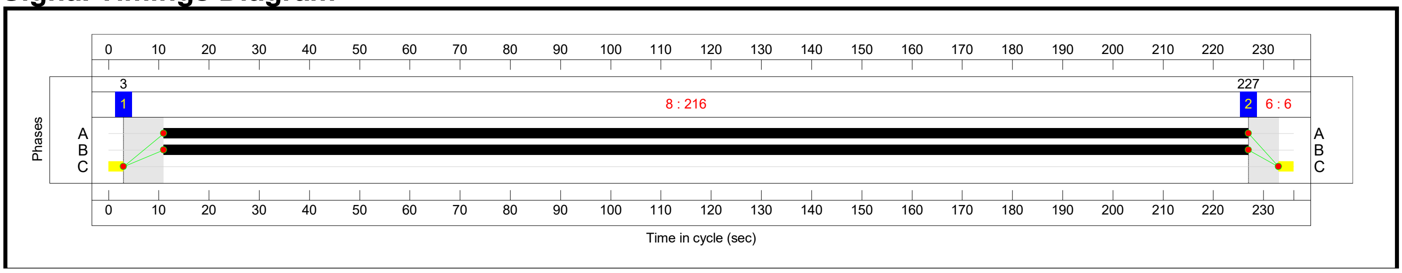
Stage Sequence Diagram



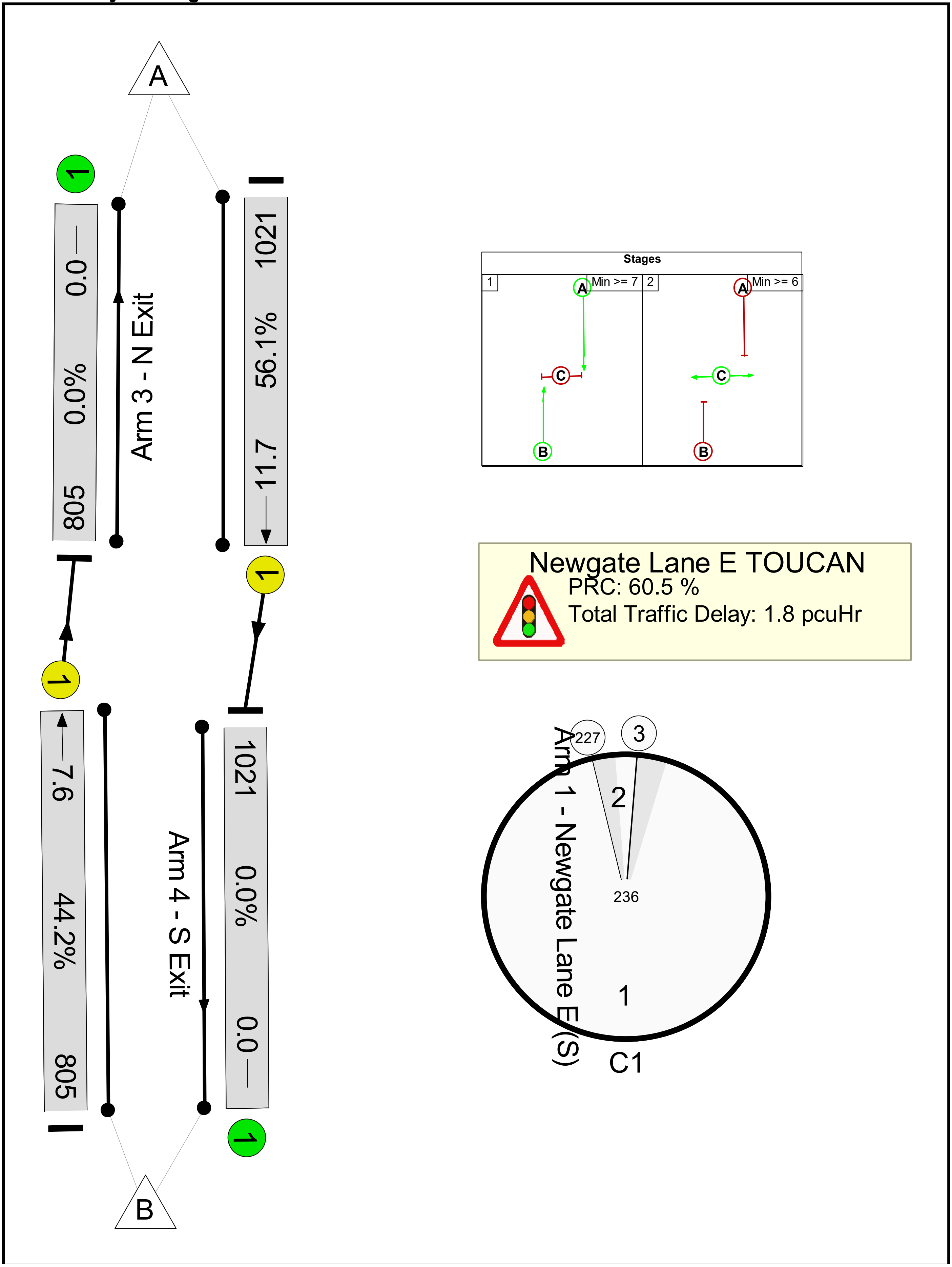
Stage Timings

Stage	1	2
Duration	216	6
Change Point	3	227

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**56.1%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**56.1%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	216	-	805	1980	1821	44.2%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	216	-	1021	1980	1821	56.1%
3/1	N Exit	U	N/A	N/A	-		-	-	-	805	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	1021	Inf	Inf	0.0%

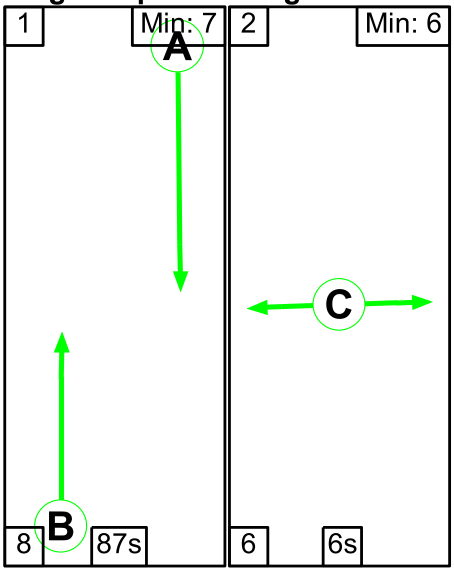
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.7**	**1.0**	**0.0**	**1.8**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.7**	**1.0**	**0.0**	**1.8**	-	-	-	-
1/1	805	805	-	-	-	0.3	0.4	-	0.7	3.1	7.2	0.4	7.6
2/1	1021	1021	-	-	-	0.4	0.6	-	1.1	3.8	11.1	0.6	11.7
3/1	805	805	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	1021	1021	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 60.5 Total Delay for Signalled Lanes (pcuHr): 1.77 Cycle Time (s): 236
PRC Over All Lanes (%): 60.5 Total Delay Over All Lanes(pcuHr): 1.77

Full Input Data And Results

Scenario 7: '7' (FG7: '2028 AM Base + Com + Dev (DS2)', Plan 1: 'Network Control Plan 1')

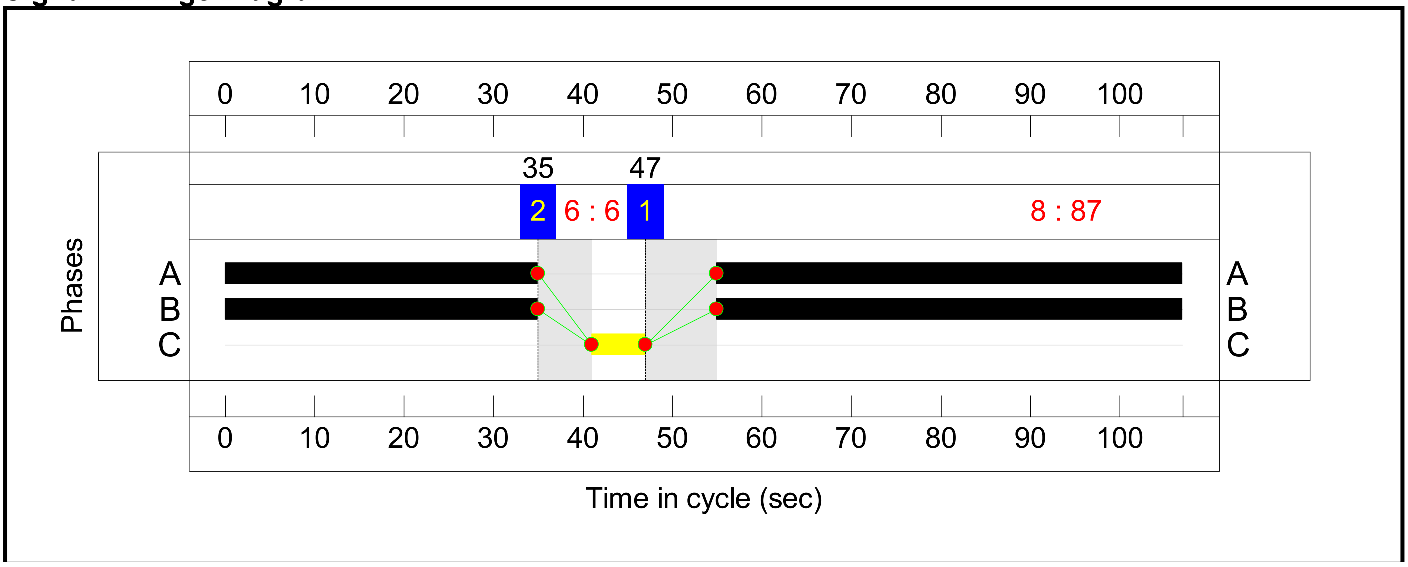
Stage Sequence Diagram



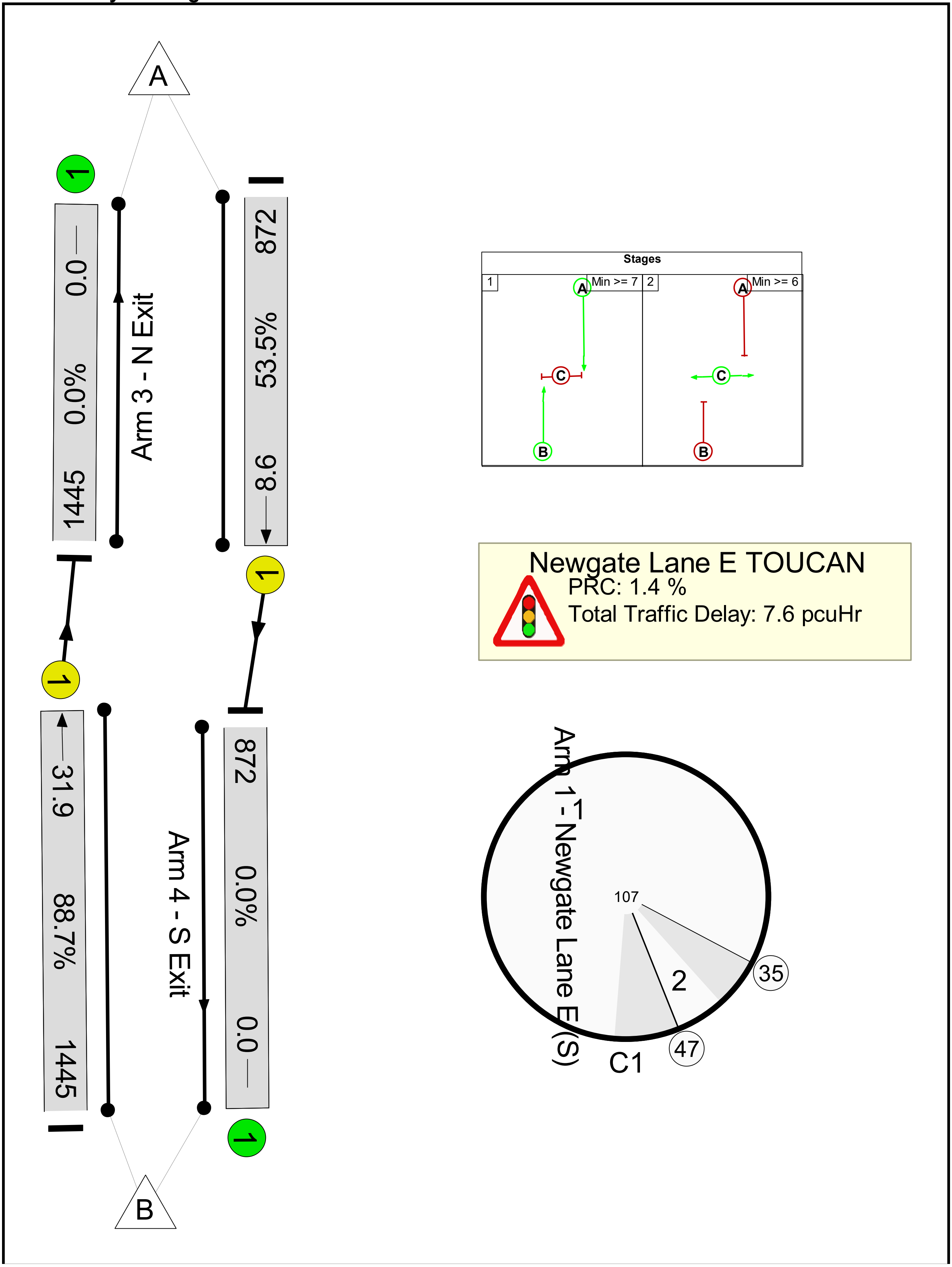
Stage Timings

Stage	1	2
Duration	87	6
Change Point	47	35

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results
Network Results

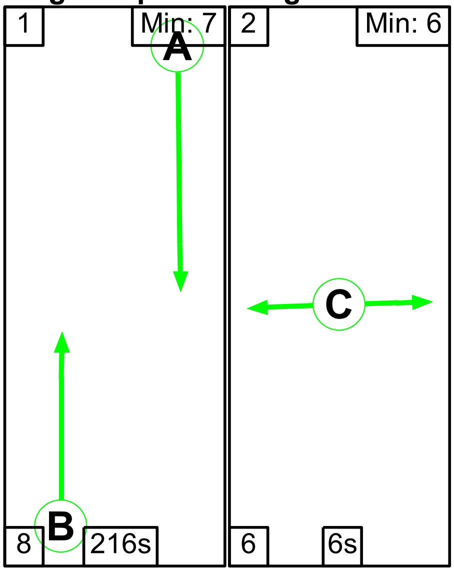
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**88.7%**
Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**88.7%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	87	-	1445	1980	1628	88.7%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	87	-	872	1980	1628	53.5%
3/1	N Exit	U	N/A	N/A	-		-	-	-	1445	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%

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: Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**3.2**	**4.4**	**0.0**	**7.6**	**-**	**-**	**-**	**-**
Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**3.2**	**4.4**	**0.0**	**7.6**	**-**	**-**	**-**	**-**
1/1	1445	1445	-	-	-	2.5	3.8	-	6.3	15.7	28.1	3.8	31.9
2/1	872	872	-	-	-	0.7	0.6	-	1.3	5.4	8.0	0.6	8.6
3/1	1445	1445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 1.4 Total Delay for Signalled Lanes (pcuHr): 7.60 Cycle Time (s): 107
PRC Over All Lanes (%): 1.4 Total Delay Over All Lanes(pcuHr): 7.60

Full Input Data And Results
Scenario 8: '8' (FG8: '2028 PM Base + Com + Dev (DS2)', Plan 1: 'Network Control Plan 1')

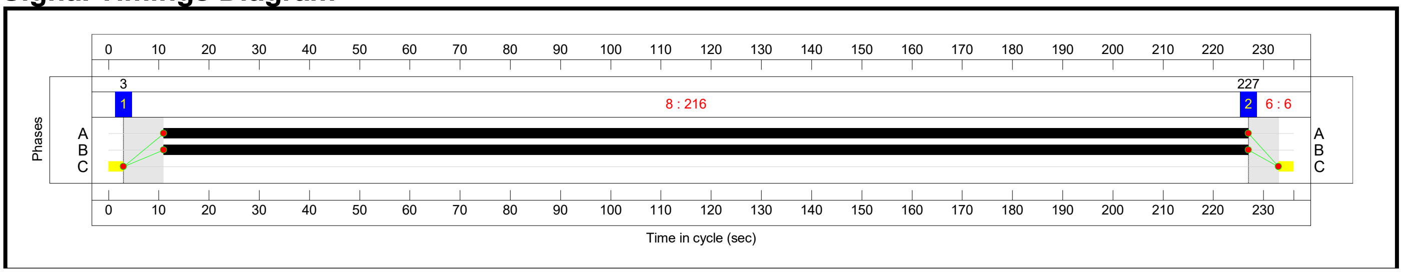
Stage Sequence Diagram



Stage Timings

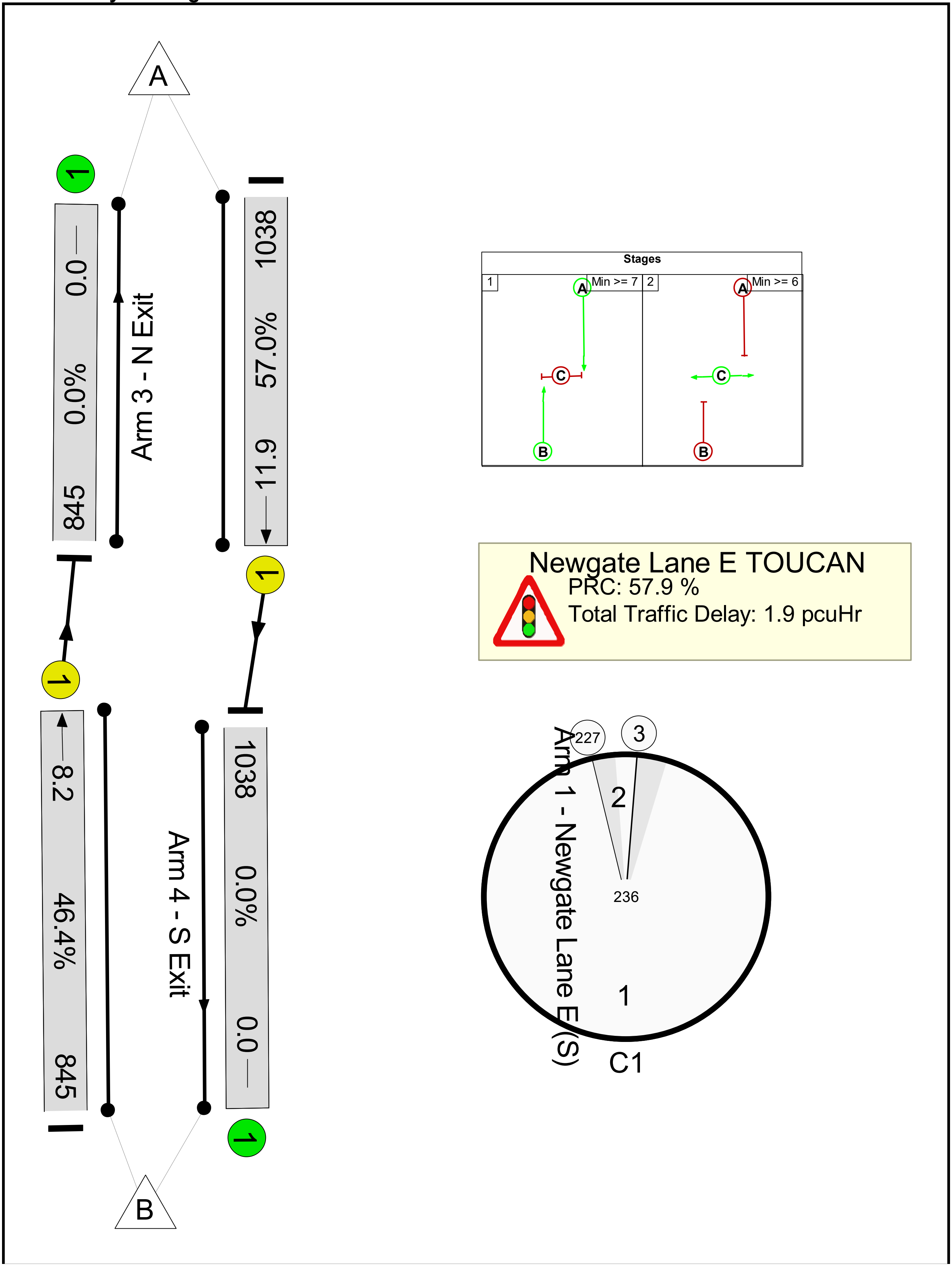
Stage	1	2
Duration	216	6
Change Point	3	227

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

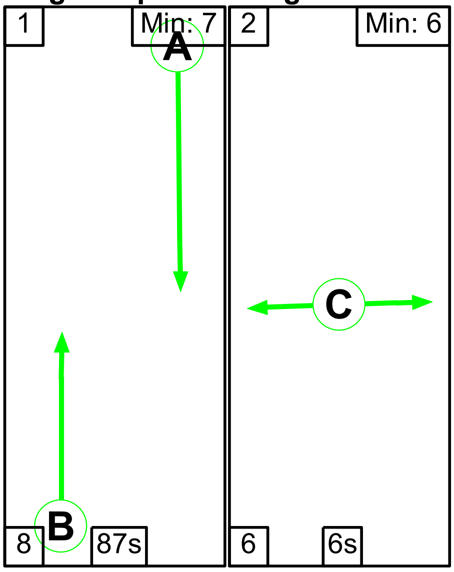
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**57.0%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**57.0%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	216	-	845	1980	1821	46.4%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	216	-	1038	1980	1821	57.0%
3/1	N Exit	U	N/A	N/A	-		-	-	-	845	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	1038	Inf	Inf	0.0%

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: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.8**	**1.1**	**0.0**	**1.9**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.8**	**1.1**	**0.0**	**1.9**	-	-	-	-
1/1	845	845	-	-	-	0.3	0.4	-	0.7	3.2	7.7	0.4	8.2
2/1	1038	1038	-	-	-	0.5	0.7	-	1.1	3.9	11.2	0.7	11.9
3/1	845	845	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	1038	1038	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 57.9 Total Delay for Signalled Lanes (pcuHr): 1.87 Cycle Time (s): 236
PRC Over All Lanes (%): 57.9 Total Delay Over All Lanes(pcuHr): 1.87

Scenario 9: '9' (FG9: '2028 AM Base + Com + Dev - Sens test (DS2)', Plan 1: 'Network Control Plan 1')

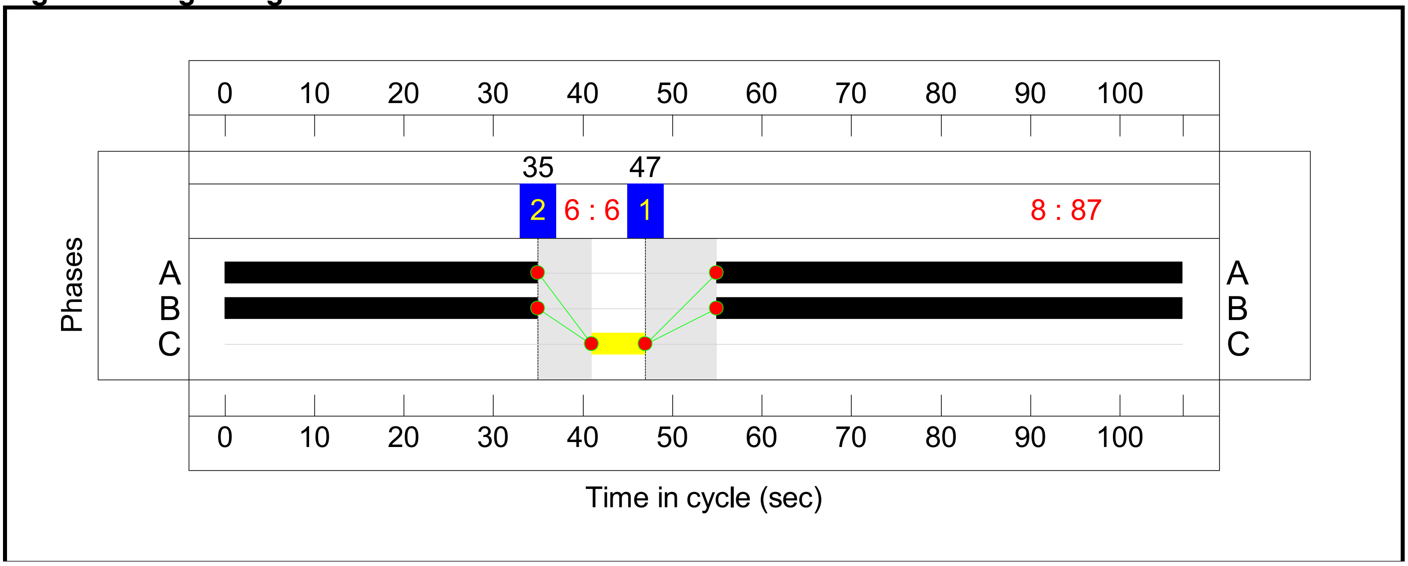
Stage Sequence Diagram



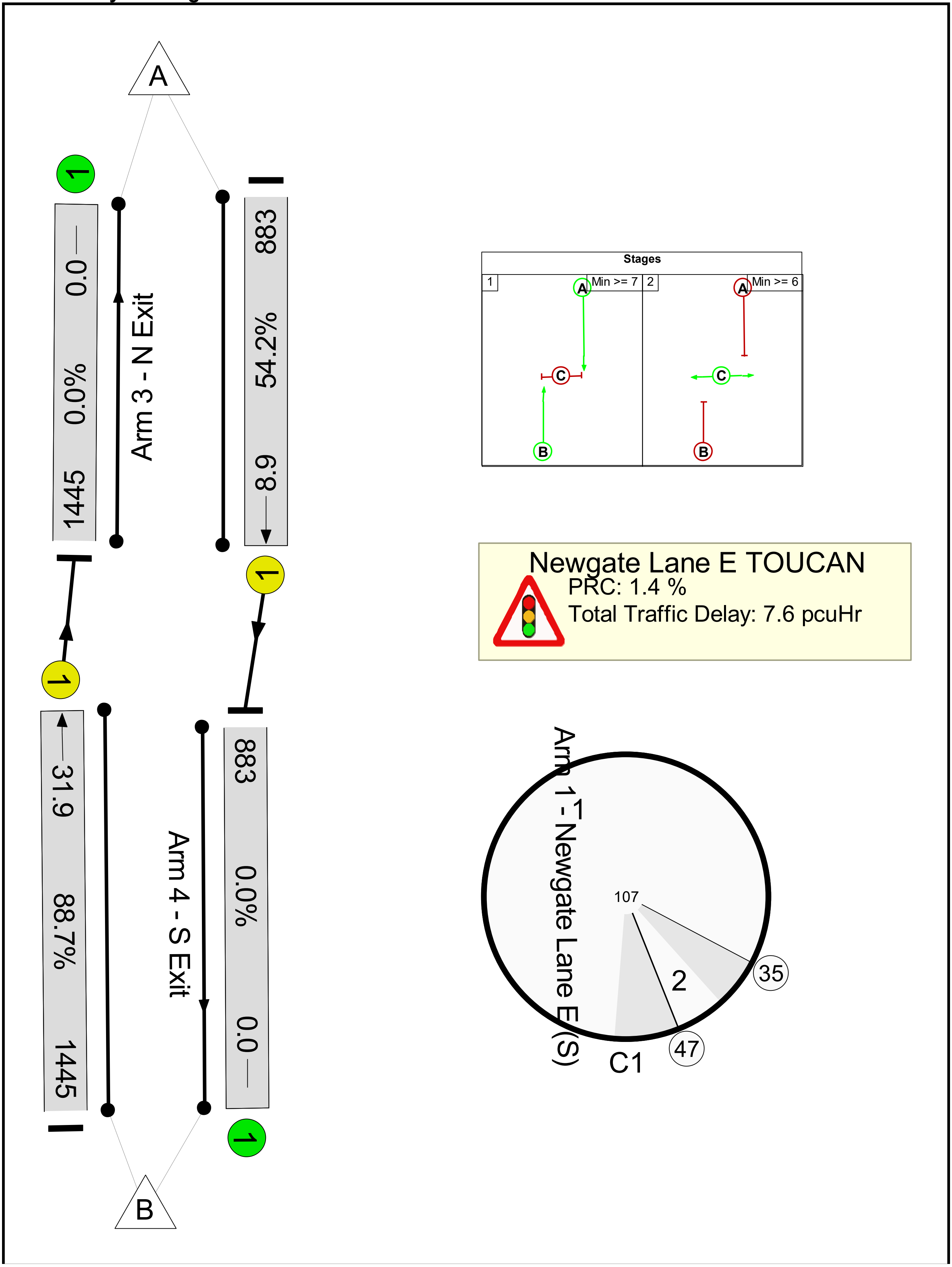
Stage Timings

Stage	1	2
Duration	87	6
Change Point	47	35

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**88.7%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**88.7%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	87	-	1445	1980	1628	88.7%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	87	-	883	1980	1628	54.2%
3/1	N Exit	U	N/A	N/A	-		-	-	-	1445	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	883	Inf	Inf	0.0%

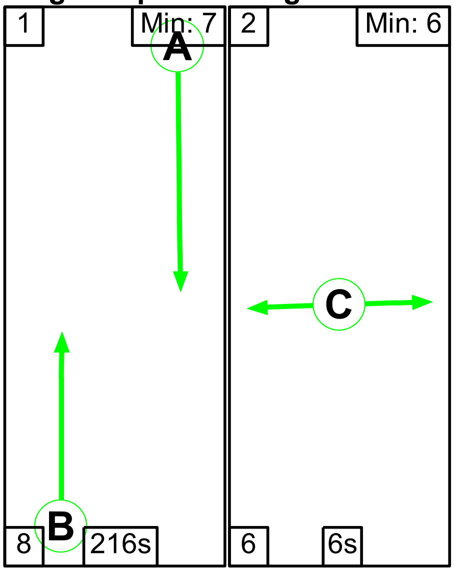
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**3.3**	**4.4**	**0.0**	**7.6**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**3.3**	**4.4**	**0.0**	**7.6**	-	-	-	-
1/1	1445	1445	-	-	-	2.5	3.8	-	6.3	15.7	28.1	3.8	31.9
2/1	883	883	-	-	-	0.7	0.6	-	1.3	5.5	8.3	0.6	8.9
3/1	1445	1445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	883	883	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 1.4 Total Delay for Signalled Lanes (pcuHr): 7.63 Cycle Time (s): 107
PRC Over All Lanes (%): 1.4 Total Delay Over All Lanes(pcuHr): 7.63

Full Input Data And Results

Scenario 10: '10' (FG10: '2028 PM Base + Com + Dev - Sens test (DS2)', Plan 1: 'Network Control Plan 1')

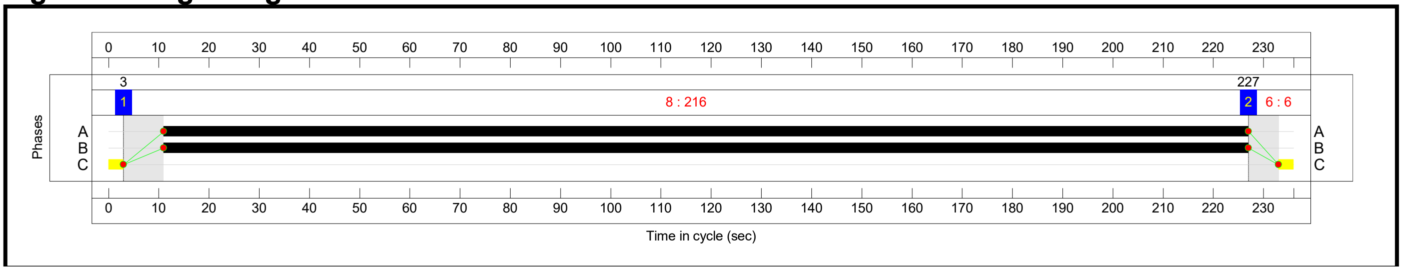
Stage Sequence Diagram



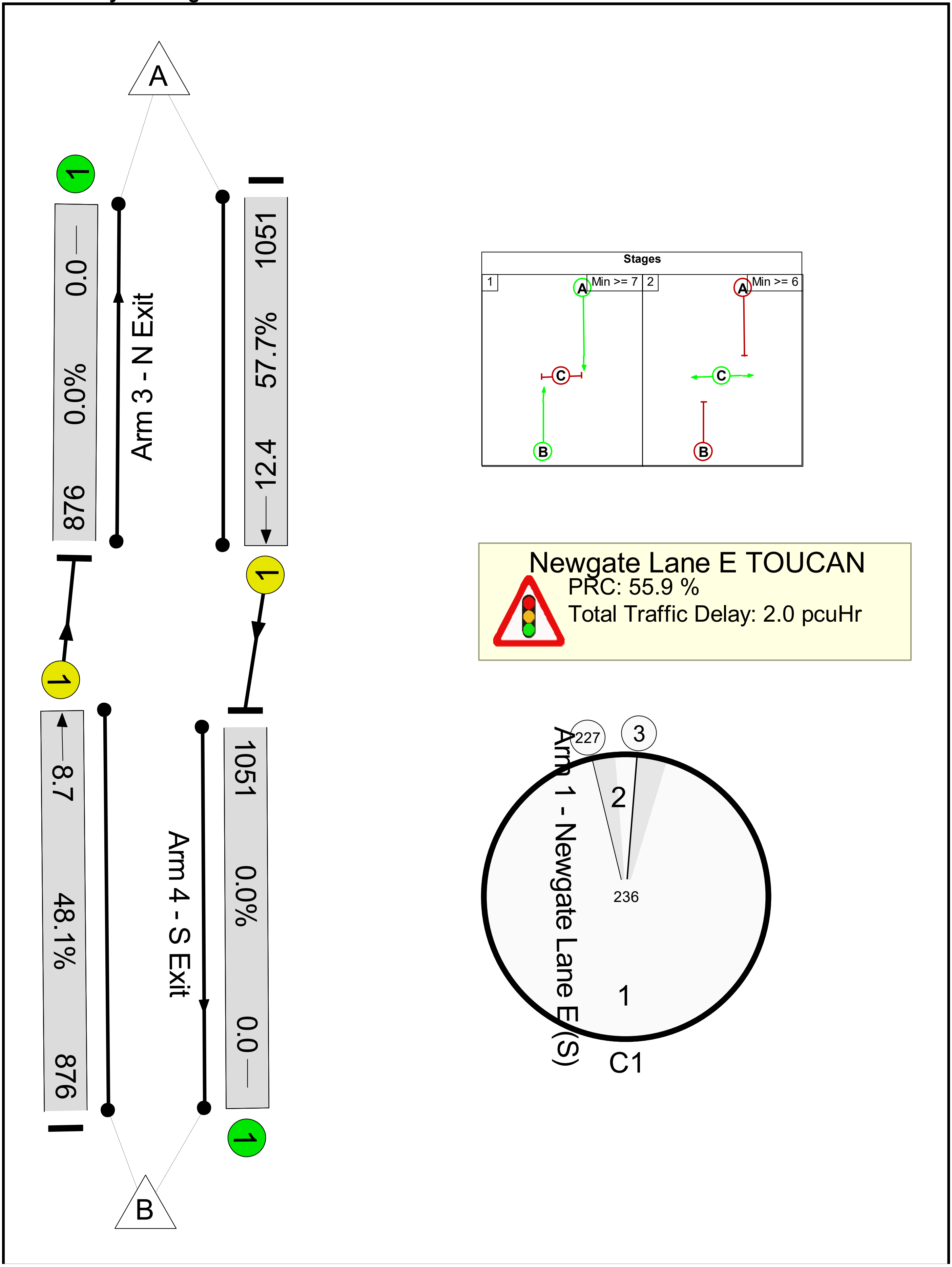
Stage Timings

Stage	1	2
Duration	216	6
Change Point	3	227

Signal Timings Diagram



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: Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.7%**
Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.7%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	216	-	876	1980	1821	48.1%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	216	-	1051	1980	1821	57.7%
3/1	N Exit	U	N/A	N/A	-		-	-	-	876	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	1051	Inf	Inf	0.0%

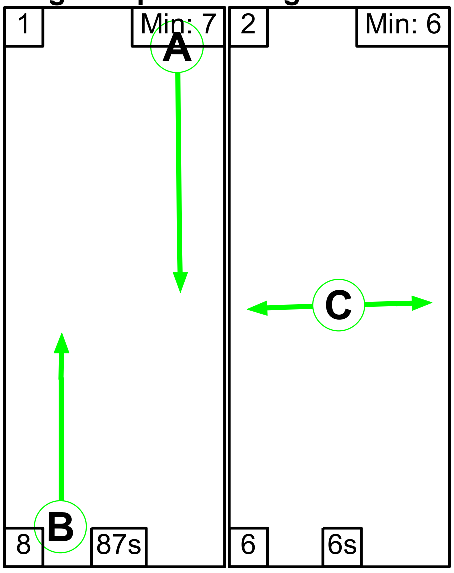
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**0.8**	**1.1**	**0.0**	**2.0**	**-**	**-**	**-**	**-**
Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**0.8**	**1.1**	**0.0**	**2.0**	**-**	**-**	**-**	**-**
1/1	876	876	-	-	-	0.3	0.5	-	0.8	3.3	8.3	0.5	8.7
2/1	1051	1051	-	-	-	0.5	0.7	-	1.2	4.0	11.7	0.7	12.4
3/1	876	876	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	1051	1051	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 55.9 Total Delay for Signalled Lanes (pcuHr): 1.95 Cycle Time (s): 236
PRC Over All Lanes (%): 55.9 Total Delay Over All Lanes(pcuHr): 1.95

Full Input Data And Results

Scenario 11: '11' (FG11: '2037 AM Base + Com (DS2)', Plan 1: 'Network Control Plan 1')

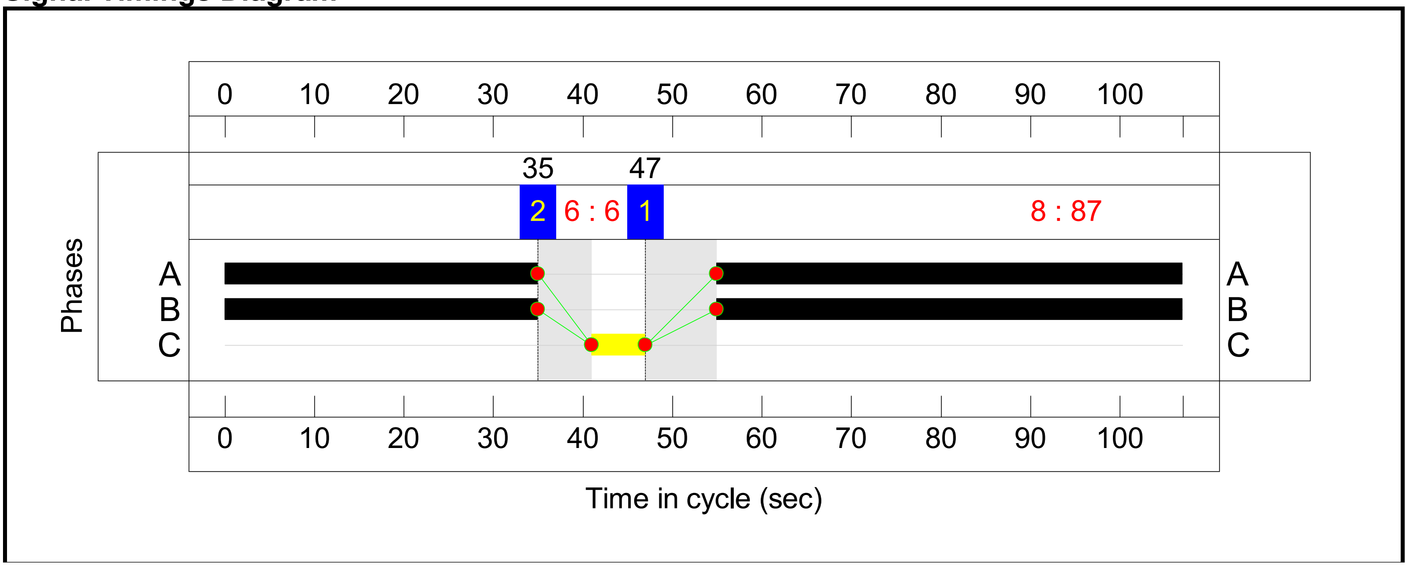
Stage Sequence Diagram



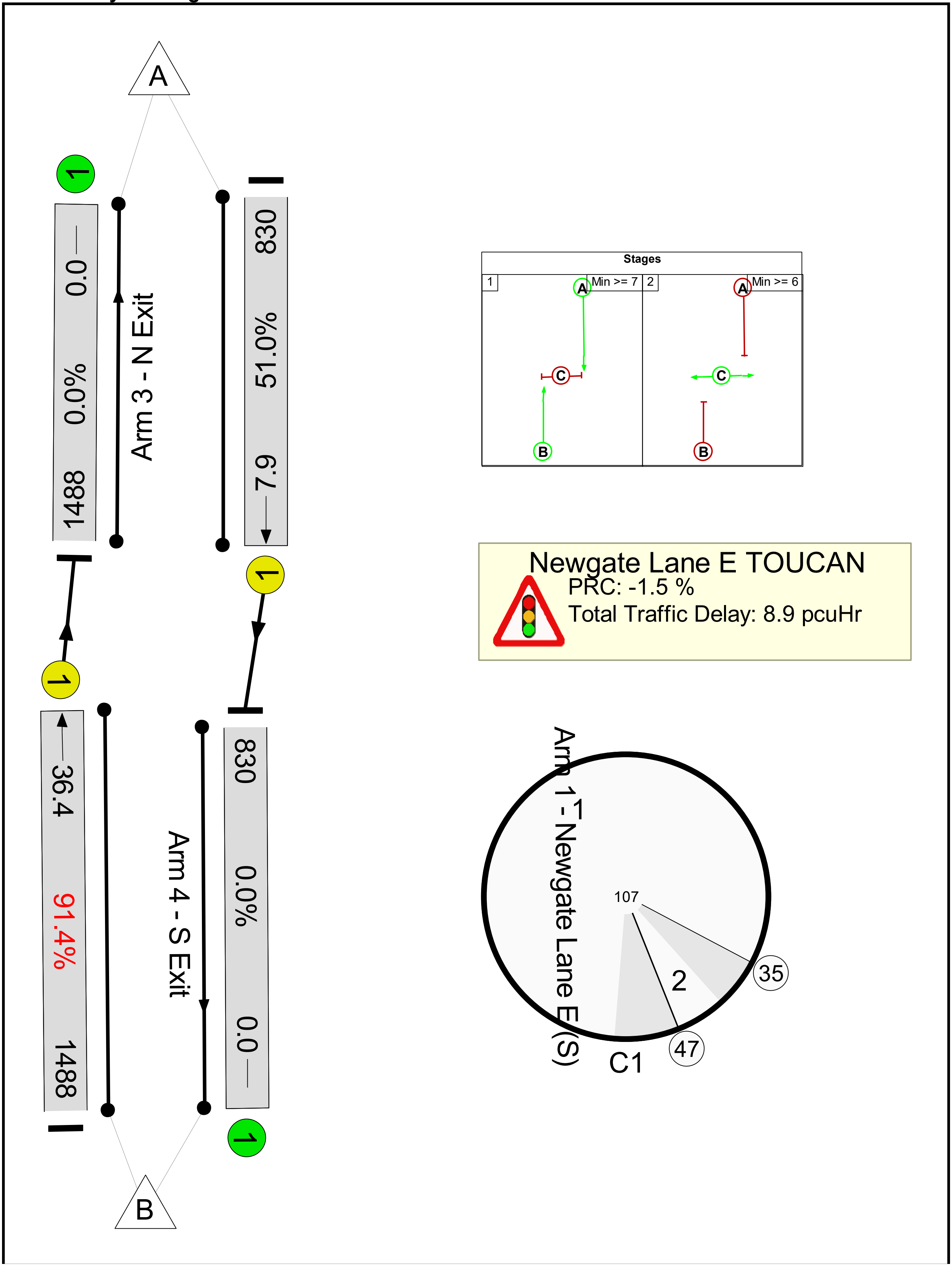
Stage Timings

Stage	1	2
Duration	87	6
Change Point	47	35

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.4%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.4%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	87	-	1488	1980	1628	91.4%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	87	-	830	1980	1628	51.0%
3/1	N Exit	U	N/A	N/A	-		-	-	-	1488	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	830	Inf	Inf	0.0%

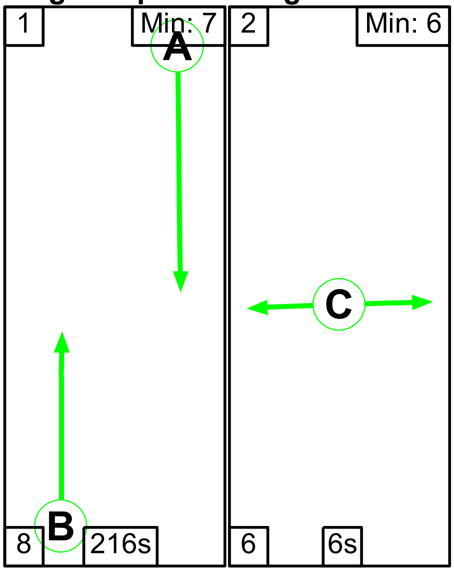
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**3.5**	**5.5**	**0.0**	**8.9**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**3.5**	**5.5**	**0.0**	**8.9**	-	-	-	-
1/1	1488	1488	-	-	-	2.8	4.9	-	7.8	18.8	31.4	4.9	36.4
2/1	830	830	-	-	-	0.7	0.5	-	1.2	5.2	7.4	0.5	7.9
3/1	1488	1488	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	830	830	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -1.5 Total Delay for Signalled Lanes (pcuHr): 8.94 Cycle Time (s): 107
PRC Over All Lanes (%): -1.5 Total Delay Over All Lanes(pcuHr): 8.94

Full Input Data And Results

Scenario 12: '12' (FG12: '2037 PM Base + Com (DS2)', Plan 1: 'Network Control Plan 1')

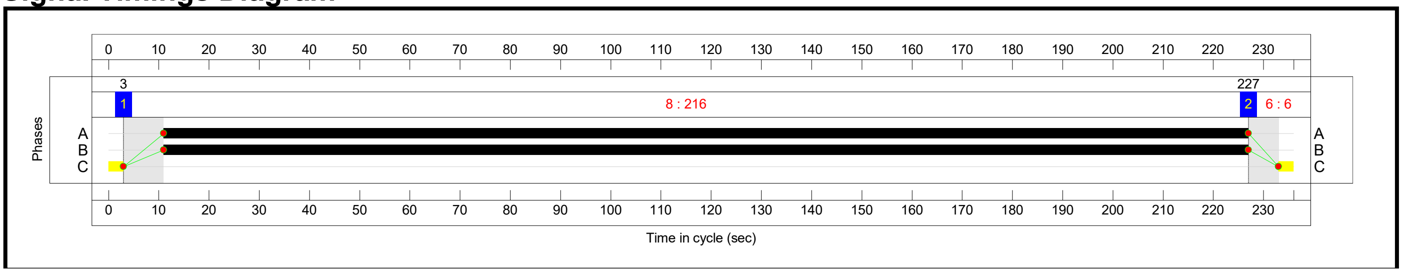
Stage Sequence Diagram



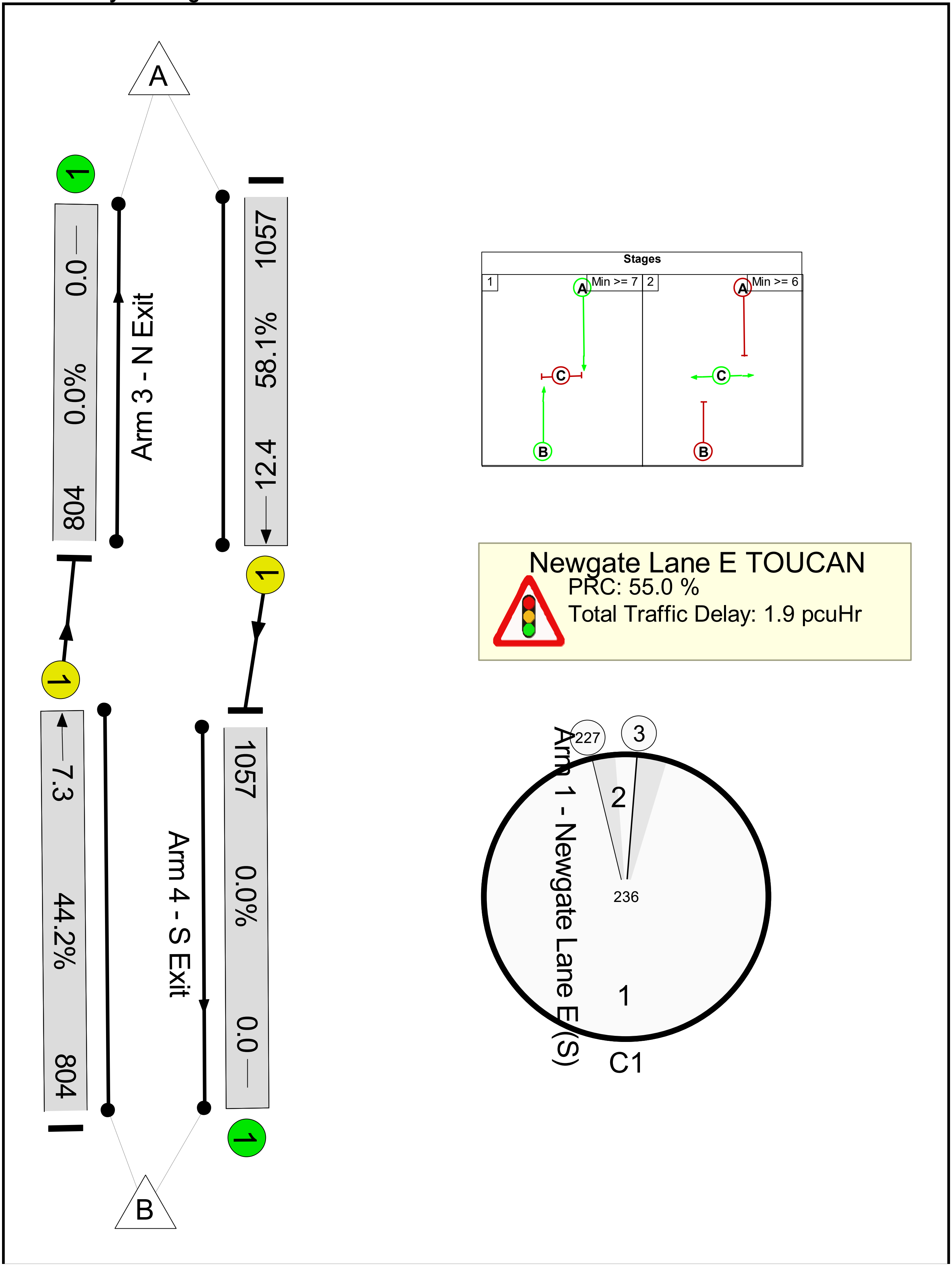
Stage Timings

Stage	1	2
Duration	216	6
Change Point	3	227

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**58.1%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**58.1%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	216	-	804	1980	1821	44.2%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	216	-	1057	1980	1821	58.1%
3/1	N Exit	U	N/A	N/A	-		-	-	-	804	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	1057	Inf	Inf	0.0%

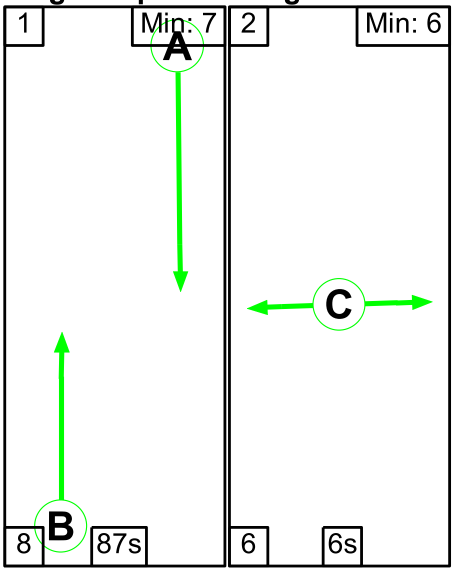
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.8**	**1.1**	**0.0**	**1.9**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.8**	**1.1**	**0.0**	**1.9**	-	-	-	-
1/1	804	804	-	-	-	0.3	0.4	-	0.7	3.1	6.9	0.4	7.3
2/1	1057	1057	-	-	-	0.5	0.7	-	1.2	4.0	11.7	0.7	12.4
3/1	804	804	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	1057	1057	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 55.0 Total Delay for Signalled Lanes (pcuHr): 1.86 Cycle Time (s): 236
PRC Over All Lanes (%): 55.0 Total Delay Over All Lanes(pcuHr): 1.86

Full Input Data And Results

Scenario 13: '13' (FG13: '2037 AM Base + Com - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

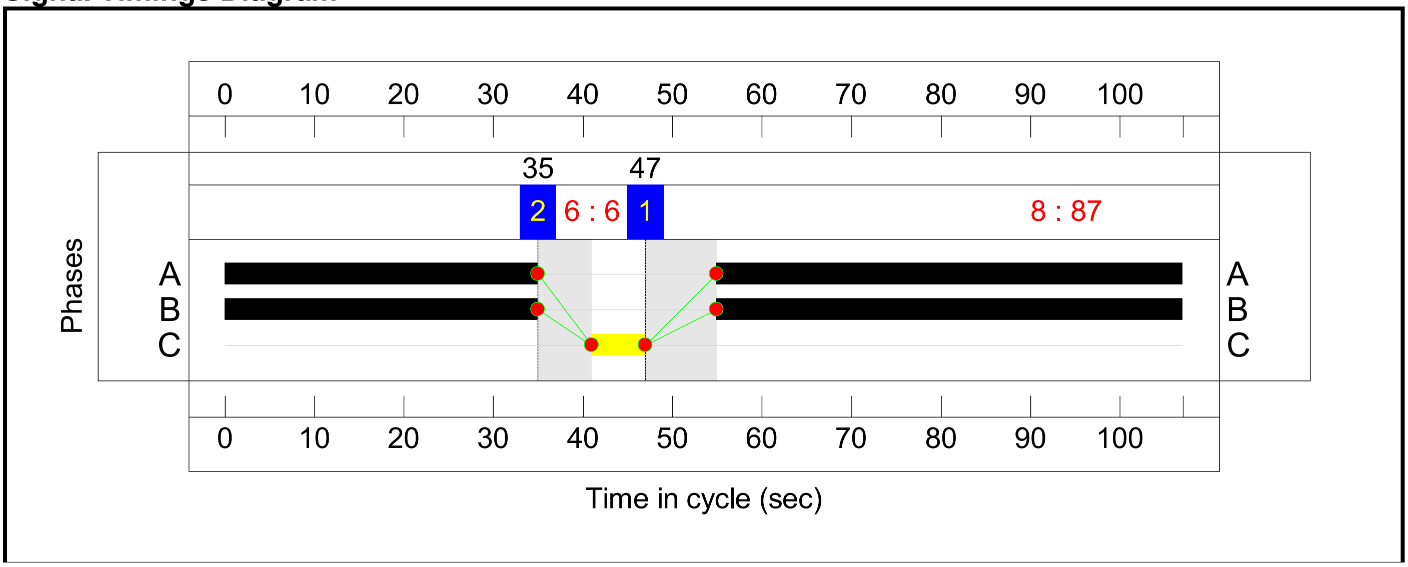
Stage Sequence Diagram



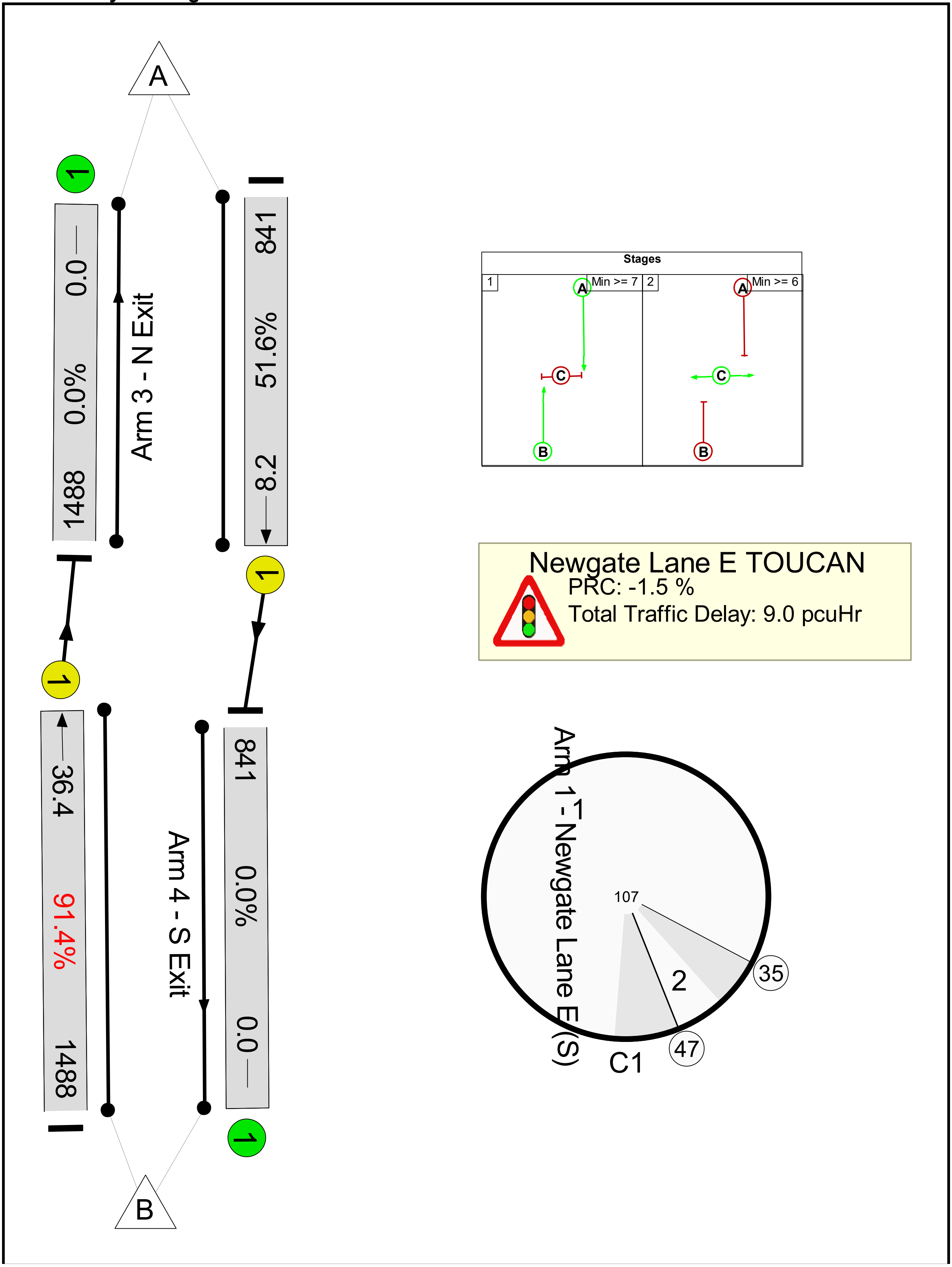
Stage Timings

Stage	1	2
Duration	87	6
Change Point	47	35

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.4%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.4%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	87	-	1488	1980	1628	91.4%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	87	-	841	1980	1628	51.6%
3/1	N Exit	U	N/A	N/A	-		-	-	-	1488	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%

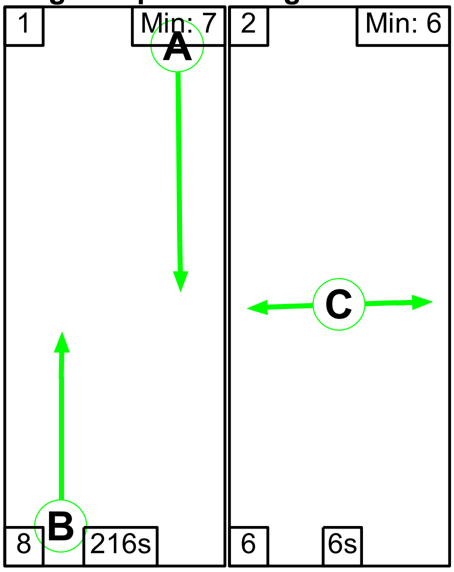
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**3.5**	**5.5**	**0.0**	**9.0**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**3.5**	**5.5**	**0.0**	**9.0**	-	-	-	-
1/1	1488	1488	-	-	-	2.8	4.9	-	7.8	18.8	31.4	4.9	36.4
2/1	841	841	-	-	-	0.7	0.5	-	1.2	5.2	7.7	0.5	8.2
3/1	1488	1488	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -1.5 Total Delay for Signalled Lanes (pcuHr): 8.97 Cycle Time (s): 107
PRC Over All Lanes (%): -1.5 Total Delay Over All Lanes(pcuHr): 8.97

Full Input Data And Results

Scenario 14: '14' (FG14: '2037 PM Base + Com - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

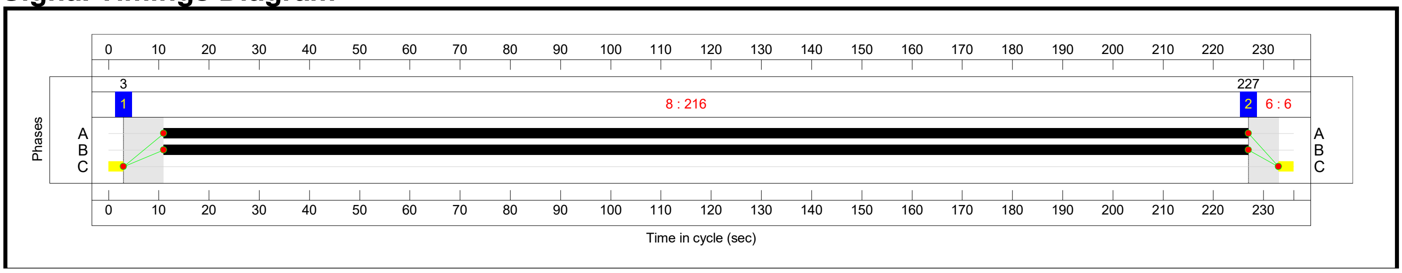
Stage Sequence Diagram



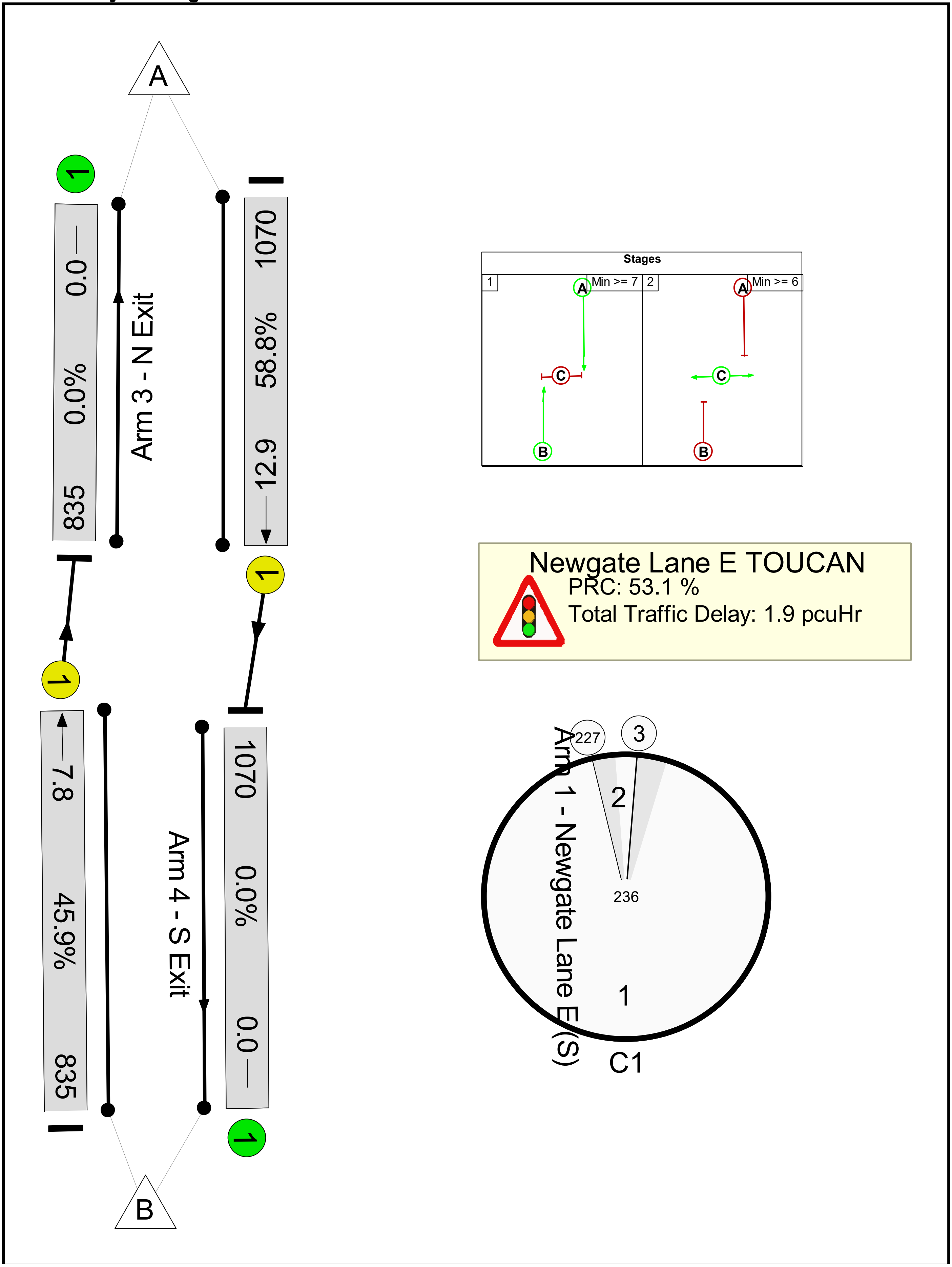
Stage Timings

Stage	1	2
Duration	216	6
Change Point	3	227

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**58.8%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**58.8%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	216	-	835	1980	1821	45.9%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	216	-	1070	1980	1821	58.8%
3/1	N Exit	U	N/A	N/A	-		-	-	-	835	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	1070	Inf	Inf	0.0%

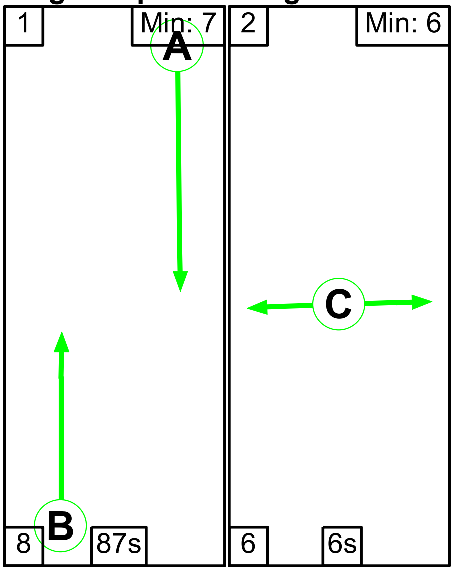
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.8**	**1.1**	**0.0**	**1.9**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.8**	**1.1**	**0.0**	**1.9**	-	-	-	-
1/1	835	835	-	-	-	0.3	0.4	-	0.7	3.1	7.4	0.4	7.8
2/1	1070	1070	-	-	-	0.5	0.7	-	1.2	4.1	12.2	0.7	12.9
3/1	835	835	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	1070	1070	-	-	-	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): 1.94 Cycle Time (s): 236
PRC Over All Lanes (%): 53.1 Total Delay Over All Lanes(pcuHr): 1.94

Full Input Data And Results

Scenario 15: '15' (FG15: '2037 AM Base + Com + Dev (DS2)', Plan 1: 'Network Control Plan 1')

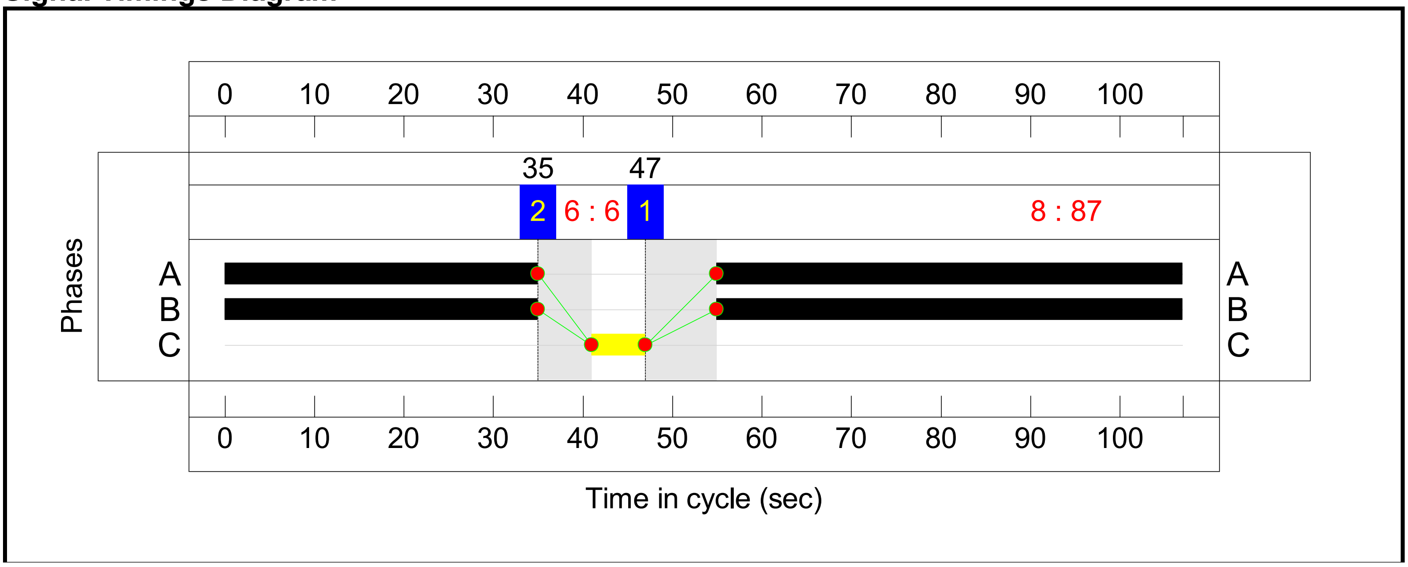
Stage Sequence Diagram



Stage Timings

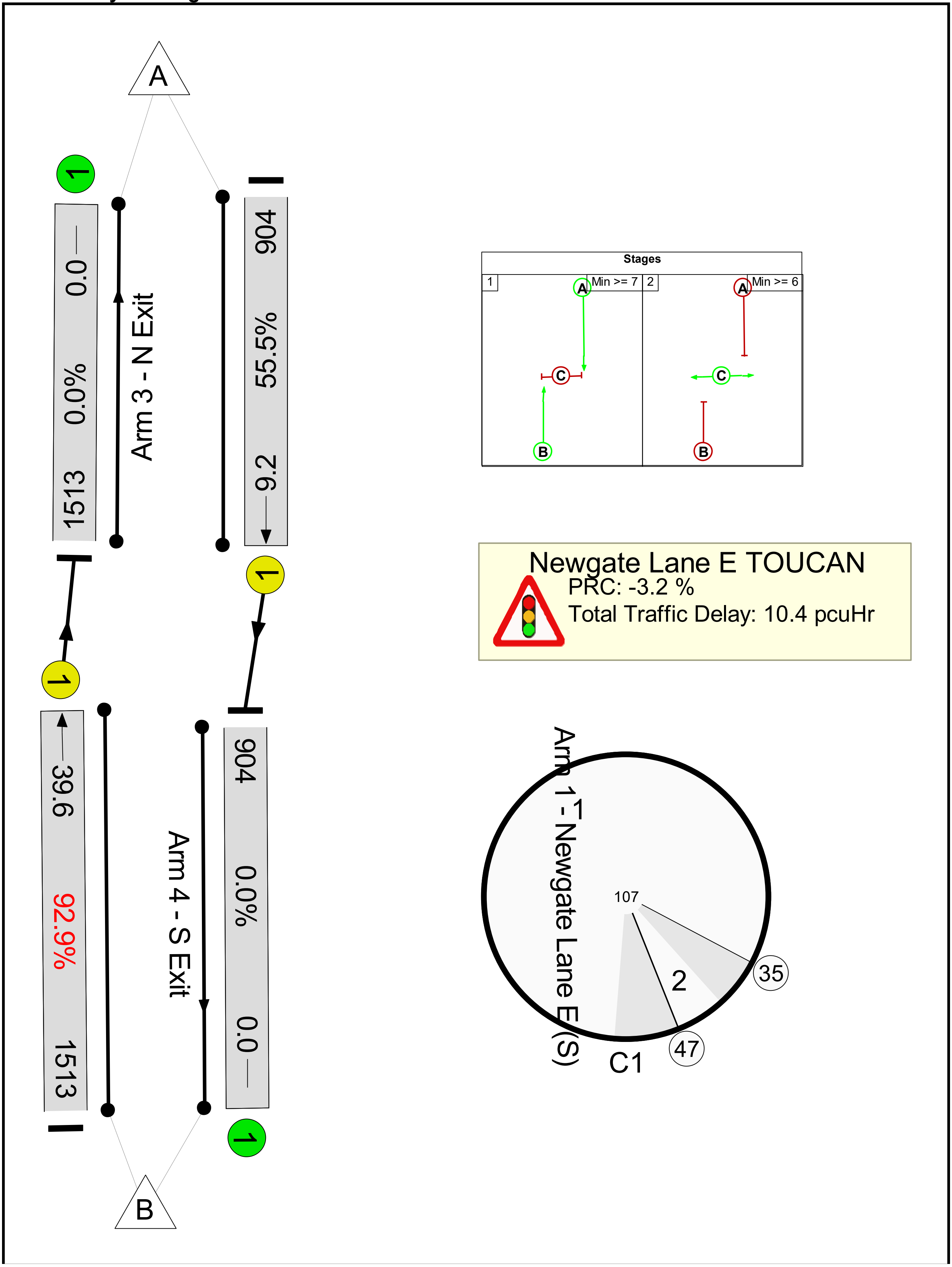
Stage	1	2
Duration	87	6
Change Point	47	35

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: Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**92.9%**
Newgate Lane E TOUCAN	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**92.9%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	87	-	1513	1980	1628	92.9%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	87	-	904	1980	1628	55.5%
3/1	N Exit	U	N/A	N/A	-		-	-	-	1513	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	904	Inf	Inf	0.0%

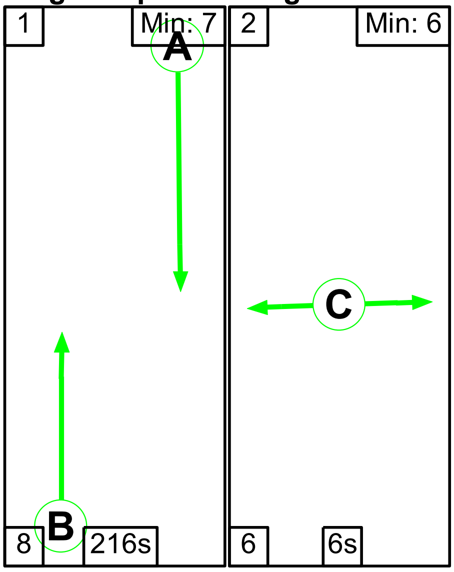
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**3.8**	**6.6**	**0.0**	**10.4**	**-**	**-**	**-**	**-**
Newgate Lane E TOUCAN	**-**	**-**	**0**	**0**	**0**	**3.8**	**6.6**	**0.0**	**10.4**	**-**	**-**	**-**	**-**
1/1	1513	1513	-	-	-	3.0	5.9	-	8.9	21.3	33.6	5.9	39.6
2/1	904	904	-	-	-	0.8	0.6	-	1.4	5.6	8.5	0.6	9.2
3/1	1513	1513	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	904	904	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -3.2 Total Delay for Signalled Lanes (pcuHr): 10.35 Cycle Time (s): 107
PRC Over All Lanes (%): -3.2 Total Delay Over All Lanes(pcuHr): 10.35

Full Input Data And Results

Scenario 16: '16' (FG16: '2037 PM Base + Com + Dev (DS2)', Plan 1: 'Network Control Plan 1')

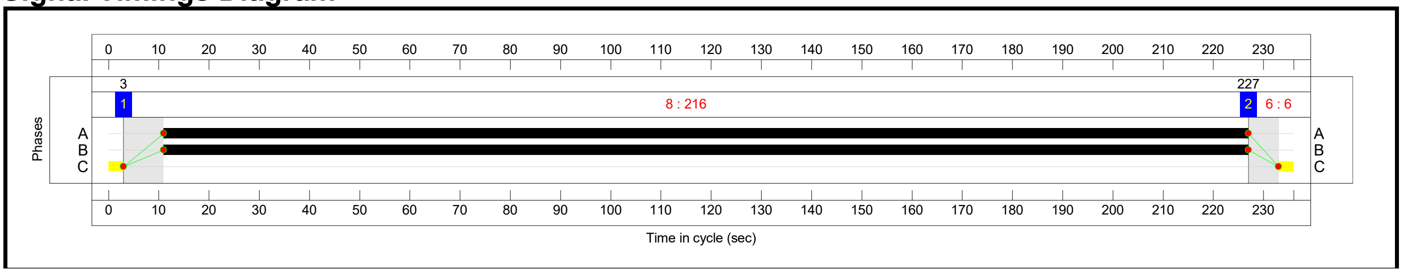
Stage Sequence Diagram



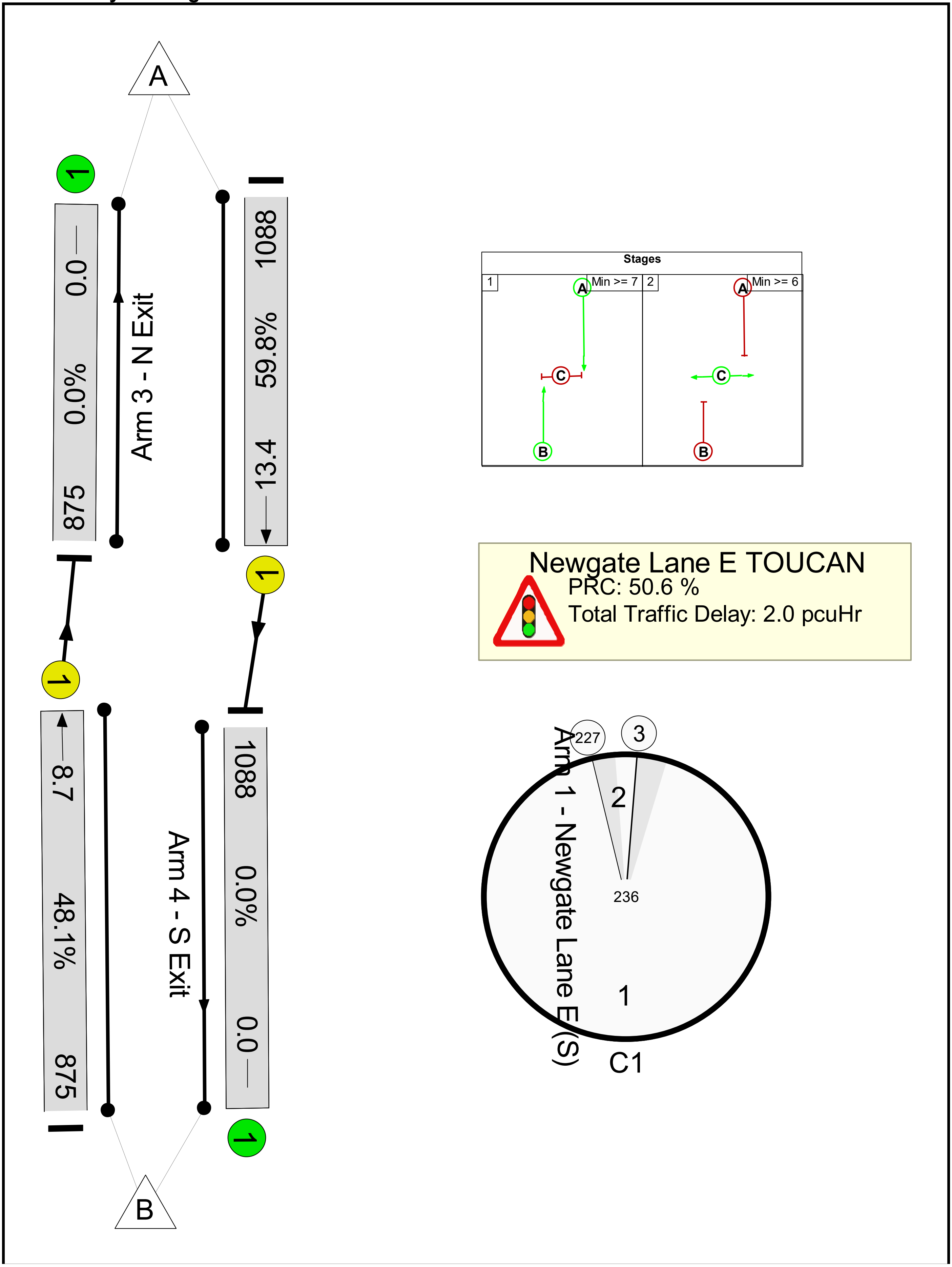
Stage Timings

Stage	1	2
Duration	216	6
Change Point	3	227

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**59.8%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**59.8%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	216	-	875	1980	1821	48.1%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	216	-	1088	1980	1821	59.8%
3/1	N Exit	U	N/A	N/A	-		-	-	-	875	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	1088	Inf	Inf	0.0%

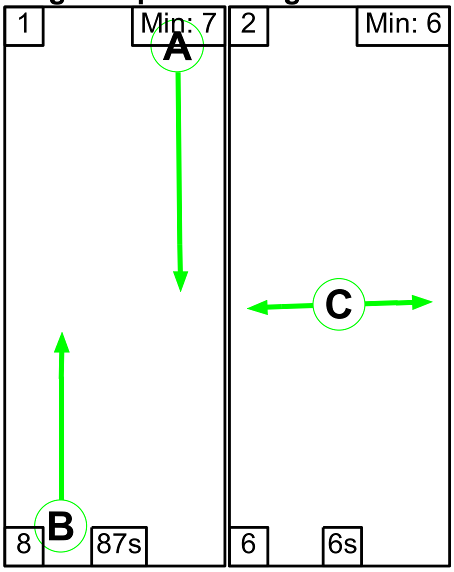
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.8**	**1.2**	**0.0**	**2.0**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.8**	**1.2**	**0.0**	**2.0**	-	-	-	-
1/1	875	875	-	-	-	0.3	0.5	-	0.8	3.3	8.3	0.5	8.7
2/1	1088	1088	-	-	-	0.5	0.7	-	1.3	4.2	12.7	0.7	13.4
3/1	875	875	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	1088	1088	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 50.6 Total Delay for Signalled Lanes (pcuHr): 2.05 Cycle Time (s): 236
PRC Over All Lanes (%): 50.6 Total Delay Over All Lanes(pcuHr): 2.05

Full Input Data And Results

Scenario 17: '17' (FG17: '2037 AM Base + Com + Dev - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

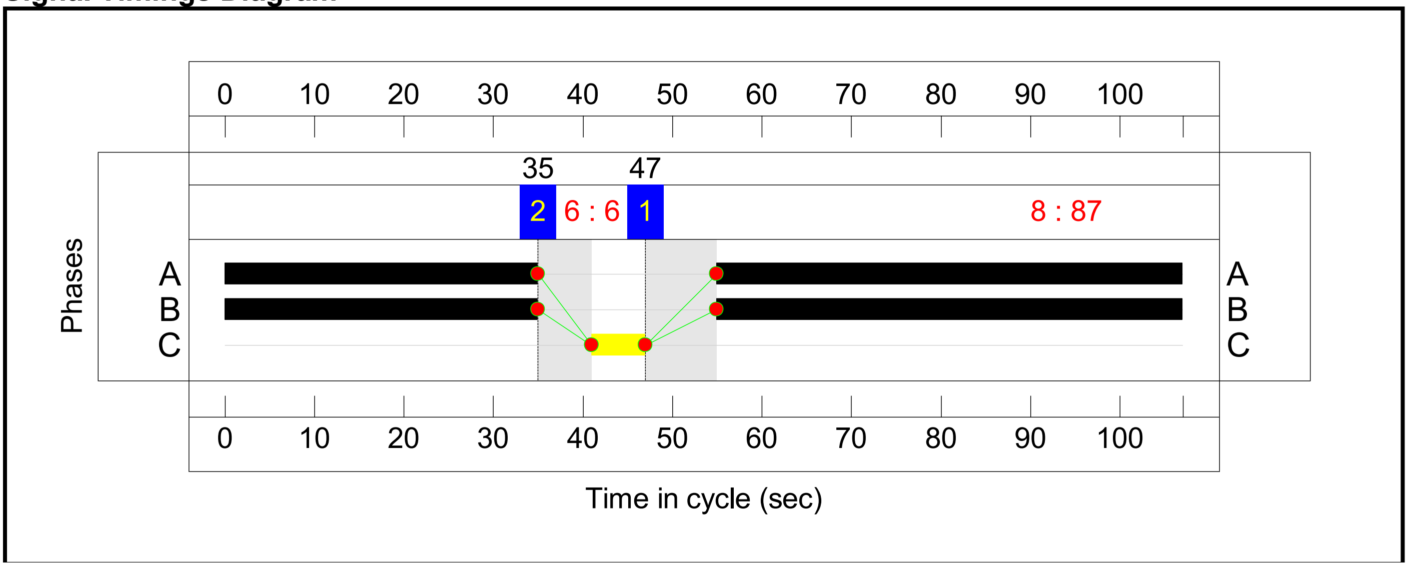
Stage Sequence Diagram



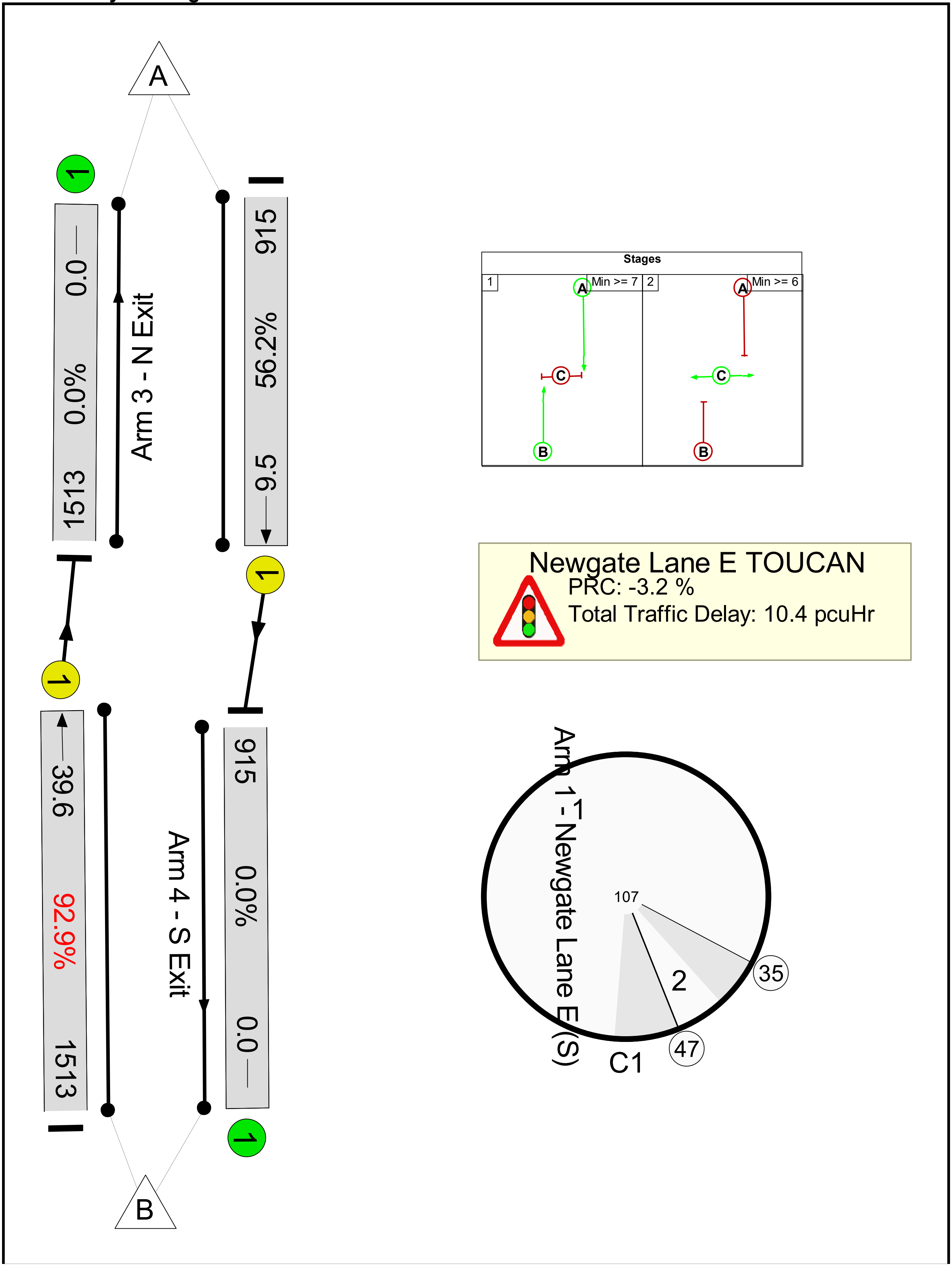
Stage Timings

Stage	1	2
Duration	87	6
Change Point	47	35

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.9%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.9%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	87	-	1513	1980	1628	92.9%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	87	-	915	1980	1628	56.2%
3/1	N Exit	U	N/A	N/A	-		-	-	-	1513	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	915	Inf	Inf	0.0%

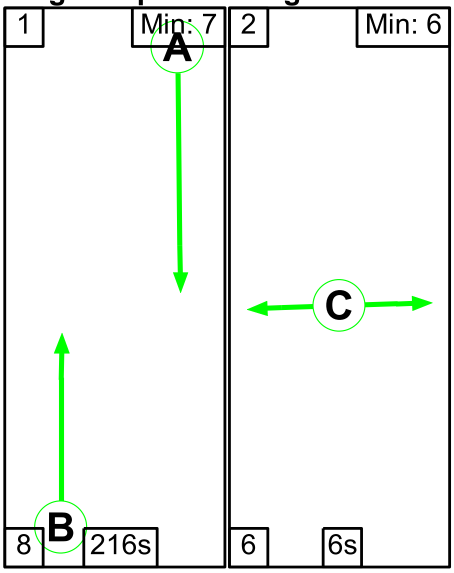
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**3.8**	**6.6**	**0.0**	**10.4**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**3.8**	**6.6**	**0.0**	**10.4**	-	-	-	-
1/1	1513	1513	-	-	-	3.0	5.9	-	8.9	21.3	33.6	5.9	39.6
2/1	915	915	-	-	-	0.8	0.6	-	1.4	5.7	8.9	0.6	9.5
3/1	1513	1513	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	915	915	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -3.2 Total Delay for Signalled Lanes (pcuHr): 10.39 Cycle Time (s): 107
PRC Over All Lanes (%): -3.2 Total Delay Over All Lanes(pcuHr): 10.39

Full Input Data And Results

Scenario 18: '18' (FG18: '2037 PM Base + Com + Dev - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

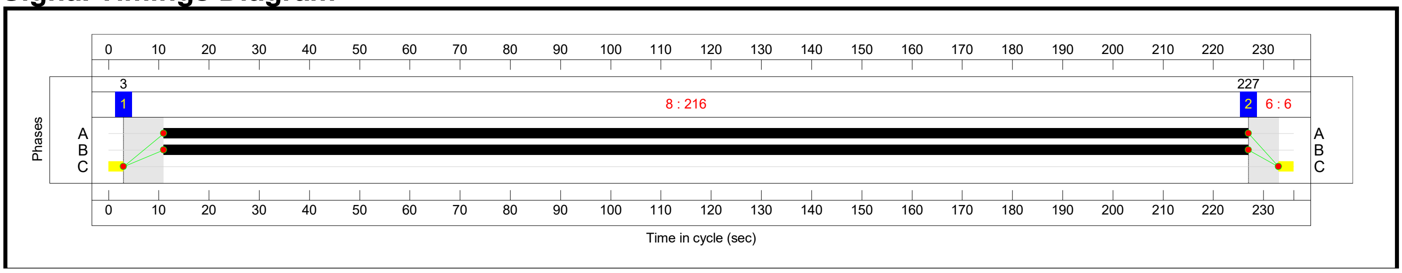
Stage Sequence Diagram



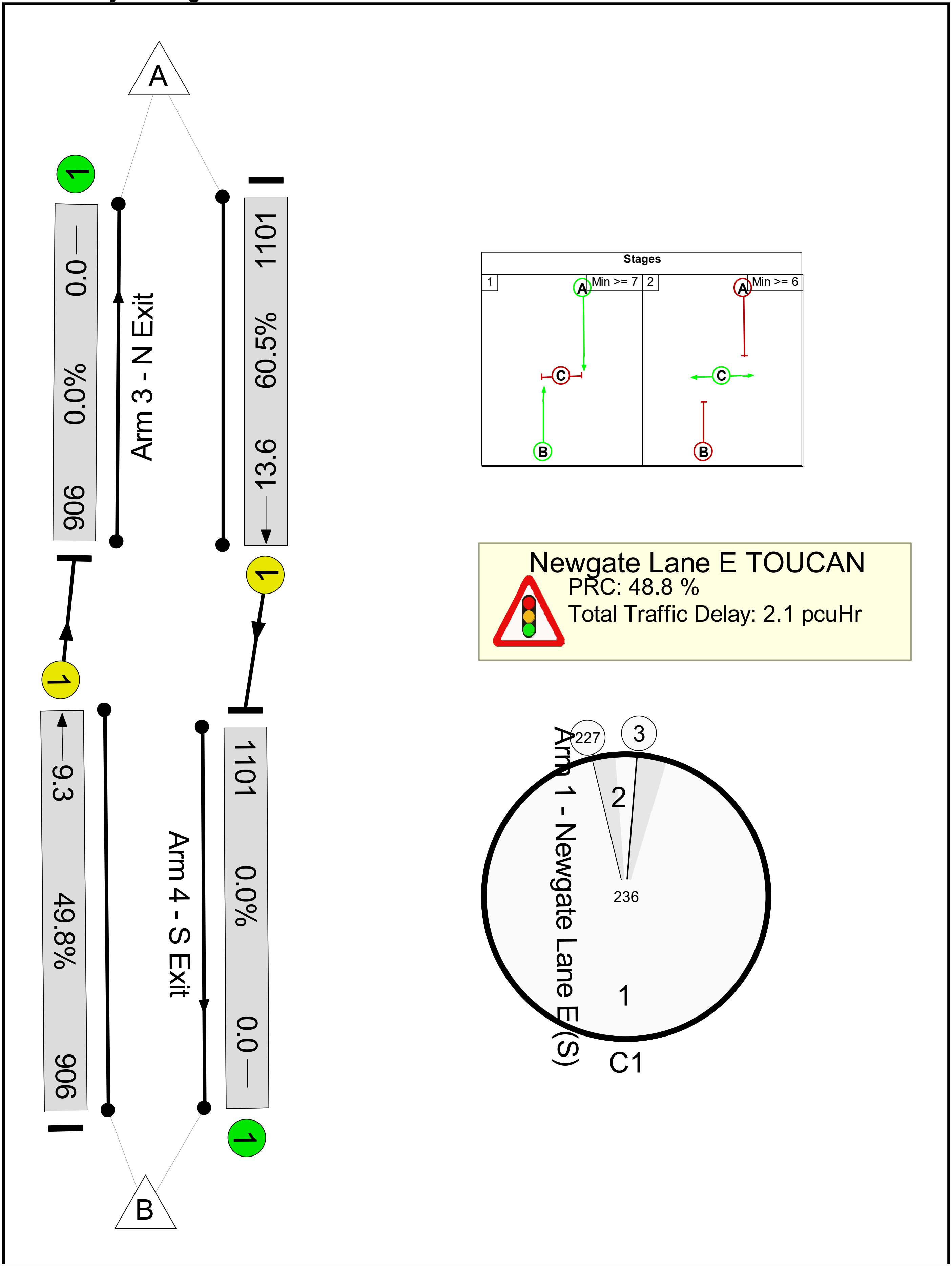
Stage Timings

Stage	1	2
Duration	216	6
Change Point	3	227

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**60.5%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**60.5%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	216	-	906	1980	1821	49.8%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	216	-	1101	1980	1821	60.5%
3/1	N Exit	U	N/A	N/A	-		-	-	-	906	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	1101	Inf	Inf	0.0%

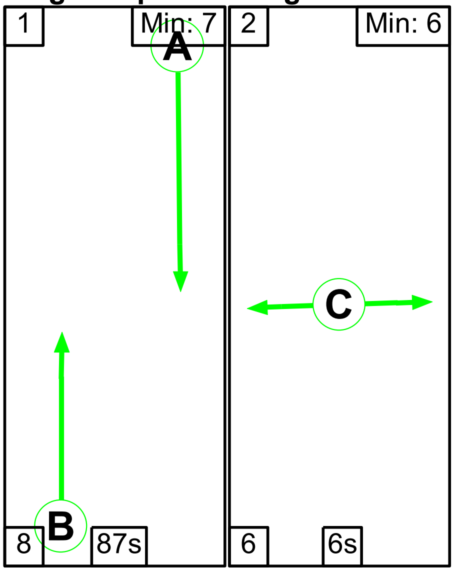
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.9**	**1.3**	**0.0**	**2.1**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**0.9**	**1.3**	**0.0**	**2.1**	-	-	-	-
1/1	906	906	-	-	-	0.4	0.5	-	0.8	3.4	8.8	0.5	9.3
2/1	1101	1101	-	-	-	0.5	0.8	-	1.3	4.2	12.8	0.8	13.6
3/1	906	906	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	1101	1101	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 48.8 Total Delay for Signalled Lanes (pcuHr): 2.14 Cycle Time (s): 236
PRC Over All Lanes (%): 48.8 Total Delay Over All Lanes(pcuHr): 2.14

Full Input Data And Results

Scenario 19: '19' (FG19: '2019 AM Baseline (DS1)', Plan 1: 'Network Control Plan 1')

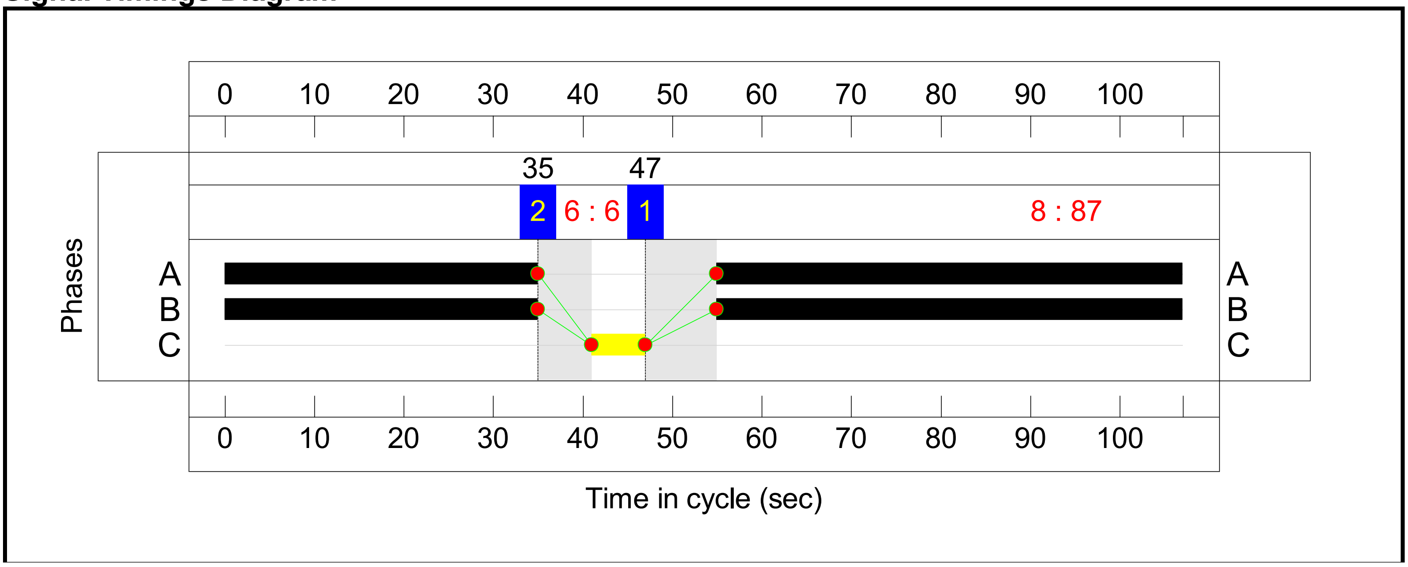
Stage Sequence Diagram



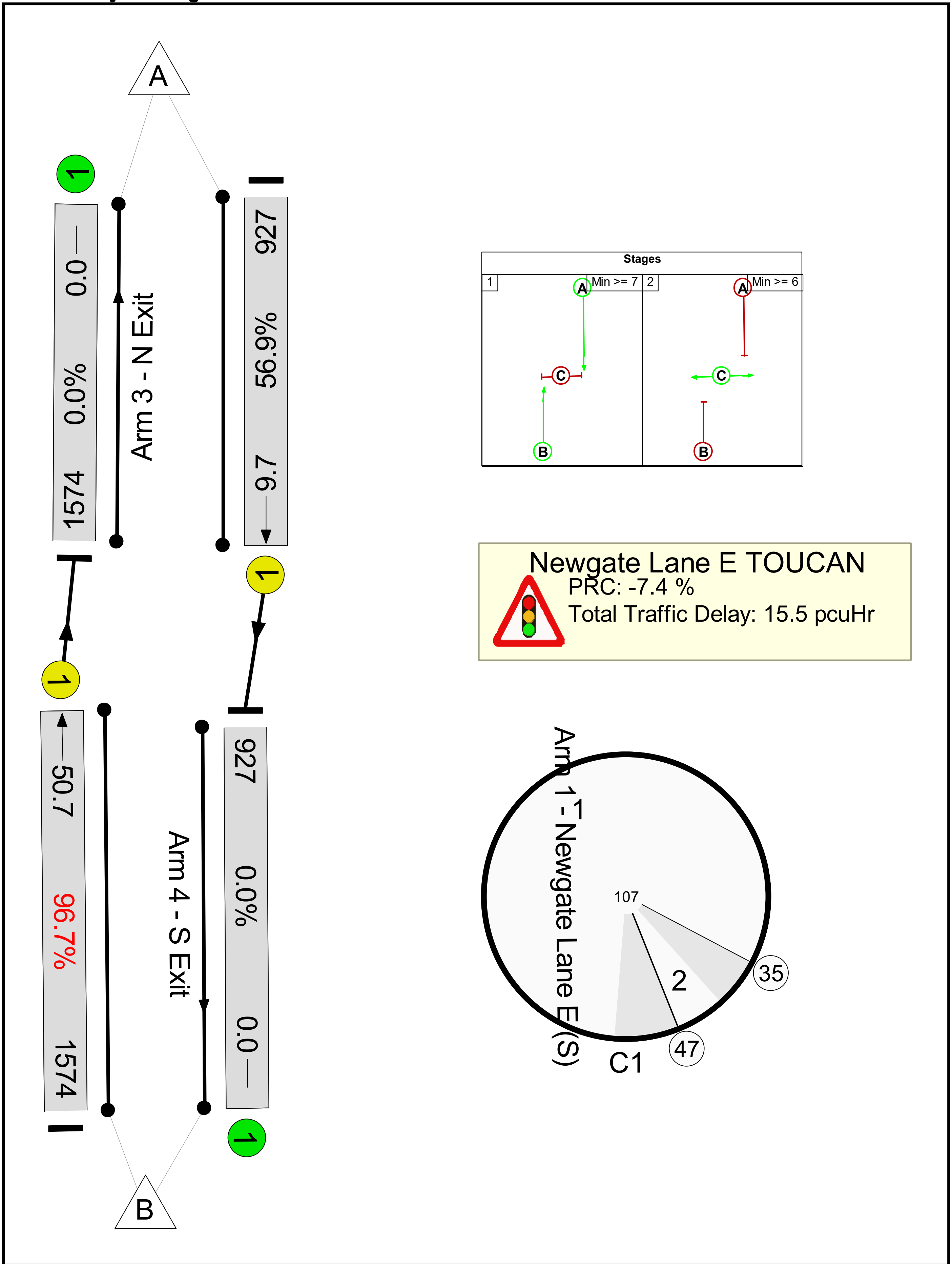
Stage Timings

Stage	1	2
Duration	87	6
Change Point	47	35

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**96.7%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**96.7%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	87	-	1574	1980	1628	96.7%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	87	-	927	1980	1628	56.9%
3/1	N Exit	U	N/A	N/A	-		-	-	-	1574	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	927	Inf	Inf	0.0%

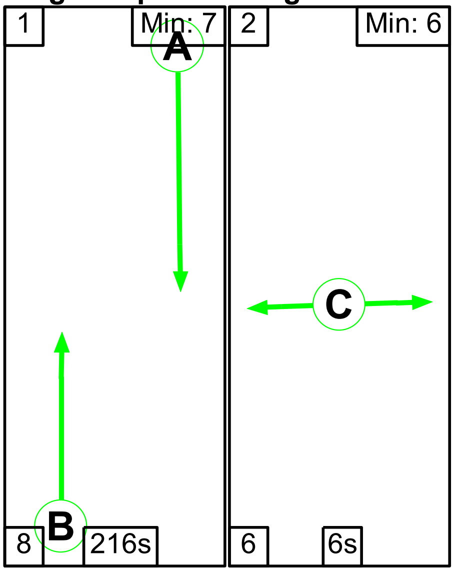
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**4.4**	**11.1**	**0.0**	**15.5**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**4.4**	**11.1**	**0.0**	**15.5**	-	-	-	-
1/1	1574	1574	-	-	-	3.6	10.4	-	14.0	32.1	40.2	10.4	50.7
2/1	927	927	-	-	-	0.8	0.7	-	1.5	5.7	9.0	0.7	9.7
3/1	1574	1574	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	927	927	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -7.4 Total Delay for Signalled Lanes (pcuHr): 15.52 Cycle Time (s): 107
PRC Over All Lanes (%): -7.4 Total Delay Over All Lanes(pcuHr): 15.52

Full Input Data And Results

Scenario 20: '20' (FG20: '2019 PM Baseline (DS1)', Plan 1: 'Network Control Plan 1')

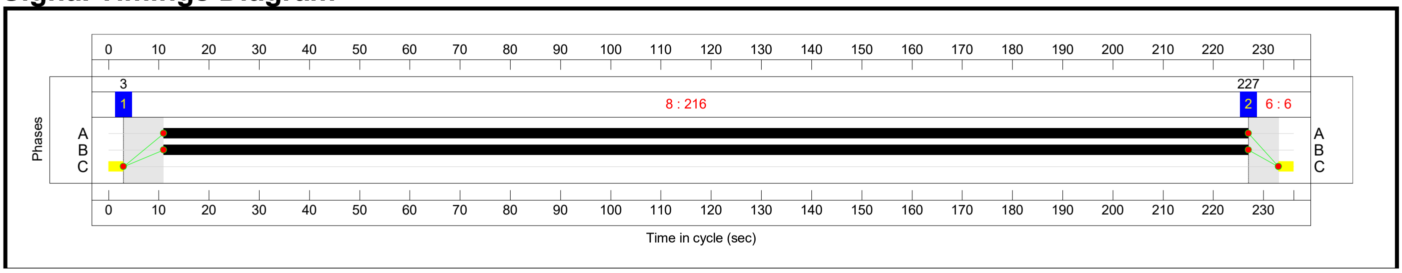
Stage Sequence Diagram



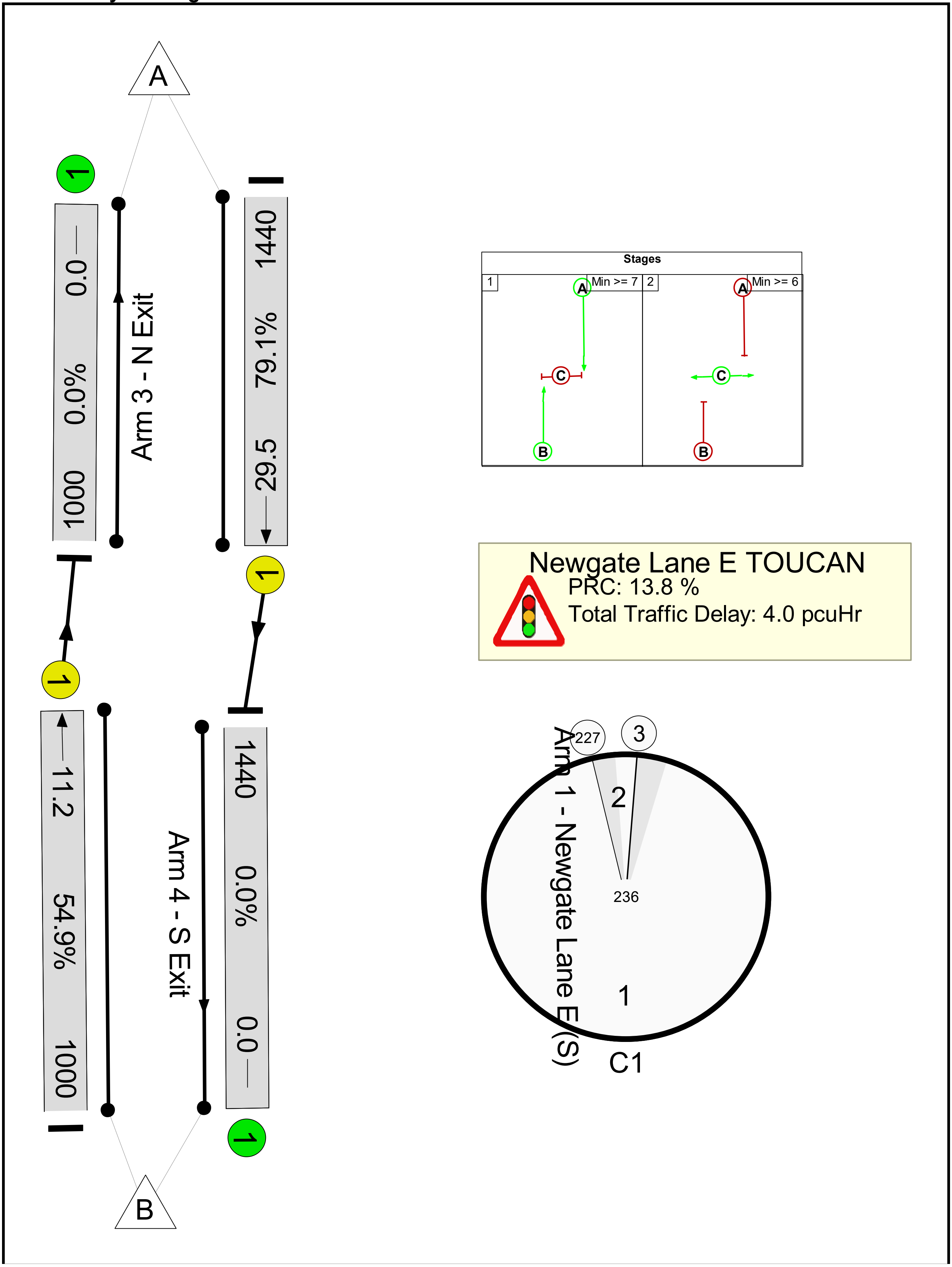
Stage Timings

Stage	1	2
Duration	216	6
Change Point	3	227

Signal Timings Diagram



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: Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**79.1%**
Newgate Lane E TOUCAN	-	-	**N/A**	-	-		-	-	-	-	-	-	**79.1%**
1/1	Newgate Lane E (S) Ahead	U	N/A	N/A	B		1	216	-	1000	1980	1821	54.9%
2/1	Newgate Lane E (N) Ahead	U	N/A	N/A	A		1	216	-	1440	1980	1821	79.1%
3/1	N Exit	U	N/A	N/A	-		-	-	-	1000	Inf	Inf	0.0%
4/1	S Exit	U	N/A	N/A	-		-	-	-	1440	Inf	Inf	0.0%

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: Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**1.6**	**2.5**	**0.0**	**4.0**	-	-	-	-
Newgate Lane E TOUCAN	-	-	**0**	**0**	**0**	**1.6**	**2.5**	**0.0**	**4.0**	-	-	-	-
1/1	1000	1000	-	-	-	0.4	0.6	-	1.0	3.7	10.6	0.6	11.2
2/1	1440	1440	-	-	-	1.1	1.9	-	3.0	7.5	27.6	1.9	29.5
3/1	1000	1000	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	1440	1440	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 13.8 Total Delay for Signalled Lanes (pcuHr): 4.03 Cycle Time (s): 236
PRC Over All Lanes (%): 13.8 Total Delay Over All Lanes(pcuHr): 4.03

APPENDIX V. Peel Common Roundabout – HCC Model

Basic Results Summary

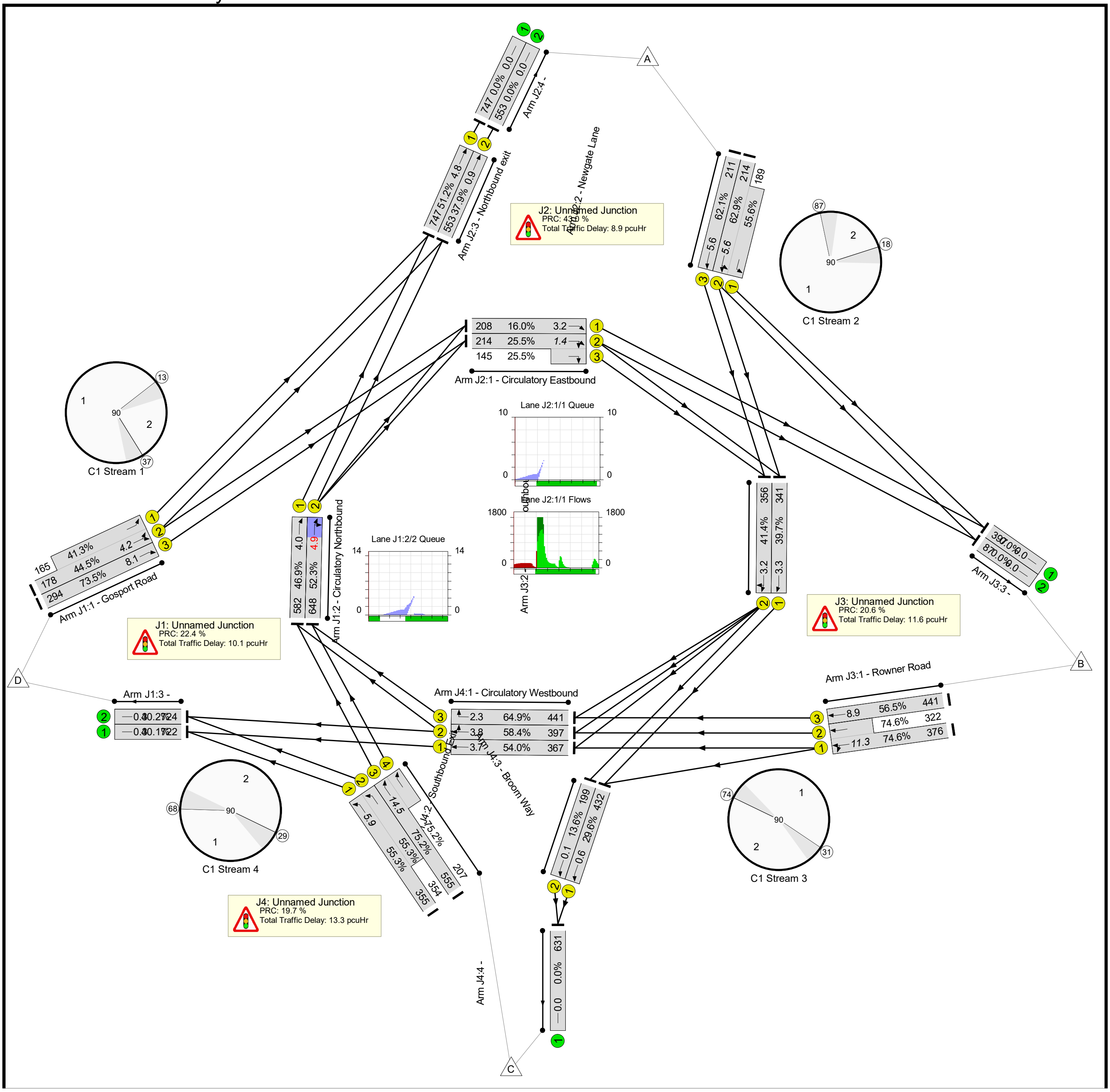
User and Project Details

Project:	**Gosport Western Access**
Title:	**Stubbington Bypass - Red Route**
Location:	Peel Common Roundabout
Client:	Hampshire County Council
Date Completed:	April 2022
Model Purpose:	Updated to match final detail design for Stubbington bypass project
Model Assumptions:	Sat flows - 1800 used throughout for robustness
Additional detail:	
File name:	PCR Phase 3 As Built.lsg3x
Author:	K McDonald/J Mundy
Company:	Hampshire County Council
Address:	

Scenario 1: '1' (FG1: '2021 AM Baseline (DS2)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram

Basic Results Summary



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Stubbington Bypass - Red Route	-	-	-		-	-	-	-	-	-	**75.2%**	**0**	**0**	**0**	**43.9**	-	-
J1: Unnamed Junction	-	-	-		-	-	-	-	-	-	**73.5%**	**0**	**0**	**0**	**10.1**	-	-
1/2+1/1	Gosport Road Ahead Ahead2	U	B		1	19	-	343	1800:1800	400+400	44.5 : 41.3%	-	-	-	3.2	34.0	4.2
1/3	Gosport Road Ahead	U	B		1	19	-	294	1800	400	73.5%	-	-	-	4.0	49.1	8.1
2/1	Circulatory Northbound Ahead	U	A		1	61	-	582	1800	1240	46.9%	-	-	-	1.2	7.7	4.0
2/2	Circulatory Northbound Right Ahead	U	A		1	61	-	648	1800	1240	52.3%	-	-	-	0.9	5.2	4.9
3/1		U	-		-	-	-	722	1800	1800	40.1%	-	-	-	0.3	1.7	0.3
3/2		U	-		-	-	-	724	1800	1800	40.2%	-	-	-	0.3	1.7	0.3
J2: Unnamed Junction	-	-	-		-	-	-	-	-	-	**62.9%**	**0**	**0**	**0**	**8.9**	-	-
1/1	Circulatory Eastbound Ahead	U	C		1	64	-	208	1800	1300	16.0%	-	-	-	0.3	4.7	3.2
1/2+1/3	Circulatory Eastbound Right Ahead	U	C		1	64	-	359	1800:1800	839+568	25.5 : 25.5%	-	-	-	0.3	3.1	1.4
2/2+2/1	Newgate Lane Ahead Left	U	D		1	16	-	403	1800:1800	340+340	62.9 : 55.6%	-	-	-	4.5	39.8	5.6
2/3	Newgate Lane Ahead	U	D		1	16	-	211	1800	340	62.1%	-	-	-	2.8	47.3	5.6
3/1	Northbound exit Ahead	U	J		1	72	-	747	1800	1460	51.2%	-	-	-	0.7	3.5	4.8
3/2	Northbound exit Ahead	U	J		1	72	-	553	1800	1460	37.9%	-	-	-	0.3	2.2	0.9
J3: Unnamed Junction	-	-	-		-	-	-	-	-	-	**74.6%**	**0**	**0**	**0**	**11.6**	-	-

Basic Results Summary

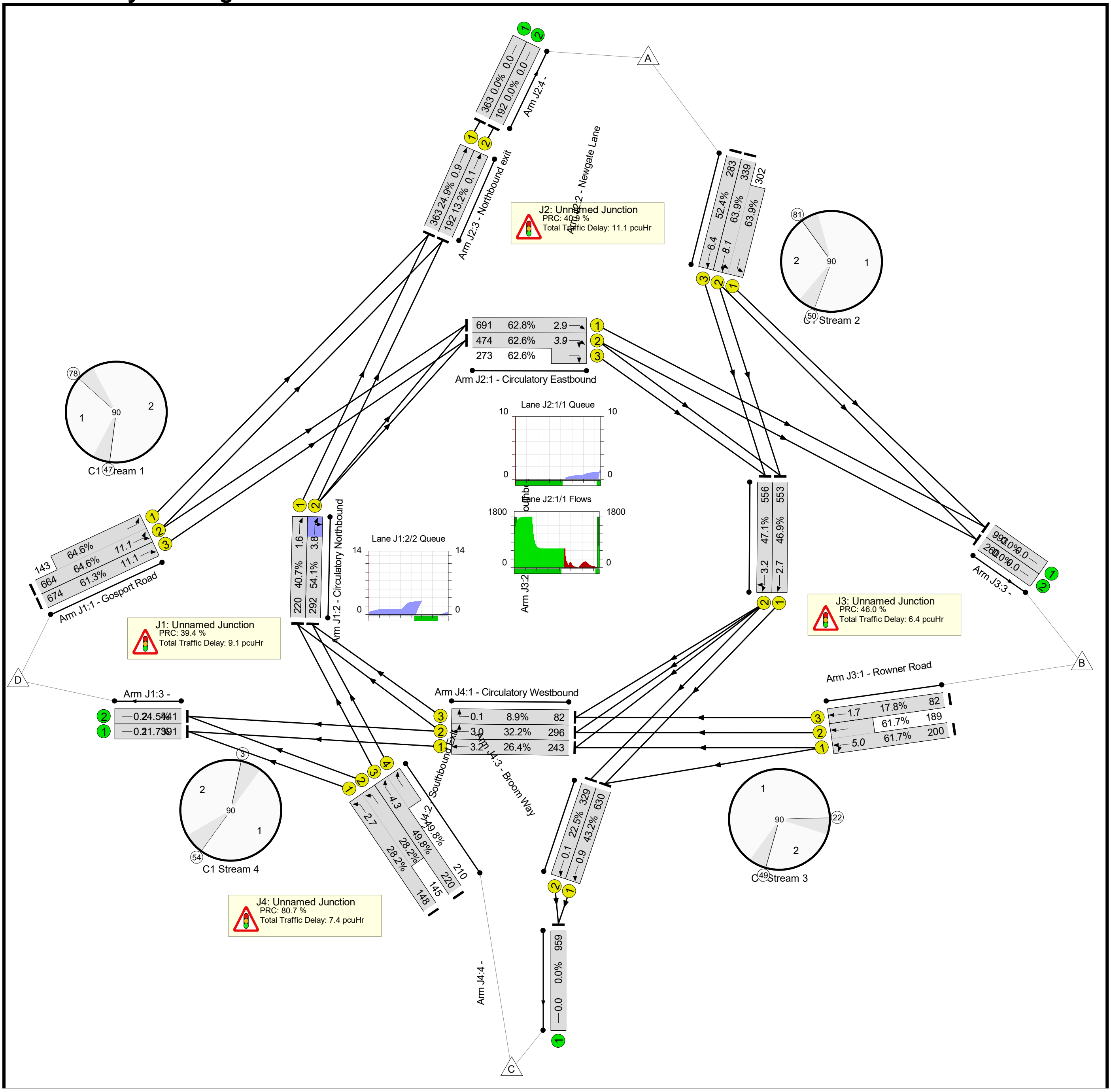
1/1+1/2	Rowner Road Ahead Left	U	F		1	38	-	698	1800:1800	504+432	74.6 : 74.6%	-	-	-	5.1	26.2	11.3
1/3	Rowner Road Ahead	U	F		1	38	-	441	1800	780	56.5%	-	-	-	3.0	24.4	8.9
2/1	Circulatory Southbound Ahead	U	E		1	42	-	341	1800	860	39.7%	-	-	-	1.8	18.6	3.3
2/2	Circulatory Southbound Right Ahead	U	E		1	42	-	356	1800	860	41.4%	-	-	-	1.7	17.6	3.2
J4: Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.2%**	**0**	**0**	**0**	**13.3**	**-**	**-**
1/1	Circulatory Westbound Ahead	U	G		1	33	-	367	1800	680	54.0%	-	-	-	1.6	15.4	3.7
1/2	Circulatory Westbound Right Ahead	U	G		1	33	-	397	1800	680	58.4%	-	-	-	1.7	15.5	3.8
1/3	Circulatory Westbound Right	U	G		1	33	-	441	1800	680	64.9%	-	-	-	1.7	14.0	2.3
2/1	Southbound Exit Ahead	U	K		1	72	-	432	1800	1460	29.6%	-	-	-	0.3	2.1	0.6
2/2	Southbound Exit Ahead	U	K		1	72	-	199	1800	1460	13.6%	-	-	-	0.1	1.4	0.1
3/1+3/2	Broom Way Left	U	I		1	45	-	709	1800:1800	642+640	55.3 : 55.3%	-	-	-	3.3	16.5	5.9
3/3+3/4	Broom Way Ahead	U	H		1	46	-	762	1800:1800	738+275	75.2 : 75.2%	-	-	-	4.7	22.4	14.5

C1 Stream: 1 PRC for Signalled Lanes (%): 22.4 Total Delay for Signalled Lanes (pcuHr): 9.44 Cycle Time (s): 90
C1 Stream: 2 PRC for Signalled Lanes (%): 43.0 Total Delay for Signalled Lanes (pcuHr): 7.81 Cycle Time (s): 90
C1 Stream: 3 PRC for Signalled Lanes (%): 20.6 Total Delay for Signalled Lanes (pcuHr): 11.57 Cycle Time (s): 90
C1 Stream: 4 PRC for Signalled Lanes (%): 19.7 Total Delay for Signalled Lanes (pcuHr): 12.99 Cycle Time (s): 90
C1 Stream: 5 PRC for Signalled Lanes (%): 204.2 Total Delay for Signalled Lanes (pcuHr): 0.33 Cycle Time (s): 90
C1 Stream: 6 PRC for Signalled Lanes (%): 75.9 Total Delay for Signalled Lanes (pcuHr): 1.06 Cycle Time (s): 90
PRC Over All Lanes (%): 19.7 Total Delay Over All Lanes(pcuHr): 43.88

Basic Results Summary

Scenario 2: '2' (FG2: '2021 PM Baseline (DS2)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Stubbington Bypass - Red Route	-	-	-		-	-	-	-	-	-	**64.6%**	**0**	**0**	**0**	**34.0**	-	-
J1: Unnamed Junction	-	-	-		-	-	-	-	-	-	**64.6%**	**0**	**0**	**0**	**9.1**	-	-
1/2+1/1	Gosport Road Ahead Ahead2	U	B		1	54	-	807	1800:1800	1029+222	64.6 : 64.6%	-	-	-	3.2	14.2	11.1
1/3	Gosport Road Ahead	U	B		1	54	-	674	1800	1100	61.3%	-	-	-	2.8	15.1	11.1
2/1	Circulatory Northbound Ahead	U	A		1	26	-	220	1800	540	40.7%	-	-	-	1.1	17.9	1.6
2/2	Circulatory Northbound Right Ahead	U	A		1	26	-	292	1800	540	54.1%	-	-	-	1.6	20.3	3.8
3/1		U	-		-	-	-	391	1800	1800	21.7%	-	-	-	0.1	1.3	0.1
3/2		U	-		-	-	-	441	1800	1800	24.5%	-	-	-	0.2	1.3	0.2
J2: Unnamed Junction	-	-	-		-	-	-	-	-	-	**63.9%**	**0**	**0**	**0**	**11.1**	-	-
1/1	Circulatory Eastbound Ahead	U	C		1	54	-	691	1800	1100	62.8%	-	-	-	1.1	5.9	2.9
1/2+1/3	Circulatory Eastbound Right Ahead	U	C		1	54	-	747	1800:1800	757+436	62.6 : 62.6%	-	-	-	1.4	6.7	3.9
2/2+2/1	Newgate Lane Ahead Left	U	D		1	26	-	641	1800:1800	531+473	63.9 : 63.9%	-	-	-	5.7	31.8	8.1
2/3	Newgate Lane Ahead	U	D		1	26	-	283	1800	540	52.4%	-	-	-	2.6	33.1	6.4
3/1	Northbound exit Ahead	U	J		1	72	-	363	1800	1460	24.9%	-	-	-	0.2	2.3	0.9
3/2	Northbound exit Ahead	U	J		1	72	-	192	1800	1460	13.2%	-	-	-	0.1	1.4	0.1
J3: Unnamed Junction	-	-	-		-	-	-	-	-	-	**61.7%**	**0**	**0**	**0**	**6.4**	-	-

Basic Results Summary

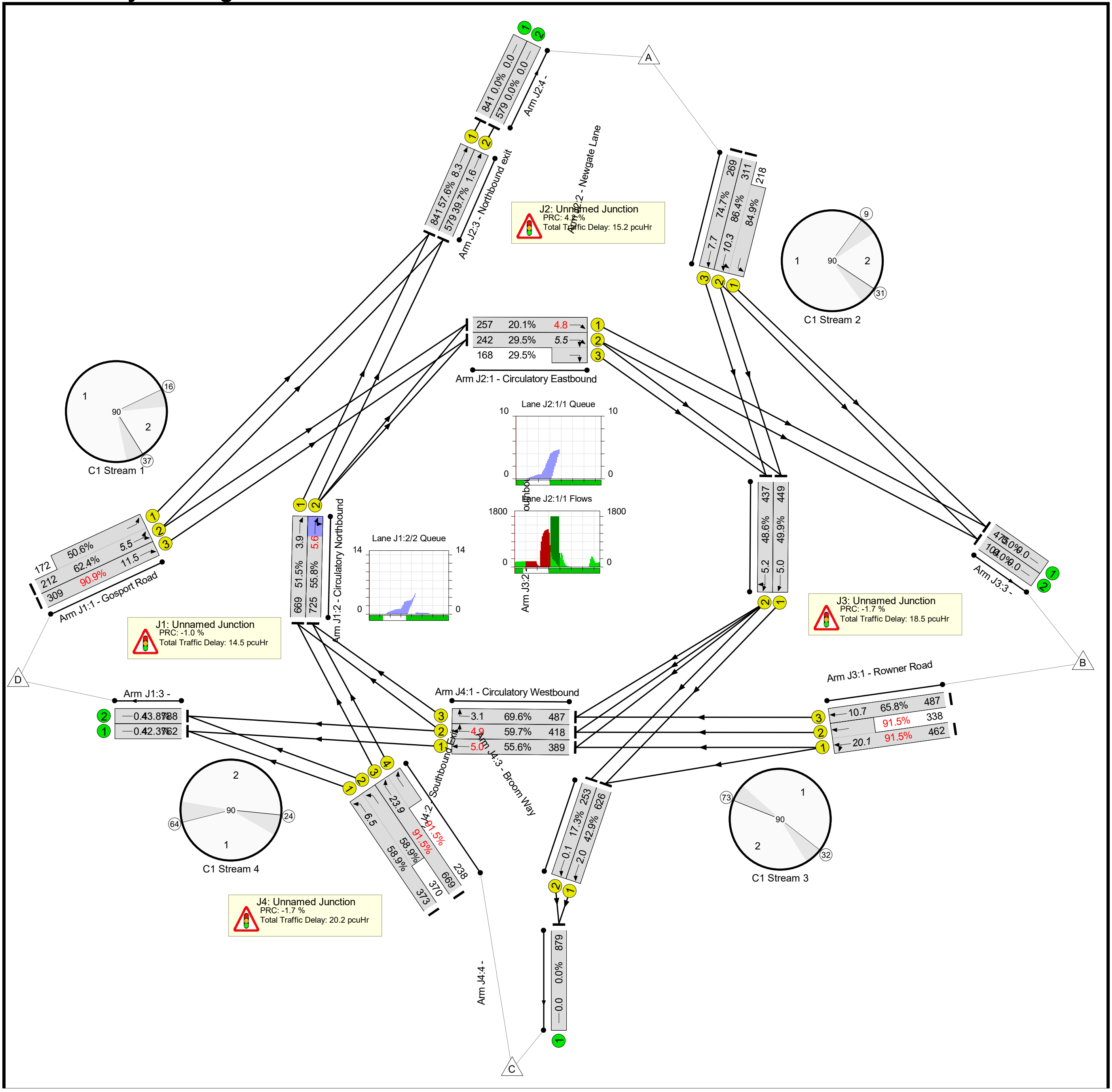
1/1+1/2	Rowner Road Ahead Left	U	F		1	22	-	389	1800:1800	324+307	61.7 : 61.7%	-	-	-	3.8	35.4	5.0
1/3	Rowner Road Ahead	U	F		1	22	-	82	1800	460	17.8%	-	-	-	0.7	30.9	1.7
2/1	Circulatory Southbound Ahead	U	E		1	58	-	553	1800	1180	46.9%	-	-	-	0.9	5.8	2.7
2/2	Circulatory Southbound Right Ahead	U	E		1	58	-	556	1800	1180	47.1%	-	-	-	1.0	6.6	3.2
J4: Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**49.8%**	**0**	**0**	**0**	**7.4**	**-**	**-**
1/1	Circulatory Westbound Ahead	U	G		1	45	-	243	1800	920	26.4%	-	-	-	1.1	16.7	3.2
1/2	Circulatory Westbound Right Ahead	U	G		1	45	-	296	1800	920	32.2%	-	-	-	1.1	13.2	3.0
1/3	Circulatory Westbound Right	U	G		1	45	-	82	1800	920	8.9%	-	-	-	0.1	2.5	0.1
2/1	Southbound Exit Ahead	U	K		1	72	-	630	1800	1460	43.2%	-	-	-	0.4	2.5	0.9
2/2	Southbound Exit Ahead	U	K		1	72	-	329	1800	1460	22.5%	-	-	-	0.1	1.6	0.1
3/1+3/2	Broom Way Left	U	I		1	33	-	293	1800:1800	524+514	28.2 : 28.2%	-	-	-	1.7	21.4	2.7
3/3+3/4	Broom Way Ahead	U	H		1	34	-	430	1800:1800	442+422	49.8 : 49.8%	-	-	-	2.8	23.2	4.3

C1 Stream: 1 PRC for Signalled Lanes (%): 39.4 Total Delay for Signalled Lanes (pcuHr): 8.76 Cycle Time (s): 90
C1 Stream: 2 PRC for Signalled Lanes (%): 40.9 Total Delay for Signalled Lanes (pcuHr): 10.80 Cycle Time (s): 90
C1 Stream: 3 PRC for Signalled Lanes (%): 46.0 Total Delay for Signalled Lanes (pcuHr): 6.44 Cycle Time (s): 90
C1 Stream: 4 PRC for Signalled Lanes (%): 80.7 Total Delay for Signalled Lanes (pcuHr): 6.79 Cycle Time (s): 90
C1 Stream: 5 PRC for Signalled Lanes (%): 108.6 Total Delay for Signalled Lanes (pcuHr): 0.59 Cycle Time (s): 90
C1 Stream: 6 PRC for Signalled Lanes (%): 262.0 Total Delay for Signalled Lanes (pcuHr): 0.31 Cycle Time (s): 90
PRC Over All Lanes (%): 39.4 Total Delay Over All Lanes(pcuHr): 33.98

Basic Results Summary

Scenario 3: '3' (FG3: '2028 AM Base + Com (DS2)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Stubbington Bypass - Red Route	-	-	-		-	-	-	-	-	-	**91.5%**	**0**	**0**	**0**	**68.5**	-	-
J1: Unnamed Junction	-	-	-		-	-	-	-	-	-	**90.9%**	**0**	**0**	**0**	**14.5**	-	-
1/2+1/1	Gosport Road Ahead Ahead2	U	B		1	16	-	384	1800:1800	340+340	62.4 : 50.6%	-	-	-	4.2	39.3	5.5
1/3	Gosport Road Ahead	U	B		1	16	-	309	1800	340	90.9%	-	-	-	7.0	82.0	11.5
2/1	Circulatory Northbound Ahead	U	A		1	64	-	669	1800	1300	51.5%	-	-	-	1.4	7.4	3.9
2/2	Circulatory Northbound Right Ahead	U	A		1	64	-	725	1800	1300	55.8%	-	-	-	1.2	5.9	5.6
3/1		U	-		-	-	-	762	1800	1800	42.3%	-	-	-	0.4	1.7	0.4
3/2		U	-		-	-	-	788	1800	1800	43.8%	-	-	-	0.4	1.8	0.4
J2: Unnamed Junction	-	-	-		-	-	-	-	-	-	**86.4%**	**0**	**0**	**0**	**15.2**	-	-
1/1	Circulatory Eastbound Ahead	U	C		1	63	-	257	1800	1280	20.1%	-	-	-	0.7	9.7	4.8
1/2+1/3	Circulatory Eastbound Right Ahead	U	C		1	63	-	410	1800:1800	820+569	29.5 : 29.5%	-	-	-	0.9	7.9	5.5
2/2+2/1	Newgate Lane Ahead Left	U	D		1	17	-	529	1800:1800	360+257	86.4 : 84.9%	-	-	-	7.8	53.2	10.3
2/3	Newgate Lane Ahead	U	D		1	17	-	269	1800	360	74.7%	-	-	-	4.0	53.0	7.7
3/1	Northbound exit Ahead	U	J		1	72	-	841	1800	1460	57.6%	-	-	-	1.4	5.8	8.3
3/2	Northbound exit Ahead	U	J		1	72	-	579	1800	1460	39.7%	-	-	-	0.4	2.8	1.6
J3: Unnamed Junction	-	-	-		-	-	-	-	-	-	**91.5%**	**0**	**0**	**0**	**18.5**	-	-

Basic Results Summary

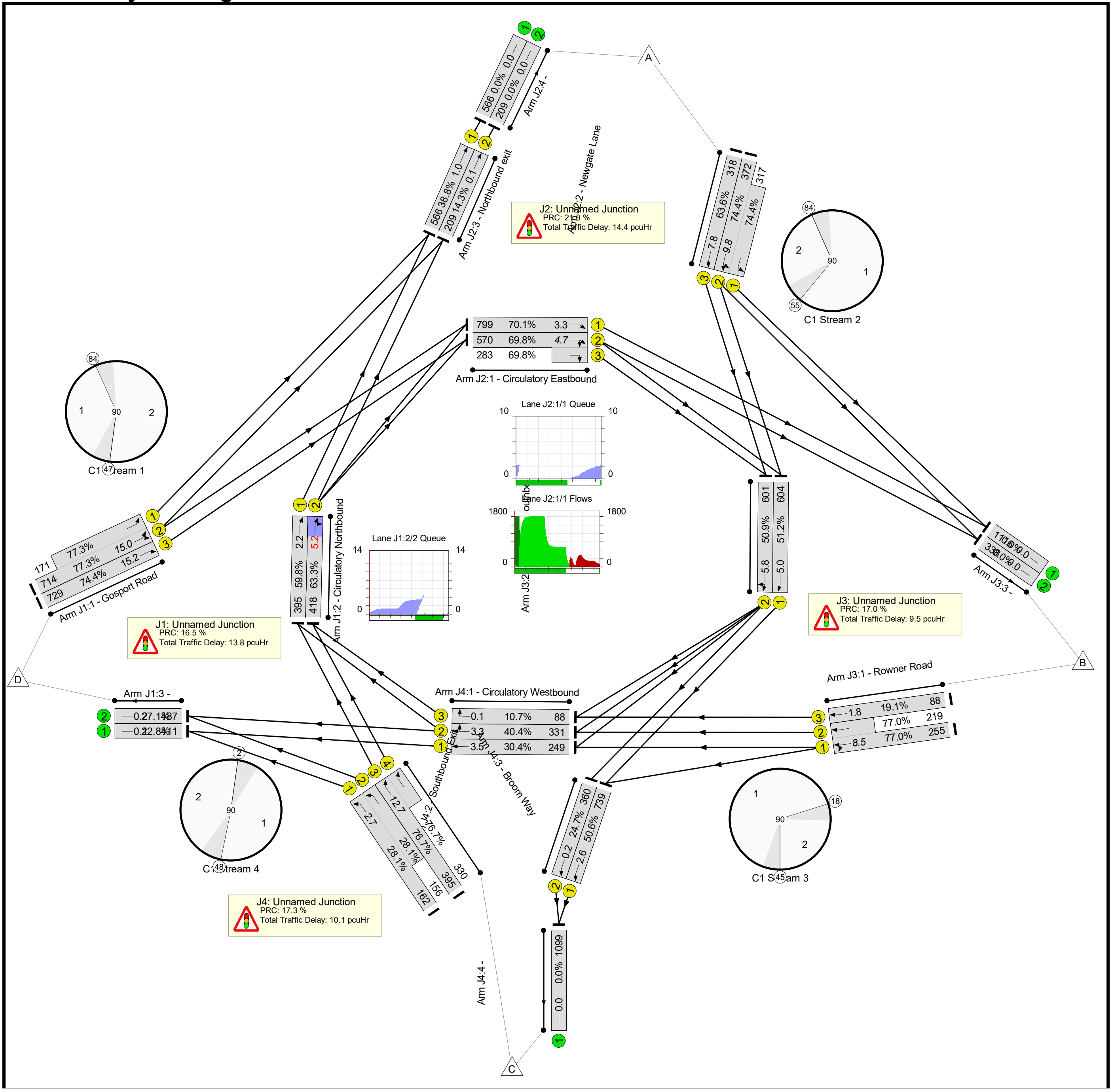
1/1+1/2	Rowner Road Ahead Left	U	F		1	36	-	800	1800:1800	505+369	91.5 : 91.5%	-	-	-	9.8	44.2	20.1
1/3	Rowner Road Ahead	U	F		1	36	-	487	1800	740	65.8%	-	-	-	3.8	28.5	10.7
2/1	Circulatory Southbound Ahead	U	E		1	44	-	449	1800	900	49.9%	-	-	-	2.4	19.4	5.0
2/2	Circulatory Southbound Right Ahead	U	E		1	44	-	437	1800	900	48.6%	-	-	-	2.5	20.3	5.2
J4: Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**91.5%**	**0**	**0**	**0**	**20.2**	**-**	**-**
1/1	Circulatory Westbound Ahead	U	G		1	34	-	389	1800	700	55.6%	-	-	-	1.9	18.0	5.0
1/2	Circulatory Westbound Right Ahead	U	G		1	34	-	418	1800	700	59.7%	-	-	-	2.2	19.1	4.9
1/3	Circulatory Westbound Right	U	G		1	34	-	487	1800	700	69.6%	-	-	-	2.2	16.5	3.1
2/1	Southbound Exit Ahead	U	K		1	72	-	626	1800	1460	42.9%	-	-	-	0.6	3.2	2.0
2/2	Southbound Exit Ahead	U	K		1	72	-	253	1800	1460	17.3%	-	-	-	0.1	1.5	0.1
3/1+3/2	Broom Way Left	U	I		1	44	-	743	1800:1800	633+628	58.9 : 58.9%	-	-	-	3.6	17.6	6.5
3/3+3/4	Broom Way Ahead	U	H		1	45	-	907	1800:1800	731+260	91.5 : 91.5%	-	-	-	9.5	37.9	23.9

C1 Stream: 1 PRC for Signalled Lanes (%): -1.0 Total Delay for Signalled Lanes (pcuHr): 13.79 Cycle Time (s): 90
C1 Stream: 2 PRC for Signalled Lanes (%): 4.2 Total Delay for Signalled Lanes (pcuHr): 13.37 Cycle Time (s): 90
C1 Stream: 3 PRC for Signalled Lanes (%): -1.7 Total Delay for Signalled Lanes (pcuHr): 18.54 Cycle Time (s): 90
C1 Stream: 4 PRC for Signalled Lanes (%): -1.7 Total Delay for Signalled Lanes (pcuHr): 19.58 Cycle Time (s): 90
C1 Stream: 5 PRC for Signalled Lanes (%): 109.9 Total Delay for Signalled Lanes (pcuHr): 0.66 Cycle Time (s): 90
C1 Stream: 6 PRC for Signalled Lanes (%): 56.2 Total Delay for Signalled Lanes (pcuHr): 1.81 Cycle Time (s): 90
PRC Over All Lanes (%): -1.7 Total Delay Over All Lanes(pcuHr): 68.51

Basic Results Summary

Scenario 4: '4' (FG4: '2028 PM Base + Com (DS2)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Stubbington Bypass - Red Route	-	-	-		-	-	-	-	-	-	**77.3%**	**0**	**0**	**0**	**47.8**	-	-
J1: Unnamed Junction	-	-	-		-	-	-	-	-	-	**77.3%**	**0**	**0**	**0**	**13.8**	-	-
1/2+1/1	Gosport Road Ahead Ahead2	U	B		1	48	-	885	1800:1800	924+221	77.3 : 77.3%	-	-	-	5.2	21.3	15.0
1/3	Gosport Road Ahead	U	B		1	48	-	729	1800	980	74.4%	-	-	-	4.6	22.8	15.2
2/1	Circulatory Northbound Ahead	U	A		1	32	-	395	1800	660	59.8%	-	-	-	1.6	14.5	2.2
2/2	Circulatory Northbound Right Ahead	U	A		1	32	-	418	1800	660	63.3%	-	-	-	2.1	17.8	5.2
3/1		U	-		-	-	-	411	1800	1800	22.8%	-	-	-	0.1	1.3	0.1
3/2		U	-		-	-	-	487	1800	1800	27.1%	-	-	-	0.2	1.4	0.2
J2: Unnamed Junction	-	-	-		-	-	-	-	-	-	**74.4%**	**0**	**0**	**0**	**14.4**	-	-
1/1	Circulatory Eastbound Ahead	U	C		1	56	-	799	1800	1140	70.1%	-	-	-	1.6	7.4	3.3
1/2+1/3	Circulatory Eastbound Right Ahead	U	C		1	56	-	853	1800:1800	816+405	69.8 : 69.8%	-	-	-	1.9	7.8	4.7
2/2+2/1	Newgate Lane Ahead Left	U	D		1	24	-	689	1800:1800	500+426	74.4 : 74.4%	-	-	-	7.0	36.6	9.8
2/3	Newgate Lane Ahead	U	D		1	24	-	318	1800	500	63.6%	-	-	-	3.4	38.3	7.8
3/1	Northbound exit Ahead	U	J		1	72	-	566	1800	1460	38.8%	-	-	-	0.4	2.5	1.0
3/2	Northbound exit Ahead	U	J		1	72	-	209	1800	1460	14.3%	-	-	-	0.1	1.4	0.1
J3: Unnamed Junction	-	-	-		-	-	-	-	-	-	**77.0%**	**0**	**0**	**0**	**9.5**	-	-

Basic Results Summary

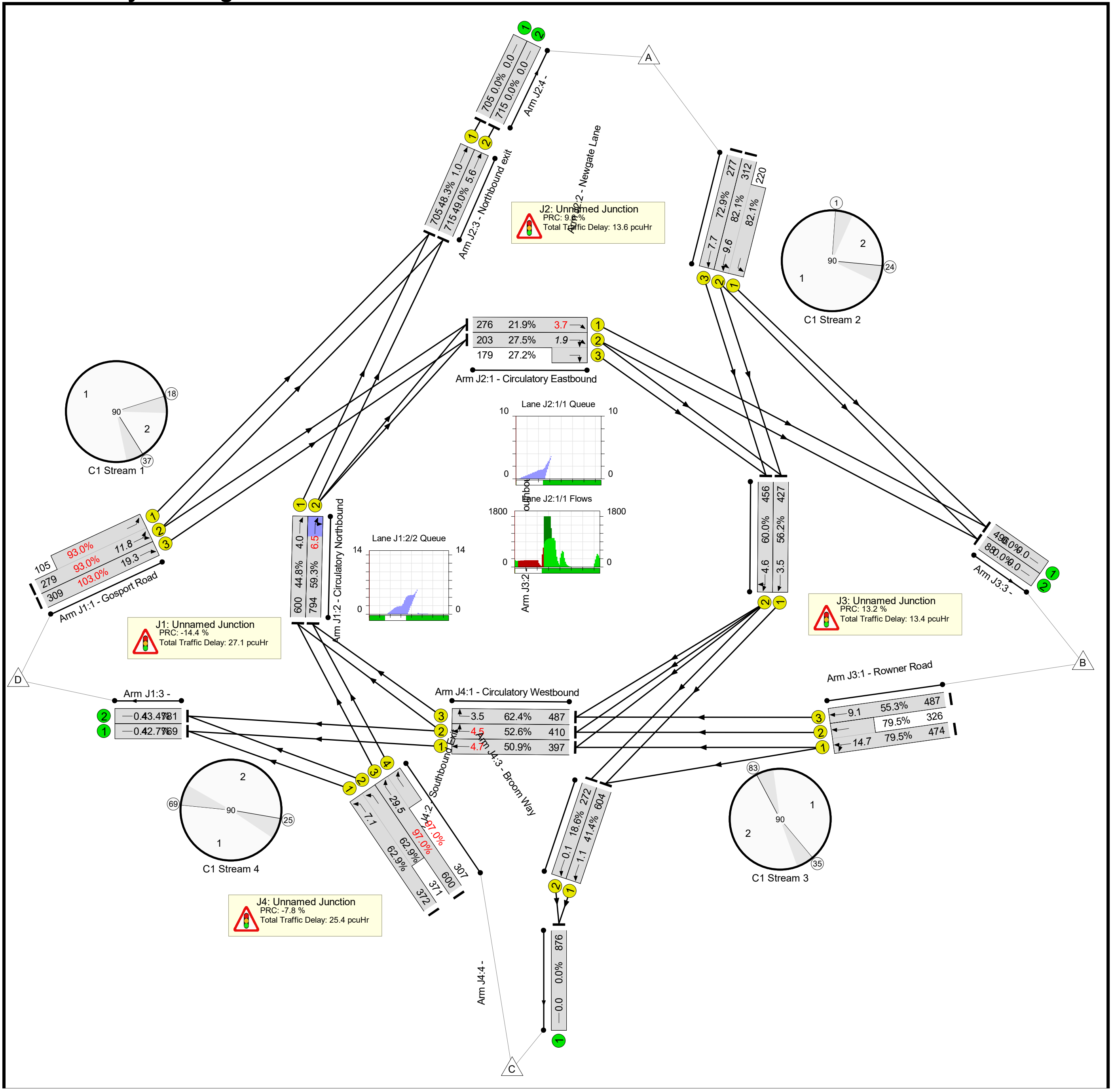
1/1+1/2	Rowner Road Ahead Left	U	F		1	22	-	474	1800:1800	331+285	77.0 : 77.0%	-	-	-	5.5	41.4	8.5
1/3	Rowner Road Ahead	U	F		1	22	-	88	1800	460	19.1%	-	-	-	0.8	31.1	1.8
2/1	Circulatory Southbound Ahead	U	E		1	58	-	604	1800	1180	51.2%	-	-	-	1.5	9.1	5.0
2/2	Circulatory Southbound Right Ahead	U	E		1	58	-	601	1800	1180	50.9%	-	-	-	1.7	10.4	5.8
J4: Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**76.7%**	**0**	**0**	**0**	**10.1**	**-**	**-**
1/1	Circulatory Westbound Ahead	U	G		1	40	-	249	1800	820	30.4%	-	-	-	1.1	15.2	3.5
1/2	Circulatory Westbound Right Ahead	U	G		1	40	-	331	1800	820	40.4%	-	-	-	1.1	11.9	3.3
1/3	Circulatory Westbound Right	U	G		1	40	-	88	1800	820	10.7%	-	-	-	0.1	3.7	0.1
2/1	Southbound Exit Ahead	U	K		1	72	-	739	1800	1460	50.6%	-	-	-	0.8	3.9	2.6
2/2	Southbound Exit Ahead	U	K		1	72	-	360	1800	1460	24.7%	-	-	-	0.2	1.6	0.2
3/1+3/2	Broom Way Left	U	I		1	38	-	318	1800:1800	577+555	28.1 : 28.1%	-	-	-	1.6	18.1	2.7
3/3+3/4	Broom Way Ahead	U	H		1	39	-	725	1800:1800	515+430	76.7 : 76.7%	-	-	-	5.3	26.5	12.7

C1	Stream: 1	PRC for Signalled Lanes (%):	16.5	Total Delay for Signalled Lanes (pcuHr):	13.51	Cycle Time (s):	90
C1	Stream: 2	PRC for Signalled Lanes (%):	21.0	Total Delay for Signalled Lanes (pcuHr):	13.88	Cycle Time (s):	90
C1	Stream: 3	PRC for Signalled Lanes (%):	17.0	Total Delay for Signalled Lanes (pcuHr):	9.47	Cycle Time (s):	90
C1	Stream: 4	PRC for Signalled Lanes (%):	17.3	Total Delay for Signalled Lanes (pcuHr):	9.18	Cycle Time (s):	90
C1	Stream: 5	PRC for Signalled Lanes (%):	77.8	Total Delay for Signalled Lanes (pcuHr):	0.96	Cycle Time (s):	90
C1	Stream: 6	PRC for Signalled Lanes (%):	132.2	Total Delay for Signalled Lanes (pcuHr):	0.48	Cycle Time (s):	90
		PRC Over All Lanes (%):	16.5	Total Delay Over All Lanes(pcuHr):	47.81		

Basic Results Summary

Scenario 5: '5' (FG5: '2028 AM Base + Com - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Stubbington Bypass - Red Route	-	-	-		-	-	-	-	-	-	**103.0%**	**0**	**0**	**0**	**79.5**	-	-
J1: Unnamed Junction	-	-	-		-	-	-	-	-	-	**103.0%**	**0**	**0**	**0**	**27.1**	-	-
1/2+1/1	Gosport Road Ahead Ahead2	U	B		1	14	-	384	1800:1800	300+113	93.0 : 93.0%	-	-	-	8.8	82.3	11.8
1/3	Gosport Road Ahead	U	B		1	14	-	309	1800	300	103.0%	-	-	-	14.9	173.7	19.3
2/1	Circulatory Northbound Ahead	U	A		1	66	-	600	1800	1340	44.8%	-	-	-	1.2	7.5	4.0
2/2	Circulatory Northbound Right Ahead	U	A		1	66	-	794	1800	1340	59.3%	-	-	-	1.4	6.5	6.5
3/1		U	-		-	-	-	769	1800	1800	42.7%	-	-	-	0.4	1.7	0.4
3/2		U	-		-	-	-	781	1800	1800	43.4%	-	-	-	0.4	1.8	0.4
J2: Unnamed Junction	-	-	-		-	-	-	-	-	-	**82.1%**	**0**	**0**	**0**	**13.6**	-	-
1/1	Circulatory Eastbound Ahead	U	C		1	62	-	276	1800	1260	21.9%	-	-	-	0.5	6.0	3.7
1/2+1/3	Circulatory Eastbound Right Ahead	U	C		1	62	-	391	1800:1800	740+658	27.5 : 27.2%	-	-	-	0.4	3.7	1.9
2/2+2/1	Newgate Lane Ahead Left	U	D		1	18	-	532	1800:1800	380+268	82.1 : 82.1%	-	-	-	7.1	48.0	9.6
2/3	Newgate Lane Ahead	U	D		1	18	-	277	1800	380	72.9%	-	-	-	3.9	50.1	7.7
3/1	Northbound exit Ahead	U	J		1	72	-	705	1800	1460	48.3%	-	-	-	0.5	2.4	1.0
3/2	Northbound exit Ahead	U	J		1	72	-	715	1800	1460	49.0%	-	-	-	1.3	6.4	5.6
J3: Unnamed Junction	-	-	-		-	-	-	-	-	-	**79.5%**	**0**	**0**	**0**	**13.4**	-	-

Basic Results Summary

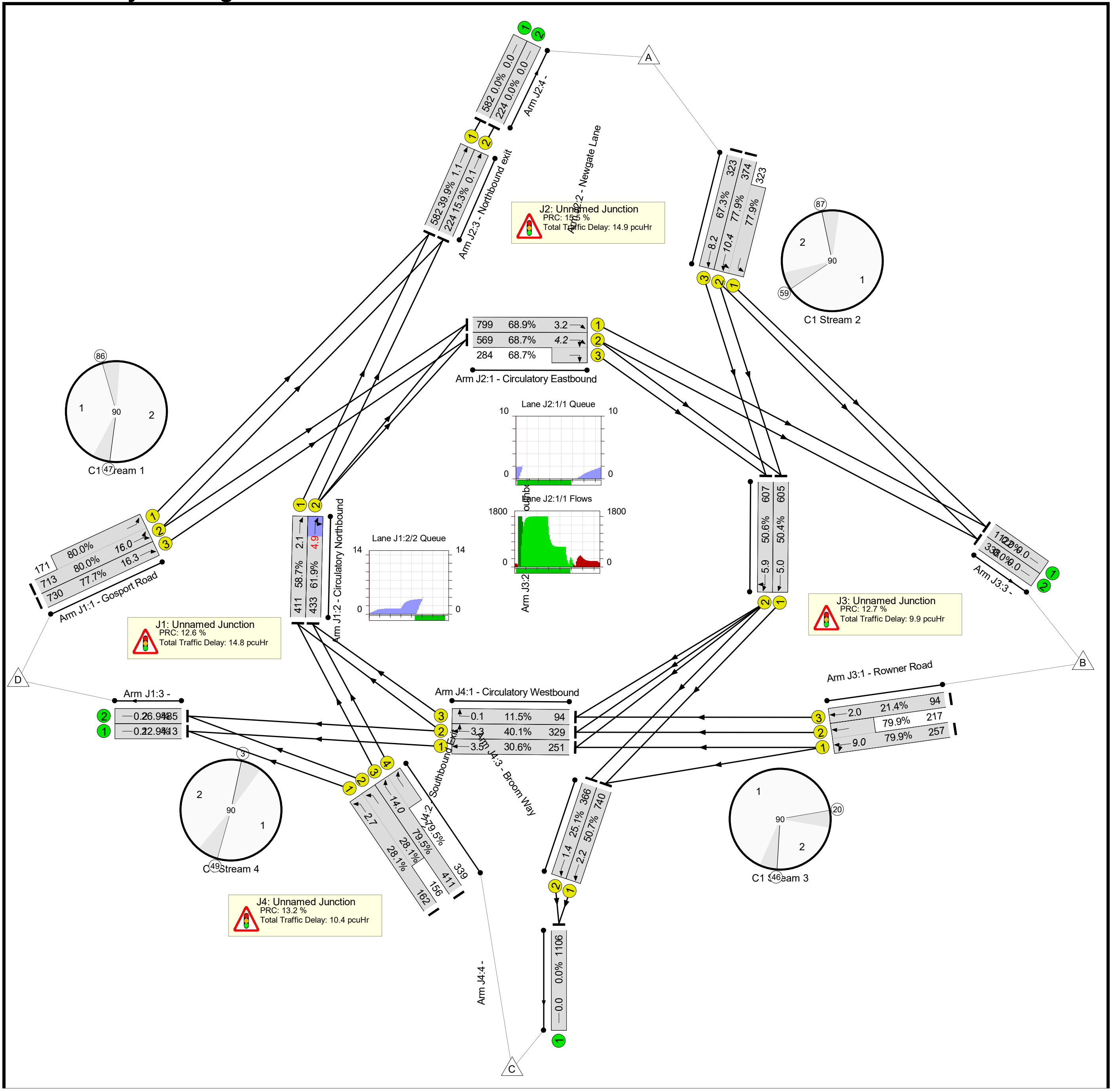
1/1+1/2	Rowner Road Ahead Left	U	F		1	43	-	800	1800:1800	596+410	79.5 : 79.5%	-	-	-	5.6	25.3	14.7
1/3	Rowner Road Ahead	U	F		1	43	-	487	1800	880	55.3%	-	-	-	2.8	20.7	9.1
2/1	Circulatory Southbound Ahead	U	E		1	37	-	431	1800	760	56.2%	-	-	-	2.2	18.2	3.5
2/2	Circulatory Southbound Right Ahead	U	E		1	37	-	461	1800	760	60.0%	-	-	-	2.8	22.4	4.6
J4: Unnamed Junction	-	-	-		-	-	-	-	-	-	**97.0%**	**0**	**0**	**0**	**25.4**	-	-
1/1	Circulatory Westbound Ahead	U	G		1	38	-	397	1800	780	50.9%	-	-	-	1.7	15.5	4.7
1/2	Circulatory Westbound Right Ahead	U	G		1	38	-	410	1800	780	52.6%	-	-	-	1.8	15.5	4.5
1/3	Circulatory Westbound Right	U	G		1	38	-	487	1800	780	62.4%	-	-	-	2.1	15.6	3.5
2/1	Southbound Exit Ahead	U	K		1	72	-	608	1800	1460	41.4%	-	-	-	0.4	2.6	1.1
2/2	Southbound Exit Ahead	U	K		1	72	-	277	1800	1460	18.6%	-	-	-	0.1	1.5	0.1
3/1+3/2	Broom Way Left	U	I		1	40	-	743	1800:1800	592+590	62.9 : 62.9%	-	-	-	4.3	20.9	7.1
3/3+3/4	Broom Way Ahead	U	H		1	41	-	907	1800:1800	619+317	97.0 : 97.0%	-	-	-	15.0	59.5	29.5

C1	Stream: 1	PRC for Signalled Lanes (%):	-14.4	Total Delay for Signalled Lanes (pcuHr):	26.37	Cycle Time (s):	90
C1	Stream: 2	PRC for Signalled Lanes (%):	9.6	Total Delay for Signalled Lanes (pcuHr):	11.80	Cycle Time (s):	90
C1	Stream: 3	PRC for Signalled Lanes (%):	13.2	Total Delay for Signalled Lanes (pcuHr):	13.43	Cycle Time (s):	90
C1	Stream: 4	PRC for Signalled Lanes (%):	-7.8	Total Delay for Signalled Lanes (pcuHr):	24.88	Cycle Time (s):	90
C1	Stream: 5	PRC for Signalled Lanes (%):	117.4	Total Delay for Signalled Lanes (pcuHr):	0.55	Cycle Time (s):	90
C1	Stream: 6	PRC for Signalled Lanes (%):	83.8	Total Delay for Signalled Lanes (pcuHr):	1.75	Cycle Time (s):	90
		PRC Over All Lanes (%):	-14.4	Total Delay Over All Lanes(pcuHr):	79.54		

Basic Results Summary

Scenario 6: '6' (FG6: '2028 PM Base + Com - Sens Test (DS2)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Stubbington Bypass - Red Route	-	-	-		-	-	-	-	-	-	**80.0%**	**0**	**0**	**0**	**50.0**	-	-
J1: Unnamed Junction	-	-	-		-	-	-	-	-	-	**80.0%**	**0**	**0**	**0**	**14.8**	-	-
1/2+1/1	Gosport Road Ahead Ahead2	U	B		1	46	-	884	1800:1800	892+214	80.0 : 80.0%	-	-	-	5.9	23.9	16.0
1/3	Gosport Road Ahead	U	B		1	46	-	730	1800	940	77.7%	-	-	-	5.2	25.7	16.3
2/1	Circulatory Northbound Ahead	U	A		1	34	-	411	1800	700	58.7%	-	-	-	1.5	13.2	2.1
2/2	Circulatory Northbound Right Ahead	U	A		1	34	-	433	1800	700	61.9%	-	-	-	1.9	16.0	4.9
3/1		U	-		-	-	-	413	1800	1800	22.9%	-	-	-	0.1	1.3	0.1
3/2		U	-		-	-	-	485	1800	1800	26.9%	-	-	-	0.2	1.4	0.2
J2: Unnamed Junction	-	-	-		-	-	-	-	-	-	**77.9%**	**0**	**0**	**0**	**14.9**	-	-
1/1	Circulatory Eastbound Ahead	U	C		1	57	-	799	1800	1160	68.9%	-	-	-	1.5	6.8	3.2
1/2+1/3	Circulatory Eastbound Right Ahead	U	C		1	57	-	853	1800:1800	828+413	68.7 : 68.7%	-	-	-	1.7	7.1	4.2
2/2+2/1	Newgate Lane Ahead Left	U	D		1	23	-	697	1800:1800	480+415	77.9 : 77.9%	-	-	-	7.6	39.0	10.4
2/3	Newgate Lane Ahead	U	D		1	23	-	323	1800	480	67.3%	-	-	-	3.7	40.8	8.2
3/1	Northbound exit Ahead	U	J		1	72	-	582	1800	1460	39.9%	-	-	-	0.4	2.6	1.1
3/2	Northbound exit Ahead	U	J		1	72	-	224	1800	1460	15.3%	-	-	-	0.1	1.5	0.1
J3: Unnamed Junction	-	-	-		-	-	-	-	-	-	**79.9%**	**0**	**0**	**0**	**9.9**	-	-

Basic Results Summary

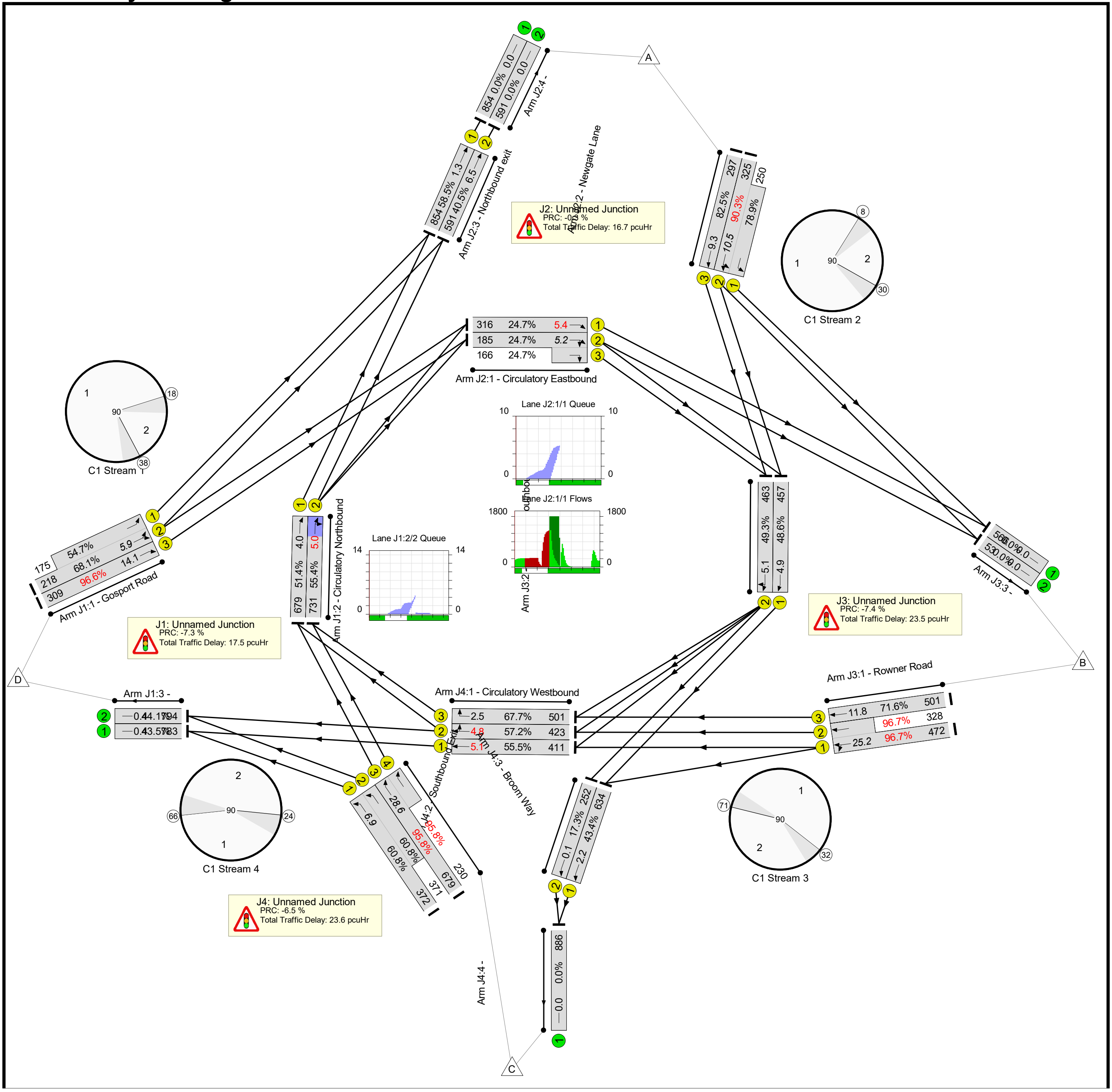
1/1+1/2	Rowner Road Ahead Left	U	F		1	21	-	474	1800:1800	322+272	79.9 : 79.9%	-	-	-	5.9	44.6	9.0
1/3	Rowner Road Ahead	U	F		1	21	-	94	1800	440	21.4%	-	-	-	0.8	32.3	2.0
2/1	Circulatory Southbound Ahead	U	E		1	59	-	605	1800	1200	50.4%	-	-	-	1.5	8.8	5.0
2/2	Circulatory Southbound Right Ahead	U	E		1	59	-	607	1800	1200	50.6%	-	-	-	1.7	10.2	5.9
J4: Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**79.5%**	**0**	**0**	**0**	**10.4**	**-**	**-**
1/1	Circulatory Westbound Ahead	U	G		1	40	-	251	1800	820	30.6%	-	-	-	0.9	13.6	3.5
1/2	Circulatory Westbound Right Ahead	U	G		1	40	-	329	1800	820	40.1%	-	-	-	1.0	10.9	3.3
1/3	Circulatory Westbound Right	U	G		1	40	-	94	1800	820	11.5%	-	-	-	0.1	3.7	0.1
2/1	Southbound Exit Ahead	U	K		1	72	-	740	1800	1460	50.7%	-	-	-	0.7	3.2	2.2
2/2	Southbound Exit Ahead	U	K		1	72	-	366	1800	1460	25.1%	-	-	-	0.2	2.2	1.4
3/1+3/2	Broom Way Left	U	I		1	38	-	318	1800:1800	577+555	28.1 : 28.1%	-	-	-	1.6	18.1	2.7
3/3+3/4	Broom Way Ahead	U	H		1	39	-	750	1800:1800	517+427	79.5 : 79.5%	-	-	-	5.8	28.0	14.0

C1 Stream: 1 PRC for Signalled Lanes (%): 12.6 Total Delay for Signalled Lanes (pcuHr): 14.52 Cycle Time (s): 90
C1 Stream: 2 PRC for Signalled Lanes (%): 15.5 Total Delay for Signalled Lanes (pcuHr): 14.41 Cycle Time (s): 90
C1 Stream: 3 PRC for Signalled Lanes (%): 12.7 Total Delay for Signalled Lanes (pcuHr): 9.90 Cycle Time (s): 90
C1 Stream: 4 PRC for Signalled Lanes (%): 13.2 Total Delay for Signalled Lanes (pcuHr): 9.47 Cycle Time (s): 90
C1 Stream: 5 PRC for Signalled Lanes (%): 77.6 Total Delay for Signalled Lanes (pcuHr): 0.88 Cycle Time (s): 90
C1 Stream: 6 PRC for Signalled Lanes (%): 125.8 Total Delay for Signalled Lanes (pcuHr): 0.50 Cycle Time (s): 90
PRC Over All Lanes (%): 12.6 Total Delay Over All Lanes(pcuHr): 50.01

Basic Results Summary

Scenario 7: '7' (FG7: '2028 AM Base + Com + Dev (DS2)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Stubbington Bypass - Red Route	-	-	-		-	-	-	-	-	-	**96.7%**	**0**	**0**	**0**	**81.3**	-	-
J1: Unnamed Junction	-	-	-		-	-	-	-	-	-	**96.6%**	**0**	**0**	**0**	**17.5**	-	-
1/2+1/1	Gosport Road Ahead Ahead2	U	B		1	15	-	393	1800:1800	320+320	68.1 : 54.7%	-	-	-	4.5	41.5	5.9
1/3	Gosport Road Ahead	U	B		1	15	-	309	1800	320	96.6%	-	-	-	9.6	112.0	14.1
2/1	Circulatory Northbound Ahead	U	A		1	65	-	679	1800	1320	51.4%	-	-	-	1.4	7.5	4.0
2/2	Circulatory Northbound Right Ahead	U	A		1	65	-	731	1800	1320	55.4%	-	-	-	1.1	5.6	5.0
3/1		U	-		-	-	-	783	1800	1800	43.5%	-	-	-	0.4	1.8	0.4
3/2		U	-		-	-	-	794	1800	1800	44.1%	-	-	-	0.4	1.8	0.4
J2: Unnamed Junction	-	-	-		-	-	-	-	-	-	**90.3%**	**0**	**0**	**0**	**16.7**	-	-
1/1	Circulatory Eastbound Ahead	U	C		1	63	-	316	1800	1280	24.7%	-	-	-	0.8	9.0	5.4
1/2+1/3	Circulatory Eastbound Right Ahead	U	C		1	63	-	351	1800:1800	748+671	24.7 : 24.7%	-	-	-	0.5	5.0	5.2
2/2+2/1	Newgate Lane Ahead Left	U	D		1	17	-	575	1800:1800	360+317	90.3 : 78.9%	-	-	-	8.2	51.2	10.5
2/3	Newgate Lane Ahead	U	D		1	17	-	297	1800	360	82.5%	-	-	-	5.0	61.2	9.3
3/1	Northbound exit Ahead	U	J		1	72	-	854	1800	1460	58.5%	-	-	-	0.7	3.0	1.3
3/2	Northbound exit Ahead	U	J		1	72	-	591	1800	1460	40.5%	-	-	-	1.5	8.9	6.5
J3: Unnamed Junction	-	-	-		-	-	-	-	-	-	**96.7%**	**0**	**0**	**0**	**23.5**	-	-

Basic Results Summary

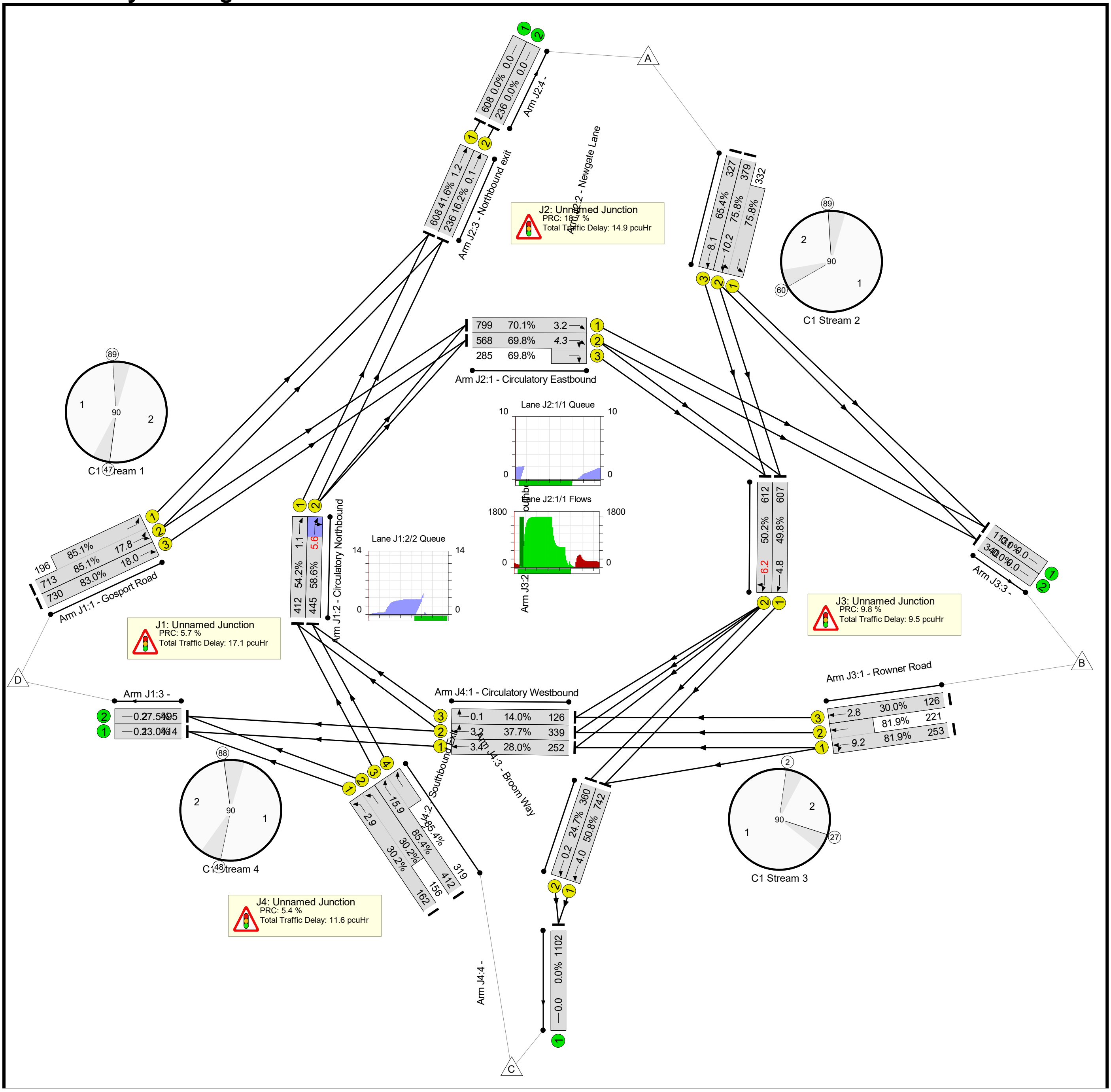
1/1+1/2	Rowner Road Ahead Left	U	F		1	34	-	800	1800:1800	488+339	96.7 : 96.7%	-	-	-	14.3	64.5	25.2
1/3	Rowner Road Ahead	U	F		1	34	-	501	1800	700	71.6%	-	-	-	4.5	32.2	11.8
2/1	Circulatory Southbound Ahead	U	E		1	46	-	457	1800	940	48.6%	-	-	-	2.3	18.1	4.9
2/2	Circulatory Southbound Right Ahead	U	E		1	46	-	463	1800	940	49.3%	-	-	-	2.4	18.7	5.1
J4: Unnamed Junction	-	-	-		-	-	-	-	-	-	**95.8%**	**0**	**0**	**0**	**23.6**	-	-
1/1	Circulatory Westbound Ahead	U	G		1	36	-	411	1800	740	55.5%	-	-	-	1.8	15.9	5.1
1/2	Circulatory Westbound Right Ahead	U	G		1	36	-	423	1800	740	57.2%	-	-	-	1.9	16.3	4.8
1/3	Circulatory Westbound Right	U	G		1	36	-	501	1800	740	67.7%	-	-	-	1.9	13.3	2.5
2/1	Southbound Exit Ahead	U	K		1	72	-	634	1800	1460	43.4%	-	-	-	0.6	3.4	2.2
2/2	Southbound Exit Ahead	U	K		1	72	-	252	1800	1460	17.3%	-	-	-	0.1	1.5	0.1
3/1+3/2	Broom Way Left	U	I		1	42	-	743	1800:1800	612+610	60.8 : 60.8%	-	-	-	4.0	19.2	6.9
3/3+3/4	Broom Way Ahead	U	H		1	43	-	909	1800:1800	709+240	95.8 : 95.8%	-	-	-	13.4	53.0	28.6

C1 Stream: 1 PRC for Signalled Lanes (%): -7.3 Total Delay for Signalled Lanes (pcuHr): 16.67 Cycle Time (s): 90
C1 Stream: 2 PRC for Signalled Lanes (%): -0.3 Total Delay for Signalled Lanes (pcuHr): 14.50 Cycle Time (s): 90
C1 Stream: 3 PRC for Signalled Lanes (%): -7.4 Total Delay for Signalled Lanes (pcuHr): 23.52 Cycle Time (s): 90
C1 Stream: 4 PRC for Signalled Lanes (%): -6.5 Total Delay for Signalled Lanes (pcuHr): 22.91 Cycle Time (s): 90
C1 Stream: 5 PRC for Signalled Lanes (%): 107.3 Total Delay for Signalled Lanes (pcuHr): 0.70 Cycle Time (s): 90
C1 Stream: 6 PRC for Signalled Lanes (%): 53.9 Total Delay for Signalled Lanes (pcuHr): 2.17 Cycle Time (s): 90
PRC Over All Lanes (%): -7.4 Total Delay Over All Lanes(pcuHr): 81.26

Basic Results Summary

Scenario 8: '8' (FG8: '2028 PM Base + Com + Dev (DS2)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Stubbington Bypass - Red Route	-	-	-		-	-	-	-	-	-	**85.4%**	**0**	**0**	**0**	**53.1**	-	-
J1: Unnamed Junction	-	-	-		-	-	-	-	-	-	**85.1%**	**0**	**0**	**0**	**17.1**	-	-
1/2+1/1	Gosport Road Ahead Ahead2	U	B		1	43	-	909	1800:1800	837+230	85.1 : 85.1%	-	-	-	7.3	29.1	17.8
1/3	Gosport Road Ahead	U	B		1	43	-	730	1800	880	83.0%	-	-	-	6.4	31.4	18.0
2/1	Circulatory Northbound Ahead	U	A		1	37	-	412	1800	760	54.2%	-	-	-	0.9	7.6	1.1
2/2	Circulatory Northbound Right Ahead	U	A		1	37	-	445	1800	760	58.6%	-	-	-	2.1	17.2	5.6
3/1		U	-		-	-	-	414	1800	1800	23.0%	-	-	-	0.1	1.3	0.1
3/2		U	-		-	-	-	495	1800	1800	27.5%	-	-	-	0.2	1.4	0.2
J2: Unnamed Junction	-	-	-		-	-	-	-	-	-	**75.8%**	**0**	**0**	**0**	**14.9**	-	-
1/1	Circulatory Eastbound Ahead	U	C		1	56	-	799	1800	1140	70.1%	-	-	-	1.6	7.3	3.2
1/2+1/3	Circulatory Eastbound Right Ahead	U	C		1	56	-	853	1800:1800	814+408	69.8 : 69.8%	-	-	-	1.8	7.7	4.3
2/2+2/1	Newgate Lane Ahead Left	U	D		1	24	-	711	1800:1800	500+438	75.8 : 75.8%	-	-	-	7.3	37.1	10.2
2/3	Newgate Lane Ahead	U	D		1	24	-	327	1800	500	65.4%	-	-	-	3.5	39.0	8.1
3/1	Northbound exit Ahead	U	J		1	72	-	608	1800	1460	41.6%	-	-	-	0.5	2.7	1.2
3/2	Northbound exit Ahead	U	J		1	72	-	236	1800	1460	16.2%	-	-	-	0.1	1.5	0.1
J3: Unnamed Junction	-	-	-		-	-	-	-	-	-	**81.9%**	**0**	**0**	**0**	**9.5**	-	-

Basic Results Summary

1/1+1/2	Rowner Road Ahead Left	U	F		1	20	-	474	1800:1800	309+270	81.9 : 81.9%	-	-	-	6.2	47.3	9.2
1/3	Rowner Road Ahead	U	F		1	20	-	126	1800	420	30.0%	-	-	-	1.2	34.6	2.8
2/1	Circulatory Southbound Ahead	U	E		1	60	-	607	1800	1220	49.8%	-	-	-	1.0	5.8	4.8
2/2	Circulatory Southbound Right Ahead	U	E		1	60	-	612	1800	1220	50.2%	-	-	-	1.1	6.5	6.2
J4: Unnamed Junction	-	-	-		-	-	-	-	-	-	**85.4%**	**0**	**0**	**0**	**11.6**	-	-
1/1	Circulatory Westbound Ahead	U	G		1	44	-	252	1800	900	28.0%	-	-	-	0.7	9.6	3.4
1/2	Circulatory Westbound Right Ahead	U	G		1	44	-	339	1800	900	37.7%	-	-	-	0.7	7.6	3.2
1/3	Circulatory Westbound Right	U	G		1	44	-	126	1800	900	14.0%	-	-	-	0.1	2.3	0.1
2/1	Southbound Exit Ahead	U	K		1	72	-	742	1800	1460	50.8%	-	-	-	0.9	4.2	4.0
2/2	Southbound Exit Ahead	U	K		1	72	-	360	1800	1460	24.7%	-	-	-	0.2	1.7	0.2
3/1+3/2	Broom Way Left	U	I		1	34	-	318	1800:1800	536+516	30.2 : 30.2%	-	-	-	1.8	20.9	2.9
3/3+3/4	Broom Way Ahead	U	H		1	35	-	731	1800:1800	482+373	85.4 : 85.4%	-	-	-	7.3	35.9	15.9

C1 Stream: 1 PRC for Signalled Lanes (%): 5.7 Total Delay for Signalled Lanes (pcuHr): 16.71 Cycle Time (s): 90
C1 Stream: 2 PRC for Signalled Lanes (%): 18.7 Total Delay for Signalled Lanes (pcuHr): 14.32 Cycle Time (s): 90
C1 Stream: 3 PRC for Signalled Lanes (%): 9.8 Total Delay for Signalled Lanes (pcuHr): 9.54 Cycle Time (s): 90
C1 Stream: 4 PRC for Signalled Lanes (%): 5.4 Total Delay for Signalled Lanes (pcuHr): 10.61 Cycle Time (s): 90
C1 Stream: 5 PRC for Signalled Lanes (%): 77.1 Total Delay for Signalled Lanes (pcuHr): 1.04 Cycle Time (s): 90
C1 Stream: 6 PRC for Signalled Lanes (%): 116.1 Total Delay for Signalled Lanes (pcuHr): 0.55 Cycle Time (s): 90
PRC Over All Lanes (%): 5.4 Total Delay Over All Lanes(pcuHr): 53.10