



Pentavia, Mill Hill

London NW7 2ET

Transport Assessment

Date: 15/03/19

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EXECUTIVE SUMMARY

- I. Velocity Transport Planning was appointed by Meadow Residential in October 2017 to provide transport planning advice in relation to the redevelopment of Pentavia Retail Park, in the Mill Hill ward, to the north of London Borough of Barnet.
- II. Prior to the submission of this Transport Assessment liaison has been undertaken over the past few years with planning and highways officers within LBB as well as Transport for London and Highways England.
- III. The site consists of a former out-of-town retail park with associated parking. The retail development comprised 9,717sqm of A1 / A3 floor space (9,053sqm A1, 644sqm A3). Since 2015 the site has been occupied by Koshier Outlet Store. A TGI Friday Restaurant has more recently ceased trading from the site also.
- IV. Information on the vehicle trips generated by the existing occupiers or former occupiers was not available and as such an exercise using standard industry methods was undertaken to predict the trip generation of the extant use. It is projected that the extant development would generate 56 vehicle movements in the AM peak hour, and 124 in the PM peak hour (based on Gross Internal Area).
- V. There is a mixture of different road types / classifications in the immediate area around the site. The A1 and M1 are in close proximity and form part of the wider Strategic Road Network. The Broadway is located to the north of the site, it is a street fronted by a range of retail and leisure destinations, including food/ convenience goods, cafes, restaurants and banks. There are connections to public transport in this location also.
- VI. Parking surveys have indicated that there are currently significant levels of residual capacity for parking in the area surrounding the site. Up to 486 available parking spaces were observed to be vacant on street overnight.
- VII. A review of the existing accessibility of the site has demonstrated that there are a number of pedestrian, cycle, rail and underground routes within the local area, and that key services in the form of schools and healthcare facilities are also in close proximity. However, the site is currently constrained from making best use of its opportunities by the segregation at the northern end of the site adjacent Bunns Lane.
- VIII. A pedestrian comfort level assessment has been undertaken in accordance with TfL guidance which demonstrates Bunns Lane and Flower Lane have significant capacity and are currently very comfortable walking routes due to the low level of existing demand.
- IX. A pedestrian environment assessment has identified that the pedestrian environment is generally of average condition for the area. Existing topography contributes to the presence of steep gradients, but legibility through lack of signage and general aesthetics also contribute to the average conditions. The existing link between the southern end of the site and Grahame Park Way via the bridge over the M1 and underpass of the railway scored the lowest for pedestrian environmental conditions.
- X. Junction movements and observed queues have been surveyed at seven junctions within the highway network surrounding the site.
- XI. The 2016 base junction capacity assessment has indicated that some junctions within the highway network operate within capacity in both the AM and PM peak hours, while some suffer as a result of levels of demand greater than the practical capacity, resulting in queuing and delay. It has been

identified that the junctions of Bunns Lane / Hale Lane / The Broadway, Grahame Park Way / Bunns Lane, Bunns Lane / Page Street / Pursley Road, and Mill Hill Circus currently operate above a practical level of capacity on at least one approach in one of either the AM or PM peak hours.

- XII. The junction capacity assessment of future years without development traffic has indicated that in 2026 all junctions in the assessment area will have reached a level of practical capacity and experience queuing and delays as a result of background traffic growth and committed development.
- XIII. The proposed development comprises the demolition of all existing buildings and construction of 844 new Class C3 residential dwellings and ancillary Class C3 Build to Rent facilities; 405sqm Gross Internal Area (GIA) Class A1 Retail; 326sqm (GIA) Class A3 and A4 food; and 297sqm (GIA) Class D1 Community; new pedestrian access to Bunns Lane; open space, landscaping; car parking; and highway/pedestrian improvements.
- XIV. The development will provide 844 residential units in a mix of one, two, and three bedroom units. 458 units are proposed to be Build to Rent (54% of all units), of which 188 units will be offered as affordable housing, comprising 30% London Living Rent (LLR) and 70% Discounted Market Rent (DMR). 386 units will be conventional residential (46% of all units), of which 157 will be offered as affordable housing, comprising 60% London Affordable Rent and 40% shared ownership.
- XV. The proposed residential accommodation offered is not typical in its nature, and in particular it is different by comparison to housing stock and tenure that currently exists in Mill Hill where 64% of homes are owner occupied, and 67% of properties are houses.
- XVI. The existing A1 access and egress will be retained as part of the development and will be for use of vehicles associated with commercial uses and residents also. A new pedestrian and cycle connection will be made between the site, the A1 and Bunns Lane.
- XVII. It is proposed to provide a total of 366 car parking spaces for the use of residents within the proposed development site, with further potential to expand residential car parking to 397 spaces. A total of 85 spaces could be provided for disabled users (10% of units). A further 10 car parking spaces will also be available for visitors of the residential units. A car club will operate from the site, and a further five designated spaces are proposed for these vehicles.
- XVIII. A further 9 car parking spaces for visitors, retail and leisure users will be provided. An assessment of parking accumulation associated with the car park shows that 5 parking spaces will remain available during the highest level of occupation, which only reaches 44% of the proposed parking bays.
- XIX. There will be 1,574 cycle parking spaces provided in relation to the residents, 30 of which will enable parking for visitors. A further 29 cycle parking spaces will be provided in relation to the retail and leisure uses.
- XX. A multimodal trip generation exercise for all proposed site uses has identified that development will generate 71 and 73 vehicle movements in the AM and PM peak hours respectively. The vehicle movements generated represent an additional 15 movements in the AM peak hour, and a reduction of 51 movements in the PM peak hour by comparison to the permitted use of the existing site
- XXI. A robust assessment of the assignment of public transport trips has identified that the greatest additional demand to any single bus route is anticipated to occur on the westbound service of route 221 in the AM peak hour when an additional demand for 28 passengers occurs. This is anticipated to be approximately five additional persons per bus.
- XXII. The greatest demand for pedestrian movements will occur on the southern footway of Bunns Lane, west of the proposed link between the development. Up to 175 additional pedestrian movements

will take place here within the AM peak hour. A footway capacity assessment has shown that the proposed development will have non-material impact on footway capacity.

- XXIII. Assessment of the impact of the development in 2026 on local junctions has been identified to be minor by comparison to conditions that might otherwise prevail under the sites permitted use. However, as identified by the 2016 base assessment the local highway network is currently operating close to and or over capacity.
- XXIV. The site will be tightly managed by a 24hr management team, and will be supported in promoting sustainable travel by the frameworks established through the Travel Plan, Delivery and Servicing Plan, and Car Park Management Plan, prepared by Velocity Transport Planning, which are submitted as part of the planning application.
- XXV. The Transport Assessment has included a thorough review of the existing conditions and assessed the associated impacts. Overall the transport impact is considered negligible and it has been concluded that the development should be considered to be acceptable in highway and transport terms.

1 INTRODUCTION

1.1 INTRODUCTION

- 1.1.1 Velocity Transport Planning was appointed by Meadow Residential in October 2017 to provide transport planning advice in relation to the redevelopment of Pentavia Retail Park, in the Mill Hill ward, to the north of London Borough of Barnet (LBB). The location of the site is illustrated on **Figure 1-1** (below).

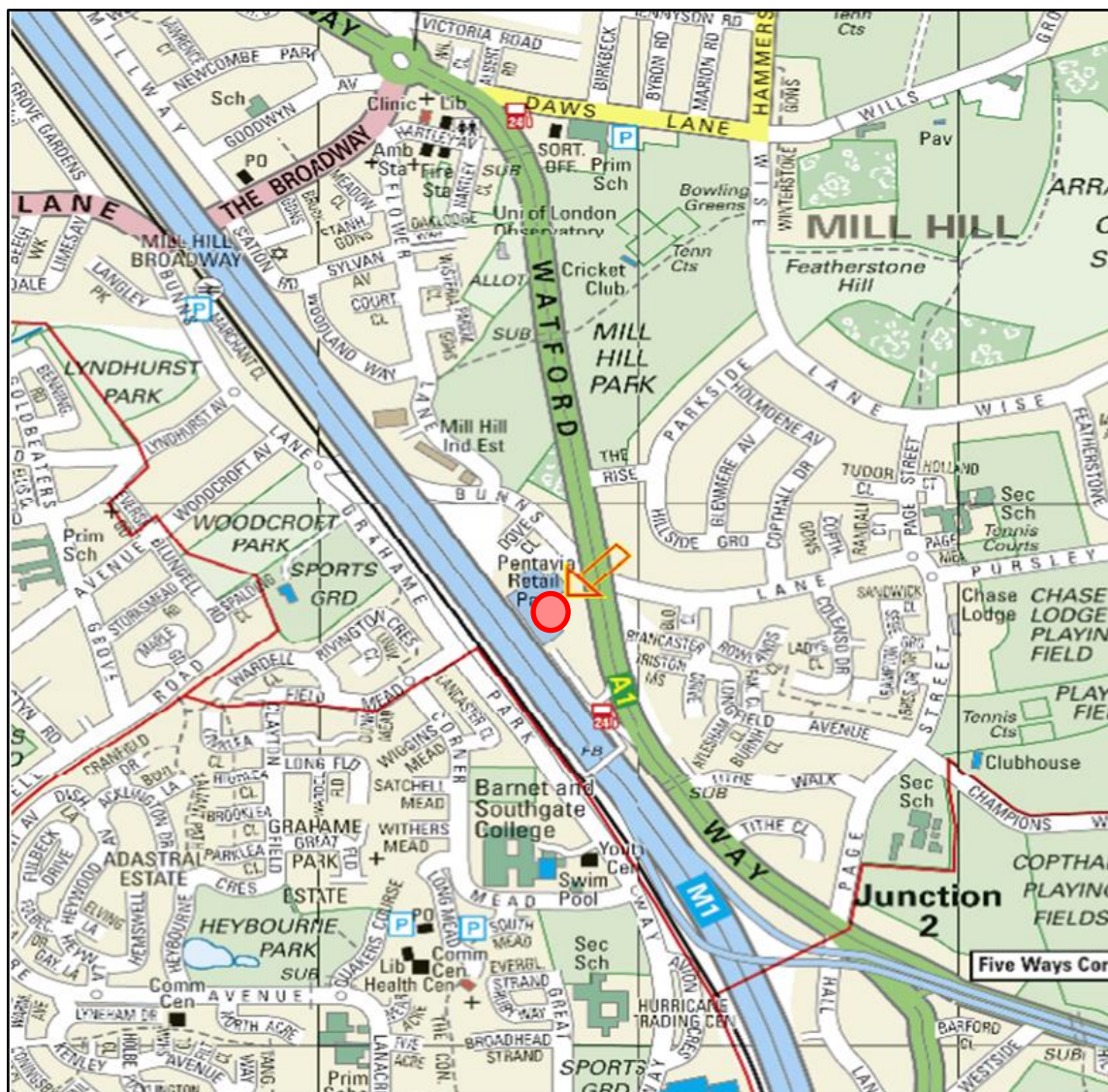


Figure 1-1: Site Location Plan

1.2 EXISTING SITE USE

- 1.2.1 The site consists of a former out-of-town retail park with associated parking. The retail development comprised 9,717sqm of A1 / A3 floor space (9,053sqm A1, 644sqm A3).

- 1.2.2 The Pentavia Retail Park was built in the early 1990s following planning consent in 1988 for a scheme comprising non-food retail warehouses, a garden centre and petrol station. Prior to 1988 the site had been used as allotments and a sports ground as well as a construction site for the M1.
- 1.2.3 Up until 2015 the site had been occupied by major national retailers including Homebase, Comet and Argos (Use Class A1). Since September 2015 the site has been temporarily occupied by Kosher Outlet Store. More recently a TGI Friday restaurant (Use Class A3) has ceased trading from the site.

1.3 PROPOSED DEVELOPMENT

- 1.3.1 The proposed development comprises the demolition of all existing buildings and construction of 844 new Class C3 residential units and ancillary Class C3 Build to Rent facilities; 405sqm Gross Internal Area (GIA) Class A1 Retail; 326sqm (GIA) Class A3 and A4 food; and 297sqm (GIA) Class D1 Community; new pedestrian access to Bunns Lane; open space, landscaping; car parking; and highway/pedestrian improvements. It is anticipated that works could take place between 2019 and 2023.
- 1.3.2 The proposals will transform Pentavia Retail Park into a thriving and sustainable neighbourhood with green public parks and local amenities; a destination for people to live, work and enjoy. It will help to address Barnet's housing need by delivering high quality affordable homes.
- 1.3.3 The proposals will unlock this constrained site with new pedestrian routes and cycle links. This will create economic benefits to the local area as the development will help to increase footfall and spending on Mill Hill Broadway.

1.4 PROGRAMME

- 1.4.1 It is anticipated that the proposed development would be implemented in rolling phases that follow on from one another. It is anticipated that works could take place between 2019 and 2023. Full details of the construction programme are contained with the Construction Traffic Management Plan (CTMP) submitted as part of the application.

1.5 CONSULTATION

- 1.5.1 Prior to the submission of this Transport Assessment (TA) liaison has been undertaken with planning and highways officers within LBB as well as the Greater London Authority (GLA), Transport for London (TfL) and Highways England (HE).
- 1.5.2 A series of pre-application discussions and meetings were held with LBB inclusive of a site walkover which took place on 22nd June 2016. The discussions with LBB led to the development of a Transport Scoping Note (TSN) which defined the requirements of the TA. The scoping note and its contents have been subject to amendment via discussion throughout the process.
- 1.5.3 Following discussions held with the GLA in a pre-app meeting in March 2016, the TSN was sent to TfL for comment. Feedback was provided by TfL in April 2016 which was included within a revision of the scoping note. Further engagement with TfL has taken place via the formal pre-app service in August 2016, the comments of which have been considered within the production of the TA.
- 1.5.4 More recently, two further pre-application meetings were held with LBB on 24th October, and 22nd November 2017.
- 1.5.5 A copy of the original TSN and all relevant historical correspondence are presented in **Appendix A** of this report.

- 1.5.6 Following submission of a planning application, the GLA has provided feedback on the proposals within planning report GLA/3756a/01 dated 19 March 2018. In response to the issues raised, further consultation and amendments to the scheme have been undertaken with both LBB and the GLA in order to respond and resolve them.
- 1.5.7 A summary of responses to the GLA report is contained within **Appendix Ae**. The relative transport and access proposals which acted as a response are also fully incorporated into this TA.
- 1.5.8 Further meetings have also taken place with the GLA and TfL on the 5th and 6th December 2018. Correspondence relating to scoping discussions that have informed recent revisions to this TA are contained within **Appendix Ae**.

1.6 REPORT STRUCTURE

- 1.6.1 This TA is intended to support the planning application for the proposed development. Following this introduction, the remainder of this report is structured as follows:
- ⦿ **Section 2** reviews relevant transport planning policy at Government, Regional and Local levels;
 - ⦿ **Section 3** provides a functional description of the highway network surrounding the site to provide context to the site in relation to wider highway infrastructure;
 - ⦿ **Section 4** summarises the existing conditions of the highway network in the vicinity of the site;
 - ⦿ **Section 5** summarises data that has been captured by observation and survey of the highway network to understand the existing vehicular environment;
 - ⦿ **Section 6** summarises the assessment of base capacity available within the junctions in the local area;
 - ⦿ **Section 7** provides details of the site's accessibility by all modes, including walking, cycling and public transport;
 - ⦿ **Section 8** provides details of the existing sites operations and permitted use;
 - ⦿ **Section 9** assesses how the highway network would operate in capacity terms in the future without the development but inclusive of based traffic growth, committed development, and the current permitted use;
 - ⦿ **Section 10** provides a description of the proposed development with specific reference to schedule of accommodation, and the nature of the uses proposed;
 - ⦿ **Section 11** describes both changes to, and how, access to the site will occur as a result of the proposed development;
 - ⦿ **Section 12** describes the adopted strategy for car parking proposed on site;
 - ⦿ **Section 13** estimates trip generation proposed development and provides a multimodal summary
 - ⦿ **Section 14** sets out how the assignment of additional trips as a result of the development have been assigned to the highway network, footpaths and public transport services;

- ◉ **Section 15** summarises the resultant capacities resultant from the proposed development vehicle trips on the local highway network;
- ◉ **Section 16** summarises the impact of the proposed development in terms of change in junction capacity on the local highway network, relative to the conditions that would otherwise prevail;
- ◉ **Section 17** assesses the impacts of the development associated with its accessibility by sustainable modes, to key services and public transport; and the impacts of the developments demand placed on public transport;
- ◉ **Section 18** seeks to assess the proposed provision of parking as part of the development in relation to the demand that will be generated;
- ◉ **Section 19** identifies the strategy for mitigation in relation to the transport impacts of the proposed development; and
- ◉ The TA is concluded in **Section 20**.

1.6.2 This Transport Assessment is supported by a Travel Plan (TP), Delivery and Servicing Plan (DSP), CTMP and Car Park Management Plan (CPMP), prepared by Velocity Transport Planning, and is submitted as part of the full planning application.

2 POLICY CONTEXT

2.1.1 This section considers relevant transport policy to this application:

- ⦿ National Planning Policy Framework (NPPF);
- ⦿ Regional Policy namely the London Plan and Mayor's Transport Strategy; and
- ⦿ Local or Borough Development Planning Documents (DPDs) forming either part of the Local Development Framework (LDF) Core Strategy or saved sections of the Unitary Development Plan (UDP).

2.2 NPPF (2018)

2.2.1 The National Planning Policy Framework (NPPF) was adopted in July 2018 and sets out the Government's planning policies for England and how these should be applied and provides a framework within which locally-prepared plans for housing and other development can be produced. At its heart the NPPF sets out a presumption in favour of sustainable development (Paragraph 11).

2.2.2 The NPPF promotes sustainable transport. It notes that transport issues should be considered at the earliest stages of development proposals.

2.2.3 Chapter 9 of the revised NPPF sets out the requirements for promoting sustainable transport advising that significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. The NPPF advises that planning policies should support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities.

2.2.4 The NPPF does not set parking standards but notes in Paragraph 105 that parking policies should take into account:

- ⦿ the accessibility of the development;
- ⦿ the type, mix and use of development;
- ⦿ the availability of and opportunities for public transport;
- ⦿ local car ownership levels; and
- ⦿ the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.

2.2.5 In Paragraph 108 the NPPF sets out that when assessing applications for development, it should be ensured that:

- ⦿ appropriate opportunities to promote sustainable transport modes can be or have been taken up, given the type of development and its location;
- ⦿ safe and suitable access to the site can be achieved for all users; and

- any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

2.2.6 Paragraph 109 of the NPPF states that “Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe” and in this context that planning applications should:

- give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second so far as possible to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
- address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
- create places that are safe, secure and attractive which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
- allow for the efficient delivery of goods, and access by service and emergency vehicles; and
- be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

2.2.7 Paragraph 111 of the NPPF requires all developments that will generate significant amounts of movement to provide a travel plan and be supported by a transport assessment so that the likely impacts of the proposal can be assessed.

2.3 LONDON PLAN 2016

2.3.1 By virtue of its location, the site falls within the Greater London region under the administration of the Greater London Authority (GLA) and the Mayor’s Office.

2.3.2 The Mayor’s Vision and Objectives for London are set out in Chapter 1 and include the City being made up of diverse, strong, secure and accessible neighbourhoods where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities.

2.3.3 In March 2016 the Mayor published Housing Standards and Parking Standards Minor Alterations to the London Plan. These have been considered in this report.

2.3.4 Section C of Policy 1.1 (delivery of the strategic vision and objectives for London to 2036) states that the vision and objectives should be reflected in other Mayoral plans and strategies, decisions on development proposals and investment priorities, Borough DPDs and development decisions.

2.3.5 Chapter 2 of the London Plan contains strategic policy for the sub-areas of London. Policy 2.6 states that the vision and strategy for Outer London should be to work to realise the potential of outer London. Diversity and varied strength should be built upon by enhancing and promoting the economic opportunities and transport requirements.

2.3.6 Policy 2.9 relates to transport in the outer Boroughs of London and states that the accessibility should be enhanced by improving links between town centres and other key locations. Land use and transport planning should be integrated to utilise vacant and under-used land.

- 2.3.7 Chapter 3 of the London Plan contains policy for London's population. These will be realised by ensuring that people living in London have the homes, opportunities, facilities and social infrastructure required to support a good and improving quality of life.
- 2.3.8 Chapter 6 of the London Plan provides transport policy. Policy 6.1 states "The Mayor will work with all relevant partners to encourage the closer integration of transport and development through the schemes and proposals shown in Table 6.1 and by:
- ⊙ Encouraging patterns and nodes of development that reduce the need to travel, especially by car – boroughs should use the standards set out in Table 6.2 in the Parking Addendum to this chapter to set maximum car parking standards in DPDs;
 - ⊙ Seeking to improve the capacity and accessibility of public transport, walking and cycling, particularly in areas of greatest demand – boroughs should use the standards set out in Table 6.3 in the Parking Addendum to set minimum cycle parking standards in DPDs;
 - ⊙ supporting development that generates high levels of trips at locations with high public transport accessibility and/or capacity, either currently or via committed, funded improvements including, where appropriate, those provided by developers through the use of planning obligations (see Policy 8.2);
 - ⊙ improving interchange between different forms of transport, particularly around major rail and Underground stations, especially where this will enhance connectivity in outer London (see Policy 2.3);
 - ⊙ promoting walking by ensuring an improved urban realm, and
 - ⊙ seeking to ensure that all parts of the public transport network can be used safely, easily and with dignity by all Londoners, including by securing step free access where this is appropriate and practicable".
- 2.3.9 Policy 6.3 makes recommendations in relation to the effects of development on transport capacity. It is stated that the impacts of development on transport capacity should be fully assessed. Where insufficient transport capacity exists to accommodate demand generated from new development and there are no proposals to increase capacity, development proposals should be phased or refused. Transport Assessments in accordance with Transport for London (TfL) guidance should be produced to support planning applications for new development.
- 2.3.10 Policy 6.9 provides policy on cycling and it is recommended that planning decisions should ensure that new developments have secure, integrated, convenient and accessible cycle parking facilities in line with the minimum standards outlined in the plan and that on-site changing and showering facilities should be provided for cyclists. Planning decisions need to contribute to an integrated cycling network for London by providing infrastructure that is safe, comfortable, attractive, coherent, direct and adaptable and in line with the guidance set out in the London Cycle Design Standards.
- 2.3.11 Policy 6.10 provides policy on walking and recommends that planning decisions should ensure that developments have a high quality pedestrian environment and emphasise the quality of pedestrian and street space by referring to TfL's Pedestrian Design Guidance.
- 2.3.12 Table 6.3 provides minimum standards for cycle parking provision. For residential units the minimum standards are:
- ⊙ Long Stay - 1 space per studio and 1 bedroom units and 2 spaces per all other dwellings; and

- Short Stay – 1 space per 40 units.

- 2.3.13 Parking Standards Minor Alterations to the London Plan were published in March 2016 providing updated parking standards for residential development. The parking standards set out that in an area of public transport accessibility level (PTAL) of 0-1 up to two spaces could be provided per unit. In an area of PTAL of 2-4 up to 1.5 spaces could be provided per unit. It is noted in Table 6.2 of the London Plan parking standards that in outer London areas with a low PTAL (0-1), boroughs should consider higher levels of provision to minimise impact due to overspill parking to on-street.
- 2.3.14 Table 6.2 of the London Plan sets out the standards for Blue Badge parking bays and states that one space should be provided for each disabled employee of a work place and 5% of the total capacity should be provided for visiting disabled motorists.
- 2.3.15 It is further stated that adequate parking spaces for disabled people must be provided for residents and preferably the provision should be on-site.

2.4 DRAFT NEW LONDON PLAN (AUGUST 2018)

- 2.4.1 The draft New London Plan was published for consultation on December 2017 which ended in March 2018. Transport policy is contained within Chapter 10.
- 2.4.2 The Draft New London Plan must be considered by a formal Examination in Public (EiP). Copies of all representations about the London Plan were submitted to the panel on 16 July 2018 along with a summary of the main issues raised. The Panel had regard to these and consulted with the Mayor before preparing a draft list of matters and participants that was published for consultation on Wednesday 12 September, not later than 12 weeks before the opening of the EiP. The Panel considered all representations about the draft list of matters and participants made within 28 days, and consulted the Mayor, before finalising the list of matters and participants. The final list was published on Tuesday 13 November 2018. The EiP will commence on Tuesday 15 January 2019.
- 2.4.3 The Draft New London Plan has not been adopted, and none of the policies tested, it therefore holds limited weight in decision making. In the meantime, the current 2016 London Plan remains the adopted Development Plan.
- 2.4.4 The Draft London Plan will become the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.
- 2.4.5 Policy T1 notes that development proposals should target 80% of all trips in London (75% in Outer London) to be made by foot, cycle or public transport by 2041. It states that:
- “All development should make the most effective use of land, reflecting its connectivity and accessibility by existing and future public transport, walking and cycling routes, and ensure that any impacts on London’s transport networks and supporting infrastructure are mitigated.”*
- 2.4.6 Policy T2 relates to ‘Healthy Streets’ and seeks development that delivers patterns of land use that facilitate residents making shorter, regular trips by walking or cycling. The Healthy Streets Approach recognises the importance of promoting and facilitating active modes of travel by making developments permeable and highly connected by foot and cycle, with reduced vehicle dominance.
- 2.4.7 Policy T4 identifies that development proposals should reflect and be integrated with current and planned transport access, capacity and connectivity. Transport Assessments are required to support development proposals assessing any impacts on the capacity of the transport network and should focus on embedding the Healthy Streets approach within, and the in the vicinity of, new development.

- 2.4.8 Policy T5 sets out that development should encourage cycling and provides new cycle parking standards. Cycle parking and cycle parking areas should allow easy access and provide facilities for disabled cyclists. In places of employment, supporting facilities are recommended, including changing rooms, maintenance facilities, lockers and shower facilities (at least one shower per ten long-stay spaces is recommended).
- 2.4.9 Policy T6 sets out that car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport. The parking standard for residential development in Outer London with PTAL 4 is up to 0.5 spaces per dwelling. Car-free development should still provide disabled persons parking and as a minimum should ensure that for three per cent of dwellings, at least one designated disabled persons parking bay per dwelling for three per cent of dwellings is available from the outset. Further spaces can be identified for conversion to disabled parking if demand materialises.
- 2.4.10 For office parking the maximum provision for Outer London development is up to 1 space per 100m². For retail parking the maximum provision for Outer London development is up to 1 space per 50m². All non-residential elements of a development should provide at least one on or off-street disabled parking bay.
- 2.4.11 Where car parking is provided in new developments, provision should be made for infrastructure for electric or other Ultra-Low Emission vehicles.
- 2.4.12 Policy T7 states that:

“Development proposals should facilitate sustainable deliveries and servicing, including through the provision of adequate space for servicing, storage and deliveries off-street. Construction Logistics Plans and Delivery and Servicing Plans will be required and should be developed in accordance with Transport for London guidance and in a way which reflects the scale and complexities of developments.

Developments should be designed and managed so that deliveries can be received outside of peak hours and in the evening or night time. Appropriate facilities are required to minimise additional freight trips arising from missed deliveries and thus facilitate efficient online retailing.”

2.5 MAYOR’S TRANSPORT STRATEGY (2018)

- 2.5.1 The Mayor’s Transport Strategy (MTS) was published in March 2018 and sets out the Mayor’s policies and proposals to reshape transport in London over the next 25 years.
- 2.5.2 The central aim of the MTS is for 80% of all trips in London to be made on foot, by cycle or using public transport by 2041.
- 2.5.3 Three key themes are at the heart of the strategy:

1. Healthy Streets and healthy people

The MTS promotes a new Healthy Streets approach to reduce car dependency and increase active, efficient and sustainable travel. Streets environments should be designed to encourage walking and cycling to assist Londoners with staying healthy.

2. A good public transport experience

For longer trips public transport is the most efficient way for people to travel and should be attractive to facilitate a mode shift away from car use. Improvements to the public transport network are outlined including new infrastructure.

3. New homes and jobs

The MTS sets out Good Growth principles for the delivery of new homes and jobs that use transport to:

- Create high-density, mixed-use places; and
- Unlock growth potential in underdeveloped parts of the city

2.5.4 The MTS outlines transport principles of Good Growth as being:

- ⦿ Good access to public transport
- ⦿ High-density, mixed-use developments
- ⦿ People choose to walk and cycle
- ⦿ Car-free and car-lite places
- ⦿ Inclusive, accessible design
- ⦿ Carbon-free travel
- ⦿ Efficient freight

2.5.5 Delivery and actions plans are being developed which include more detail about how the Mayor and TfL will achieve the Mayor's Transport Strategy proposals. These will include new actions and initiatives that are in line with the policies of the strategy.

2.5.6 The first of these plans, the Walking action plan, is aimed at making London the world's most walkable city, with a target to increase the number of walking trips by more than one million a day by 2024.

2.5.7 To achieve the Walking Vision, there is a need to enable more people to walk part or all of their journey; improve the experience of walking in London; and reduce car dependency by encouraging mode shift from private car to walking.

2.5.8 The aim of Vision Zero is to eliminate all deaths and serious injuries on London's transport system. This plan focuses on the area where the greatest challenges lie - London's streets.

2.5.9 The Cycling Action Plan aims to make the Capital a place where cycling is an accessible and inclusive way of getting around, so everyone can share the benefits.

2.6 LBB LOCAL PLAN – CORE STRATEGY DPD

2.6.1 The Core Strategy was adopted in September 2012 and sets out the vision for the LBB Local Plan, objectives and policies. LBB core objectives include; to manage housing growth to meet housing aspirations, to meet social infrastructure needs, to provide safe, effective and efficient travel and to ensure efficient use of land and natural resources.

2.6.2 Policy CS9 relates to providing safe, effective and efficient travel and state that the council will promote the delivery of transport infrastructure that will support growth and reduce the impact of travel. The council will prioritise the reduction of congestion and invest in improvements to the road and footway network.

2.7 LBB LOCAL PLAN – DMP

2.7.1 The DMP forms part of the LBB Local Plan and was adopted in September 2012. The DMP sets out the policy framework by which planning applications are decided on.

2.7.2 Policy DM17 of the DMP document sets out the policies that are intended to facilitate the development of a safe, effective and efficient transport system. The following are set out in the policy:

- a. *Road safety*
The council will ensure that the safety of all road users is taken into account when considering development proposals, and will refuse proposals that unacceptably increase conflicting movements on the road network or increase the risk to vulnerable users.
- b. *Road hierarchy*
The council will seek to ensure that roads within the borough are used appropriately according to their status in the defined road hierarchy. In taking into account the function of adjacent roads the council may refuse development proposals which would result in inappropriate road use, or adversely affect the operation of roads in an area.
- c. *Development, location and accessibility*
The council will expect major development proposals with the potential for significant trip generation to be in locations which are, or will be made, highly accessible by a range of transport modes.
- d. *Transport assessment*
In considering planning applications for new development, the council will require developers to submit a full Transport Assessment (as defined by Department for Transport threshold) where the proposed development is anticipated to have significant transport implications in order to ensure that these impacts are considered. This assessment should include an analysis of accessibility by all modes of transport.
- e. *Travel planning*
For significant trip generating developments, (defined by Transport for London thresholds), the council will require the occupier to develop, implement and maintain a satisfactory Travel Plan (or plans) to minimise increases in road traffic and meet mode split targets. In order to ensure that they are delivering this the travel plan will need to contain measurable outputs so that they can be monitored.
- f. *Local infrastructure needs*
 - i. *Developments should be located and designed to make the use of public transport more attractive for all users by providing improved access to existing facilities, and if necessary the development of new routes and services, including improved and fully accessible interchange facilities.*
 - ii. *The council will expect development to provide safe and suitable access arrangements for all road users to new*

developments. Where improvements or changes to the road network are necessary by virtue of an approved development, the council will secure a Legal Agreement from the developer.

- iii. The council will require appropriate measures to control vehicle movements, servicing and delivery arrangements. Where appropriate the council will require Construction Management and/or Delivery and Servicing Plans.
- iv. Where appropriate, development will be required to improve cycle and pedestrian facilities in the local catchment area by providing facilities on site and/or funding improvements off site.

g. *Parking management*

- i. The council will expect development to provide parking in accordance with the London Plan standards, except in the case of residential development, where the maximum standards will be:
 1. 2 to 1.5 spaces per unit for detached and semi-detached houses and flats (4 or more bedrooms);
 2. 1.5 to 1 spaces per unit for terraced houses and flats (2 to 3 bedrooms); and
 3. 1 to less than 1 space per unit for development consisting mainly of flats (1 bedroom).
- ii. Residential development may be acceptable:
 1. With limited or no parking outside a Controlled Parking Zone (CPZ) but only where it can be demonstrated through a survey that there is sufficient on street parking capacity.
 2. With limited or no parking within a CPZ, where it can be demonstrated that there is insufficient capacity on street the applicant will be required to enter into a legal agreement to restrict future occupiers from obtaining on street parking permits. For proposals in close proximity to the edge of a CPZ a survey will also be required to demonstrate that there is sufficient on street parking capacity on streets outside the CPZ.

3 EXISTING HIGHWAY NETWORK

3.1.1 This Section of the TA provides a functional description of the highway network surrounding the site to provide context to the site in relation to wider highway infrastructure.

3.2 HIGHWAY NETWORK DESCRIPTION

A1 Watford Way / Great North Way

3.2.1 The A1 is located adjacent to the site. The road is a trunk road with a dual carriageway. Each carriageway has three lanes and the speed limit is 50mph. The opposing traffic flows are separated by median with guard railing and fencing.

3.2.2 The A1 forms part of the strategic network and connects to the M1 to the north and A41 to the south. It is served by the 113 and N113 bus services.

3.2.3 The A1 has a number of junctions in proximity to the site. Fiveways Corner is a signalised network of junctions connecting A1 Watford Way, A1 Great North Way, A41 Watford Way, Hall Lane and Page Street. Signalised pedestrian crossing facilities are located on Page Street, A41 Watford Way and Great North Way.

3.2.4 Page Street forms a signalised junction with A1 Watford Way and represents the minor arm of the junction. Traffic coming from Page Street is allowed left turn only southbound on A1 Watford Way. Those seeking to head north on A1 Watford Way would head south and undertake a U-turn at the junction of Five Ways Corner. Traffic from northbound carriageway of the A1 Watford Way can undertake a right turn into Page Street. The junction has a yellow box to ensure that traffic is not stopped.

3.2.5 The junction of A1 Watford Way and Hall Lane is a priority junction with Halls Lane being the minor arm. Hall Lane can be entered by northbound traffic only on the A1 and egress is in the northbound direction only as well. This results in left turns to access the road and left turns to egress the road.

3.2.6 Mill Hill Circus is a part signalised roundabout. The signal controls traffic driving past the entry to the roundabout from A1 Watford Way in both northbound and southbound direction. Additionally, there are signalised pedestrian crossings on A1 Watford Way on the entry and exit arms of the roundabout.

3.2.7 The Broadway and Lawrence Street arms are give-way arms. All entry arms of the roundabout have three lanes albeit the arms entry arms on The Broadway and Lawrence Street have short flared entries as the third lane. The roundabout has three internal lanes.

3.2.8 The junction of A1 Watford Way and Hall Lane is a priority junction with Halls Lane being the minor arm. Hall Lane can be entered by northbound traffic only on the A1 and egress is in the northbound direction only as well. This results in left turns to access the road and left turns to egress the road.

Bunns Lane

3.2.9 Bunns Lane extends from a mini roundabout junction with Hale Lane and The Broadway south to a mini roundabout junction with Page Street. It is located in a predominantly residential area and is subject to a 30mph speed limit.

- 3.2.10 There are single yellow lines in place on both sides of the road for the full length of the road. The single yellow lines located north west of the M1 are in force Monday to Saturday 8am to 6.30pm. East of the M1 the single yellow lines are in force 1pm to 6pm on event days relating to Saracens Rugby Club.
- 3.2.11 Parking is provided on footways east of the M1. The parking bays are for resident permit holders only during event days. A number of unrestricted parking bays are provided on-street west of the M1.
- 3.2.12 The north west section of the road has a painted median which is approximately 3m wide. Along the road are ghost right turn lanes for those accessing residential or other uses to the west.
- 3.2.13 Bunns Lane connects to Lyndhurst Avenue in a mini roundabout junction. It connects to Woodcroft Avenue via a priority junction (Woodcroft Avenue being the minor arm), with a ghost right turn lane provided for southbound traffic making a right turn. An uncontrolled pedestrian crossing is provided south of the junction with dropped kerbs and tactile paving.
- 3.2.14 The junction of Bunns Lane and Flower Lane is a priority junction with Flower Lane forming the minor arm. A ghost right turn lane is provided for traffic coming from the east turning into Flower Lane. A zebra crossing is located east of the junction with a central reserve island, tactile paving and dropped kerbs. An uncontrolled crossing is located on Flower Lane with a central refuge island. Tactile paving and dropped kerbs are provided on the footway on either side.

Flower Lane

- 3.2.15 Flower Lane is approximately 6-7m wide and forms a junction with The Broadway to the north, and Bunns Lane to the south. Both junctions are priority with Flower Lane forming the minor arm. The road is located in a residential area and provides access to numerous private properties by the provision of numerous dropped kerb to private driveways.
- 3.2.16 The road is marked with single yellow line restrictions on both sides and is located within a Controlled Parking Zone (CPZ) with a restriction from Monday to Friday between 11:00-12:00 and between 13:00-18:00 on event days. The road is marked with double-yellow lines on both sides in the vicinity of the junction with The Broadway. The road includes permit holder car parking bays which operate when restrictions are in effect.
- 3.2.17 The road features spacious pedestrian footways on both sides and regular lighting columns. The footways feature grass verges, particularly along the western footway. Uncontrolled pedestrian crossing facilities are located at the junctions with The Broadway and Bunns Lane.

Page Street

- 3.2.18 Page Street is located in a residential area; it forms a double mini roundabout junction with Bunns Lane and Pursely Road, where Page Street is the northern and southern arms. It is approximately 6m wide with a speed limit of 30mph.
- 3.2.19 Page Street, north of its double mini roundabout junction with Bunns Lane and Pursely Road, does not feature a pedestrian footway on the eastern side of the road. Footways on both sides of the road are present in the vicinity of the mini roundabouts and along the southern section of Page Street which continues south to form a signalised junction with the A1.
- 3.2.20 The footways are relatively spacious, particularly the western footway which is approximately 4-5m wide. The footways often include grass verges that provide separation from the road. The road is generally well lit with light columns provided at regular intervals.

- 3.2.21 The road features a number of Permit Holder Only car parking bays and is marked with a single-yellow line restriction from Monday to Saturday between 08:30-18:30 and between 13:00-18:00 on Sundays during event days.
- 3.2.22 Zebra crossing facilities featuring a pedestrian island are located approximately 20m north of the double mini roundabout junction with Bunns Lane and on Pursley Road at the second mini roundabout.
- The Broadway*
- 3.2.23 The Broadway forms a mini roundabout with Hale Lane and Bunns Lane at its western end, and extends to the north-east before forming an entry arm of the Mill Hill Circus signalised roundabout. At its western end, The Broadway provides access to the bus, taxi and ticket office entrance of Mill Hill Broadway rail station.
- 3.2.24 The Broadway is typical of a small high street / retail centre. The road is approximately 8-9m wide, although the presence of car parking spaces (primarily Pay and Display) and bus stop lanes means that the useable width is inconsistent. The footways on both sides of the road are spacious and reach up to 7m in width.
- 3.2.25 The road features a number of signalised pedestrian crossing points. Crossing points are located in the vicinity of the junction with Flower Lane, Brockenhurst Gardens and Station Road.

3.3 SUMMARY

- 3.3.1 There is a mixture of different road types / classifications in the immediate area around the site. The A1 and M1 are in close proximity and form part of the wider strategic road network. The Broadway is a retail centre with various High Street type uses and connections to public transport. The remainder of the roads are characterised as residential in nature and provide access to residential properties.

4 EXISTING HIGHWAY NETWORK CONDITIONS

4.1.1 This Section of the TA summarises the existing conditions of the highway network in the vicinity of the site. It summarises the existing residential parking demand in the area as observed by overnight surveys; assesses the existing condition of the pedestrian environment inclusive of public transport waiting areas; and summarises historic data of personal injury accidents that have occurred.

4.2 PARKING ASSESSMENT

4.2.1 An overnight parking beat survey was undertaken on two weekdays, Tuesday 20th and Wednesday 21st September 2016, to understand the level of existing parking demand generated by residents within the area surrounding the site.

4.2.2 A site inventory was undertaken and single parking beat was undertaken on each night. The area surveyed is defined in **Figure 4-1** and output of the inventory contained in **Appendix B**.



Figure 4-1: Parking Survey Area

4.2.3 **Table 4-1** summarises capacity, occupancy and residual capacity identified in the area.

	20 th September 2016	21 st September 2016	Average
Capacity	673		
Occupancy	188	186	187
Residual Capacity	485	487	486
% Residual Capacity	72.1%	72.4%	72.2%

Table 4-1: Parking Occupancy and Residual Capacity

4.2.4 **Table 4-1** illustrates that there is ample residual capacity of 72.2%, or 486 parking spaces, in the area overnight and no parking stress occurs.

4.3 PERS ASSESSMENT

4.3.1 A Pedestrian Environment Review System (PERS) audit was undertaken on Wednesday 17th August 2016 to understand pedestrian environmental conditions in the area. The following streets were included in the audit:

- ⊙ Watling Ave/ Woodcroft Ave;
- ⊙ Bunns Lane;
- ⊙ Station Road;
- ⊙ Woodland Way; and
- ⊙ Flower Lane.

4.3.2 The PERS audit was extended on Tuesday 6th September 2016 to further understand pedestrian environmental conditions in the area. The following streets were included in the extension of the audit:

- ⊙ Bunns Lane;
- ⊙ Watford Way / Tithe Walk; and
- ⊙ Grahame Park / Pentavia Retail Park access.

4.3.3 The PERS was undertaken in accordance with the criteria guidelines produced by TRL in 2005 as summarised in **Table 4-2**.

Pedestrian Link	Public Transport Waiting Area	Pedestrian Crossing
Effective width	Information to the waiting area	Crossing provision
Dropped kerbs	Infrastructure to the waiting area	Deviation from the desire line
Gradient	Boarding public transport	Performance
Obstructions	Information at the waiting area	Crossing capacity
Legibility	Safety perceptions	Delay
Lighting	Security measures	Legibility
Tactile information	Lighting	Legibility to sensory impaired
Colour contrast	Quality of the environment	Dropped kerbs
Personal security	Maintenance and cleanliness	Gradient
Surface quality	Waiting area comfort	Obstructions
User conflict	-	Surface quality
Quality of the environment	-	Maintenance
Maintenance	-	-

Table 4-2: PERS Criteria

4.3.4

Based on the criteria above, the sections of roads included in the study were given appropriate scores from -3 to +3 which represent the quality of the environment. The following breaks down the range of scores based on criteria outlined in PERS guidance:

- ⊙ Overall Score: +3 - The optimum score would be given where the environment is aesthetically pleasing and efforts have been made to foster a sense of place, by seating, high quality materials and frontages or soft landscaping, for example, and activity and features to enjoy watching. The link would be quiet and enjoyable to use.
- ⊙ Overall Score: 0 - An average score for the quality of the environment would be gained by a reasonably well maintained link that used pleasant and durable materials and some good provision of public space. Overall it would not be an unpleasant place to be.
- ⊙ Overall Score: -3 - A score of -3 would be given where the link, public transport waiting area or pedestrian crossing have harsh or uncomfortable surroundings. Contributory factors might be decaying buildings, the location of a major traffic corridor, excessive noise or spray. It would not be pleasant for a pedestrian to spend any length of time in. It would be likely to be noisy or with heavy traffic.

Links

4.3.5 A total of 16 pedestrian links have been identified in the study area. They are listed below:

- ⦿ Link 1 - Watling Avenue/Woodcroft Avenue (northern footway);
- ⦿ Link 2 - Watling Avenue/Woodcroft Avenue (southern footway);
- ⦿ Link 3 - Bunns Lane (western footway, west of M1);
- ⦿ Link 4 - Bunns Lane (eastern footway, west of M1);
- ⦿ Link 5 - Bunns Lane (southern footway, east of M1);
- ⦿ Link 6 - Bunns Lane (northern footway, east of M1);
- ⦿ Link 7 – Bunns Lane (southern footway, east of A1);
- ⦿ Link 8 – Bunns Lane (northern footway, east of A1);
- ⦿ Link 7 - Flower Lane (western footway);
- ⦿ Link 8 - Flower Lane (eastern footway);
- ⦿ Link 9 – Woodland Way - (eastern footway);
- ⦿ Link 10 - Woodland Way - (western footway);
- ⦿ Link 11 – Station Road - (western footway);
- ⦿ Link 12 - Station Road - (eastern footway);
- ⦿ Link 15 - Tithe Walk / Watford Way (east of Watford Way); and
- ⦿ Link 16 - Grahame Park / Pentavia Retail Park (west of M1).

4.3.6 **Figure 4-2** indicates the location of the links in the context of the site. The results are summarised in **Tables 4-3** and **4-4**.

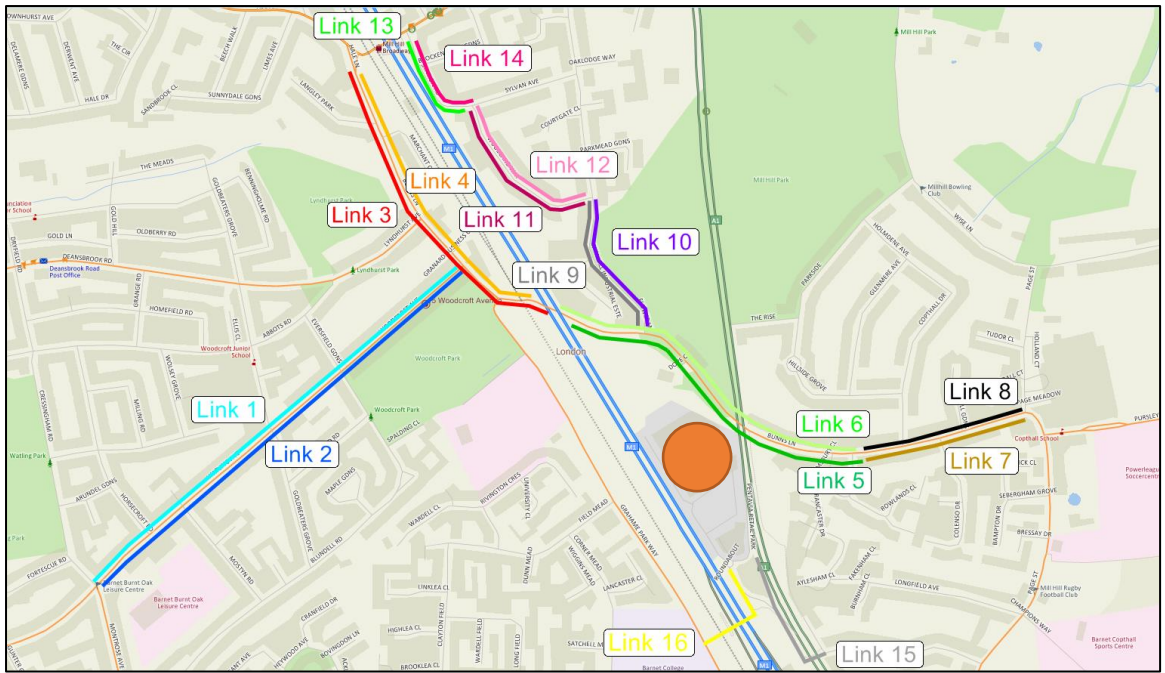


Figure 4-2: PERS Assessment Link Locations

Characteristic in PERS	Link 1	Link 2	Link 3	Link 4	Link 5	Link 6	Link 7	Link 8
Effective width	2	2.5	1.5	0.5	0.5	-2.5	3	3
Dropped kerbs	0.5	2	2.5	2.5	2	2	2	2
Gradient	-1	-0.5	-1	-1.5	-1	-0.5	0.5	0.5
Obstructions	1	1.5	0	0	-1	-0.5	2	2
Permeability	2.5	2.5	0	0	1	1	0.5	0.5
Legibility	0	0	-1.5	-2.5	-2	-2.5	1.5	1.5
Lighting	1	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Tactile information	-3	-3	-3	-3	-3	-3	-0.5	-0.5
Colour contrast	2	2	-2	-2	0	0	1.5	1.5
Personal security	0	0	-1	-1	-2	-1.5	-1	-1
Surface quality	0	0.5	2	1.5	2.5	2.5	2.5	2.5
User conflict	2	1.5	-1	-2	0	-0.5	2	2
Quality of the environment	0.5	0.5	-1.5	-1.5	-1.5	-1.5	2	2
Maintenance	1	1	-2	-2	0.5	0.5	2.5	2.5
Ave Score	0.61	0.86	-0.39	-0.68	-0.18	-0.36	1.43	1.43

Table 4-3: Pedestrian Links 1-8 PERS Results

Characteristic in PERS	Link 9	Link 10	Link 11	Link 12	Link 13	Link 14	Link 15	Link 16
Effective width	0.5	0.5	2	2	0	3	-1	-1
Dropped kerbs	1	1	0	0	0	0	0	0
Gradient	0	0	-1	-1	-1	-1	-0.5	-1
Obstructions	-1	-1	1.5	1.5	1.5	1.5	-1.5	-2
Permeability	2.5	2.5	1.5	1.5	0.5	0.5	1	0
Legibility	-2	-2	-2	-2	-2	-2	-1.5	-1.5
Lighting	1.5	1.5	1	1	1.5	1.5	1.5	1.5
Tactile information	-3	-3	-3	-3	-3	-3	2	0
Colour contrast	1.5	1.5	0	0	0	0	-2	0
Personal security	-1	-1	0	0	0	0	-2	-2
Surface quality	2	2	-0.5	-0.5	-1	-1	-1.5	-3
User conflict	0.5	0.5	0.5	0.5	-0.5	-0.5	-0.5	-0.5
Quality of the environment	1.5	1.5	-1	-1	-1.5	-1.5	-2.5	-2.5
Maintenance	-0.5	-0.5	1.5	1.5	1.5	1.5	-1	-3
Ave Score	0.25	0.25	0.04	0.04	-0.29	-0.07	-0.68	-1.07

Table 4-4: Pedestrian Links 7-12 PERS Results

- 4.3.7 It is noted that effective width, dropped kerbs, lighting and permeability score the highest. The footways on Watling Avenue/Woodcroft Avenue and Woodland Way are consistently wide (in relation to pedestrian volumes) and in good condition with the exception of the northern footway of Watling Avenue/Woodcroft Avenue where many cracked slabs and uneven surfaces are located.
- 4.3.8 All the footways have dropped kerbs that allow pedestrians to cross the road effectively. However, there is a lack of signage in the area that would assist in wayfinding. Tactile paving is often absent at dropped kerbs and crossing facilities.
- 4.3.9 The footways in the study area allow unobstructed pedestrian flow with trees and lamp posts located either on grass verges or near the edge of the road. The study area has adequate amount of crossing points to allow the pedestrians to make safe movements within the environment.

- 4.3.10 Lighting posts are sensibly located near the crossing facilities and bus stops, ensuring that both vehicles and pedestrians are visible at night time. Other than Link 16 (Site link to Grahame Park Way), the area is generally clean and well maintained with drainage facilities located at regular intervals along each road and a general lack of graffiti.
- 4.3.11 There is a general lack of security within the area. Bunns Lane, Woodland Lane, Station Road, Flower Lane do not have CCTV cameras nor are there any formal or informal types of security. Travelling underneath the bridges on Bunns Lane can have a negative effect on perception of security.
- 4.3.12 It is noted that the footways on Bunns Lane, Flower Lane, Station Road are not consistent in width as they occasionally become narrower. This particularly occurs on Bunns Lane, where there is no eastern footway in the vicinity of Mill Hill Broadway station, and on Flower Lane, where vehicles are occasionally parked on the pavement.
- 4.3.13 **Figure 4-3** provides a further summary for the results of all the assessed links. The full scale spider plot is contained within **Appendix C**.

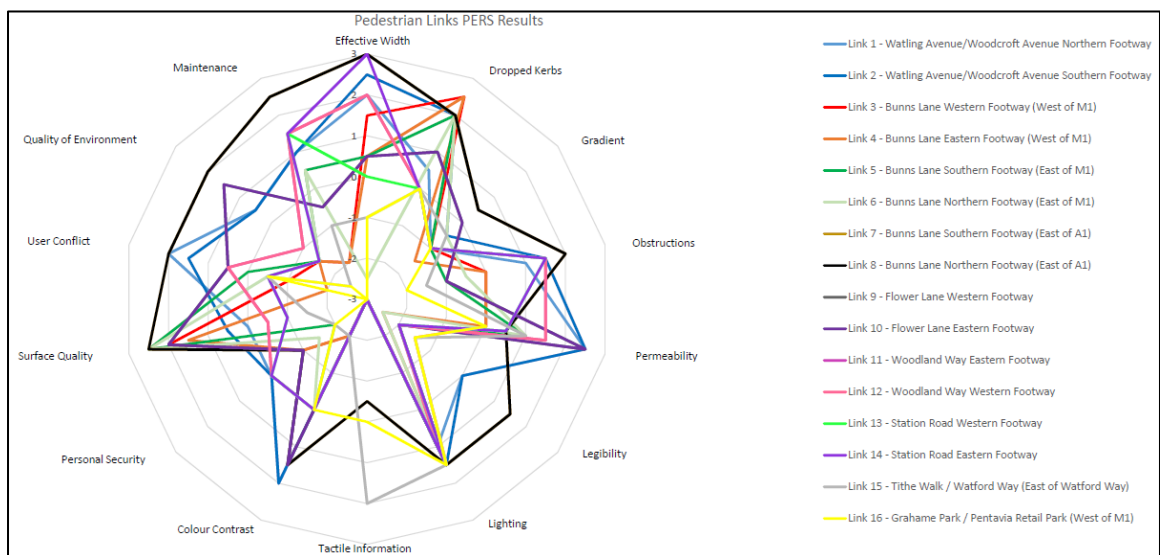


Figure 4-3: PERS Assessment Link Summary

- 4.3.14 Poor scores were allocated to quality of environment, gradient, legibility, tactile information and personal security. The score for quality of environment is related to the lack of aesthetic, soft landscaping and the heavier traffic flows on Bunns Lane.
- 4.3.15 It is noted that the main reason for a low scoring gradient is that there are no resting points and high level of undulations. Station Road, Bunns lane and Woodland Lane have broken and uneven slabs on their footways.
- 4.3.16 The overpass on the M1 has broken concrete on both the steps and ramp access, and the general conditions are poor. The results indicate that it has the lowest average score of any of the links assessed.

Public Transport Waiting Areas

- 4.3.17 Seven public transport waiting areas have been identified along the above pedestrian links. These are the bus stops on Watling Avenue/Woodcroft Avenue and Bunns Lane:

- PT1 – Watling Avenue (northern footway);
- PT2 – Watling Avenue (southern footway);
- PT3 – Watling Avenue (northern footway);
- PT4 – Bunns Lane (south western footway);
- PT5 – Bunns Lane (north eastern footway);
- PT6 – Bunns Lane (southern footway);
- PT7 – Bunns Lane (northern footway);
- PT8 – Bunns Lane (southern footway);
- PT9 – Bunns Lane (northern footway); and
- PT10 – A1 Watford Way (western footway)

4.3.18 **Figure 4-4** shows the location of the stops relative to their reference numbers given above.

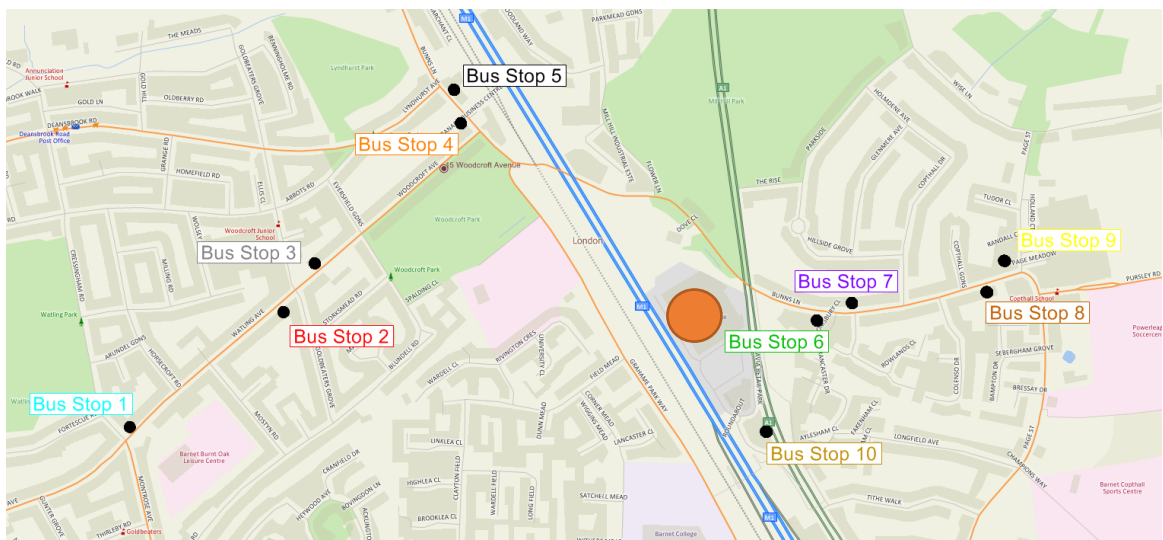


Figure 4-4: PERS Public Transport Waiting Area Locations

4.3.19 The results of the PERS assessment for public transport waiting areas are illustrated in **Table 4-5**.

Characteristic in PERS	PT1	PT2	PT3	PT4	PT5	PT6	PT7	PT8	PT9	PT10
Information to the waiting area	-1.5	2.5	2	1	1	1	1	0	0	2.5
Infrastructure to the waiting area	2	2.5	2	-0.5	1	-0.5	1	-1	1	-1
Boarding public transport	0	0.5	0.5	-0.5	0.5	-0.5	0.5	0	1	2.5
Information at the waiting area	2.5	3	1.5	0	2	0	2	0	0.5	-0.5
Safety perceptions	1	0	-1.5	0	1	0	1	-0.5	1	0
Security measures	2.5	-1.5	-3	-3	-3	-3	-3	-3	-3	-3
Lighting	2	2	2	1.5	2	1.5	2	2.5	2.5	2.5
Quality of the environment	0.5	-0.5	-1.5	-3	0	-3	0	1	1	-3
Maintenance and cleanliness	2	0.5	1	0	2.5	0	2.5	-1	3	-1
Waiting area comfort	2	1	1	-2.5	1.5	-2.5	1.5	-1	1	2
Ave Score	1.3	1.0	0.4	-0.7	0.85	-0.7	0.85	-0.3	0.8	0.1

Table 4-5: Public Transport Waiting Areas 1-4 PERS Results

- 4.3.20 Each bus stop included public transport information, name and route number, directions and distances of trip generators. Majority of the bus stops are clean and well maintained with drainage systems located near each stop. Unobstructed lighting posts are located near each stop and highlight their locations effectively. Majority of the bus stops also provide shelter against adverse weather conditions.
- 4.3.21 **Figure 4-5** provides a further summary for the results of all the assessed links. The full scale spider plot is contained within **Appendix C**.

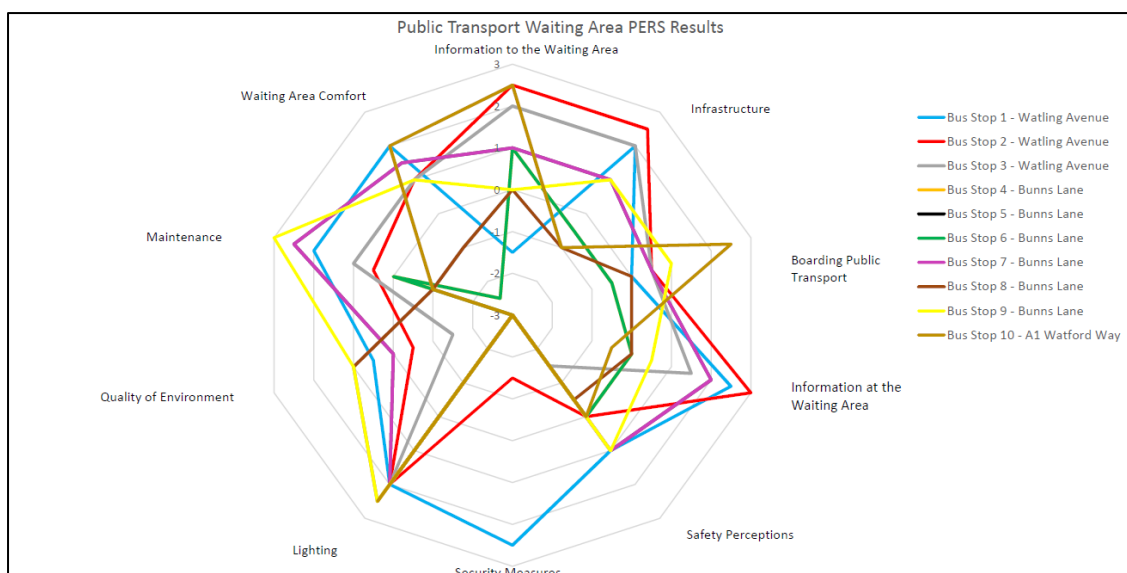


Figure 4-5: PERS Assessment PT Waiting Areas Summary

- 4.3.22 Information provided at the waiting area, information to the waiting area, infrastructure to the waiting area, lighting, maintenance and cleanliness scores are the highest. Low scores in relation to security measures, safety perception, boarding public transport and quality of the environment were noted. This is due to the lack of CCTV and within the area.

4.4 PERSONAL INJURY ACCIDENT DATA

- 4.4.1 Personal injury accident data for the three-year period ending February 2016 has been obtained from TfL for the roads in the vicinity of the site. The full data record is contained in **Appendix D** of this report. The analysis indicates that a total of 151 accidents occurred within the study area during the three-year period.

- 4.4.2 A summary of the severity of the accidents that occurred in the study area by severity are outlined in **Table 4-6**.

Severity	Year				%
	February 2013-2014	February 2014-2015	February 2015-2016	Total	
Fatal	2	0	0	2	1.3%
Serious	7	1	1	9	6.0%
Slight	49	46	45	140	92.7%
Total	58	47	46	151	100.0%
%	38.4%	31.1%	30.5%	100.0%	

Table 4-6: Accident Data Summary (by Severity)

4.4.3 **Table 4-6** indicates that of the 151 accidents that occurred in the study area, two were classified as fatal (1.3%), nine as serious (6.0%) and 140 as slight (92.7%). The area recorded a slight decrease in accidents between 2013 and 2016.

4.4.4 **Table 4-7** summarises the type of conditions in which the accidents occurred.

Conditions	Total	%
Wet	35	12%
Dry	116	38%
Dark	37	12%
Light	114	38%

Table 4-7: Pedestrian PIA Accidents by Road Conditions

4.4.5 This analysis confirms that the majority of accidents occurred in light and dry road conditions. 35 accidents occurred in wet weather conditions and 37 occurred in dark or diminishing daylight conditions.

4.4.6 It has been noted that 27 pedestrians were recorded to have suffered injuries within the data, corresponding and a further six accidents involved cyclists. Of the 33 accidents involving pedestrian and cyclists, eleven occurred along The Broadway, three at the signalised roundabout between The Broadway, Lawrence Street and Watford Way and two at the signalised junction between Watford Way, Page Street, Great North Way and Hall Lane.

4.4.7 All 33 accidents are attributed to negligent behaviour and human error. However, it is noted that as a contributory factor drivers and pedestrians' vision was affected in 11 occasions by either stationary/parked vehicles or poor weather conditions when these accidents occurred.

4.4.8 The data reports that two accidents that occurred over the three-year study period resulted in fatal injuries. They are described below:

- ⊙ Tuesday 15/10/2013 at 18:46, Watford Way – The Rise junction: a first car stopped due to a second car's movement. A private ambulance hit the rear of the first car and the second car hit the rear of the ambulance. This resulted in the passenger of the ambulance suffering a fatal injury. The accident can be attributed to driver errors, with drivers failing to judge other vehicles' speeds and failing to look properly as the primary reason for the occurrence of the accident.
- ⊙ Saturday 26/10/2013 at 18:36, Watford Way – Hall Lane junction: a motorcyclist swerved to avoid collision with a pedestrian that was crossing the road but the motorcycle still collided with the pedestrian. This resulted in the pedestrian suffering a fatal injury. The accident can be attributed to the pedestrian's failure to look properly, his careless behaviour and his failure to judge the motorcycle's speed. It can also be attribute to the motorcyclist's failure to judge the pedestrian's path, the swerving movement of the vehicle and the loss of control of the motorcycle.

4.4.9 Two accidents occurred in the vicinity of the slip road that leads into the existing site. They are described below:

- ⊙ Saturday 27/04/2013 at 22:09: a car collided with the rear of another car. The accident resulted in both drivers and a passenger suffering slight injuries. The accident can be attributed to the first driver's fatigue and his failure to look properly.

- ⦿ Thursday 14/11/2013 at 19:05: a car collided with the rear of another car after the car in front broke suddenly. The accident can be attributed to the car at the rear following the vehicle in front too closely and the sudden braking. The accident resulted in one of the drivers suffering slight injuries.

4.4.10 High numbers of accidents were primarily recorded at the following locations:

- ⦿ Watford Way / Lawrence Street / The Broadway signalised roundabout – 22 accidents;
- ⦿ Watford Way / Page Street / Great North Way / Hall Lane signalised junction – 22 accidents; and
- ⦿ Along The Broadway – 18 accidents.

4.4.11 It is noted that 32 accidents occurred in the network morning peak time (07:00-10:00) and 28 in the evening peak (16:00-19:00). Two accidents occurred during the weekend network peak (12:00-14:00).

4.4.12 It is noted that of the total 151 accidents, 20 (13.2%) involved vehicles that were either travelling too fast for the local conditions, vehicles that exceeded speed limits or aggressive driving. Poor weather conditions contributed in three of the 20 accidents and road layout affected a driver's vision in only one occasion.

4.4.13 Only two accidents out of the 151 recorded were attributed to road/highway layout (e.g. bend, hill, narrow carriageway). It is noted that both accidents involved other contributory factors such as defective steering, slippery road due to weather, reckless behaviour, failure to look properly and disobeying give way/stop signs.

4.5 SUMMARY

4.5.1 Parking beat surveys undertaken overnight, for two nights, have indicated that there are currently significant levels of residual capacity for parking. There was very little variance in the two sets of data collected, and they demonstrated that on average up to 486 available parking spaces were not used. As 72.2% of available parking is not used the surveys have demonstrated that parking stress is not prevalent in the area in relation to residential parking demand.

4.5.2 A PERS assessment has been undertaken which identifies that the pedestrian environment in the area is generally of average condition. The areas topography contributes to the presence of steep gradients, but legibility through lack of signage and general aesthetics leading to the perception of concern for personal security also contributed to the average conditions.

4.5.3 The link between the southern end of the site and Grahame Park Way via the bridge over the M1 and underpass of the railway scored the lowest for the pedestrian environmental conditions. The area is underused, enclosed, littered, with the presence of graffiti. Lack of CCTV or overlooking contributes to the overall perception of lack of security.

4.5.4 Accident analysis for the three-year period ending February 2016s indicates that a 151 personal injury accidents occurred within the wider area. The vast majority of these accidents have been attributed to human error and/or negligence, and the accident data does not highlight an existing issue with the local highway network layout. Only two accidents were recorded near the slip road that provides access and egress to the site from the A1.

5 EXISTING HIGHWAY NETWORK OPERATION

5.1.1 This Section of the TA summarises data that has been captured by observation and survey of the highway network to understand the existing vehicular environment.

5.2 EXISTING HIGHWAY NETWORK OBSERVATIONS

5.2.1 A site walk-around was undertaken on 22nd June 2016 with Mervyn Bartlett (LBB) and Lloyd Bush (Velocity Transport Planning), to observe the existing network conditions surrounding the site and the following was noted:

- ⊙ The Broadway was observed to be heavily trafficked, with periods of stationary traffic occurring because of demand for crossing movements at pedestrian crossings. Otherwise, and despite the heavy traffic, the general flow of traffic was maintained;
- ⊙ The junction of Mill Hill Circus was observed to be heavily trafficked, with queues forming on all approach arms. The main flow of traffic was observed to be the north-south and south-north movements across the junction on the A1. Despite the large volumes of traffic, we did not observe any instances where exit blocking occurred on the internal circulation, with internal queues clearing in time to allow traffic to enter the roundabout. A post meeting note was received from Mervyn Bartlett which stated: “after we parted I had another look at the A1 junction and there was a queue on the southbound approach which didn’t clear. I’m not sure how far it extended, but it had gone by the time I got on the 251 a bit later”;
- ⊙ Flower Lane was observed to be lightly trafficked, and it was agreed that there was some surprise at the lack of traffic on Flower Lane given its connection between The Broadway and Bunns Lane. It was also noted that both a vehicular and walking route to the station can be achieved via Woodland Way / Station Road;
- ⊙ A limited amount of turning movements were observed at the junction of Flower Lane / Bunns Lane with most flow taking place on Bunns Lane. The traffic was slow moving on Bunns lane and thus gaps were offered and accepted by turning traffic;
- ⊙ Traffic volumes on Bunns Lane were consistent and traffic slow moving throughout our observation. It was noted that traffic headed westbound came to a halt for a period of 10-20 seconds when we first stood at the junction of Flower Lane, however this cleared quite quickly and was later determined to be a result of a bus stopping at the stop west of the A1 overpass;
- ⊙ Parking on Bunns Lane was observed to take place on the footway, some in marked bays, others outside of marked bays. Traffic west of the A1 overpass appeared to be more free flowing than observed near Flower Lane;
- ⊙ At the junction of Bunns lane / Pursely Road / Page Street, the northern min-roundabout appeared to operate satisfactorily with limited delay to vehicles, the predominant flow appeared to be from Bunns Lane to Page Street and vice versa. However, the southern mini-roundabout with Pursely Road appeared to be close to capacity;

- ⦿ It was observed that there were significant queues forming on approach from Pursley Road and from Page Street. The approach from Pursley Road contained several right turners which induced delay to those approaching from Page Street;
- ⦿ The Fiveways Corner junction on the A1, south of the site, was observed to operate within capacity and with limited queuing; and
- ⦿ Junctions with Bunns Lane north of its junction with Grahame Park Way were observed to operate without significant queuing or delay. However, it should be noted that these junctions were observed after 09:00, in a period where traffic volumes may have been lower than in the peak hour.

5.3 TRAFFIC SURVEYS

5.3.1 The following traffic surveys were conducted in order to identify the baseline traffic conditions:

- ⦿ Manual Classified Counts (MCC) at seven junctions;
- ⦿ Queue length surveys at seven junctions; and
- ⦿ Automatic Traffic Counts (ATCs) at four locations.

5.3.2 The traffic surveys were undertaken in the week commencing 16th June 2016. It should be noted that the queue length surveys were undertaken on the same date as the MCC's to facilitate validation and calibration of a baseline highway capacity assessment. The ATC's recorded data for a longer period time to allow validation that the MCC and queuing data was representative of typical conditions and therefore fit for purpose.

MCC Surveys

5.3.3 MCC surveys were undertaken at the following seven junctions:

- ⦿ Junction 1 – The Broadway / Flower Lane;
- ⦿ Junction 2 – Flower Lane / Bunns Lane;
- ⦿ Junction 3 – Page Street / Great North Way / Watford Way / Hall Lane; (Fiveways)
- ⦿ Junction 4 – A1 / Lawrence Street / The Broadway / Watford Way; (Mill Hill Circus)
- ⦿ Junction 5 – Bunns Lane / Grahame Park Way;
- ⦿ Junction 6 – Hale Lane / The Broadway / Bunns Lane; and
- ⦿ Junction 7 – Page Street / Pursley Road / Bunns Lane (Double Mini Roundabout).

5.3.4 The surveys were carried out on 16th June 2016 for the morning peak period between 07:30 and 09:30 and the evening peak period between 17:00 and 19:00. The survey data for the above junctions is presented in **Appendix E**.

5.3.5 The traffic flow diagrams which summarise the entire network flows are contained within **Appendix F**.

Queue Survey

- 5.3.6 Queue length surveys were undertaken on the 16th of June 2016 at the seven junctions surveyed for MCC's between the same AM and PM peak periods. Details of the queue length data recorded are contained in **Appendix G**.

ATC Survey

- 5.3.7 ATC surveys were undertaken from 16th June 2016 and these were located at three locations listed below:
- ⊙ ATC 1- Bunns Lane – 100m South-East from the junction with Flower Lane;
 - ⊙ ATC 2 – Page Street – 350m South from the mini roundabout with Pursley Road;
 - ⊙ ATC3 – The Broadway – 100m South-West from the junction with Flower Lane; and
 - ⊙ ATC4 – Bunns Lane – 150m South from the mini roundabout with The Broadway and Hale Lane.
- 5.3.8 The full output of the ATC surveys for all four locations are contained in **Appendix H**.
- 5.3.9 The summary of the traffic flows on Bunns Lane, near the junction with Flower Lane (ATC 1), in the morning and the afternoon peak periods are presented in **Table 5-1**.

Date	Weekday	Morning Peak (08:00-09:00)				Evening Peak (17:00-18:00)			
		EB	WB	Total	Peak Hour Var. (%)	EB	WB	Total	Peak Hour Var. (%)
16-Jun	Thursday	781	946	1727	-0.2%	793	804	1597	-0.7%
17-Jun	Friday	849	887	1736	0.4%	836	794	1630	1.3%
18-Jun	Saturday	305	281	586		546	520	1066	
19-Jun	Sunday	257	176	433		534	521	1055	
20-Jun	Monday	819	893	1712	-1.0%	857	746	1603	-0.4%
21-Jun	Tuesday	809	930	1739	0.5%	839	786	1625	1.0%
22-Jun	Wednesday	763	927	1690	-2.3%	821	780	1601	-0.5%
23-Jun	Thursday	834	905	1739	0.5%	862	751	1613	0.2%
24-Jun	Friday	827	859	1686	-2.5%	766	779	1545	-4.0%
25-Jun	Saturday	336	319	655		517	490	1007	
26-Jun	Sunday	209	151	360		497	477	974	
27-Jun	Monday	826	908	1734	0.2%	883	767	1650	2.5%
28-Jun	Tuesday	803	969	1772	2.4%	840	810	1650	2.5%
29-Jun	Wednesday	841	921	1762	1.9%	808	768	1576	-2.1%
Weekday Average (veh/hr)				1730	Weekday Average (veh/hr)			1609	

Table 5-1: Traffic Flows on Bunns Lane ATC1

- 5.3.10 The average weekday traffic flows in peak periods vary with higher flows in the morning peak (1730 veh/hr) than in the afternoon peak (1609 veh/hr). The traffic flow variation in the morning peak is not significant and is calculated to be from +2.4% to -2.5% over the weekday average. The afternoon peak traffic variation was recorded to be from +2.5% to -4%.
- 5.3.11 The variation in the peak hour flows on the day in which MCC and queue lengths were recorded (16th Jun) is shown to be -0.2% in the AM and -0.7% in the PM. This is considered to be non-material variation, and that typical traffic conditions were observed.

5.3.12 The summary of the traffic flows on Page Street (ATC 2) are illustrated in **Table 5-2**.

Date	Weekday	Morning Peak (08:00-09:00)				Evening Peak (17:00-18:00)			
		EB	WB	Total	Peak Hour Var. (%)	EB	WB	Total	Peak Hour Var. (%)
16-Jun	Thursday	426	518	944	-2.4%	437	402	839	-2.8%
17-Jun	Friday	461	540	1001	3.5%	420	442	862	-0.1%
18-Jun	Saturday	143	177	320		295	309	604	
19-Jun	Sunday	215	148	363		307	340	647	
20-Jun	Monday	450	462	912	-5.7%	408	389	797	-7.7%
21-Jun	Tuesday	485	513	998	3.2%	462	443	905	4.9%
22-Jun	Wednesday	419	553	972	0.5%	412	419	831	-3.7%
23-Jun	Thursday	428	536	964	-0.3%	481	437	918	6.4%
24-Jun	Friday	475	505	980	1.3%	383	397	780	-9.6%
25-Jun	Saturday	219	211	430		300	380	680	
26-Jun	Sunday	105	132	237		252	334	586	
27-Jun	Monday	416	544	960	-0.7%	469	407	876	1.5%
28-Jun	Tuesday	423	504	927	-4.1%	467	454	921	6.7%
29-Jun	Wednesday	457	555	1012	4.7%	473	429	902	4.5%
Weekday Average				967	Weekday Average				863

Table 5-2: Traffic Flows on Page Street ATC2

5.3.13 The average weekday traffic flows in peak periods indicate 967 veh/hr during the morning peak and 863 veh/hr during the afternoon peak. The traffic flow variation in the morning peak is calculated to be between +4.7% to -5.7% over the weekday average. The afternoon peak traffic variation was recorded to be from +6.7% to -9.6%.

5.3.14 The variation in the peak hour flows on the day in which MCC and queue lengths were recorded (16th Jun) is shown to be -2.4% in the AM and -2.8% in the PM. This is considered to be non-material variation, and that typical traffic conditions were observed.

5.3.15 **Table 5-3** summarises the traffic flows during the peak periods for ATC 3, located on The Broadway.

Date	Weekday	Morning Peak (08:00-09:00)				Evening Peak (17:00-18:00)			
		EB	WB	Total	Peak Hour Var. (%)	EB	WB	Total	Peak Hour Var. (%)
16-Jun	Thursday	483	533	1016	2.2%	455	548	1003	5.3%
17-Jun	Friday	480	527	1007	1.2%	443	505	948	-0.4%
18-Jun	Saturday	291	288	579		424	457	881	
19-Jun	Sunday	205	173	378		435	419	854	
20-Jun	Monday	459	551	1010	1.5%	430	478	908	-4.6%
21-Jun	Tuesday	469	509	978	-1.7%	488	560	1048	10.1%
22-Jun	Wednesday	469	488	957	-3.8%	444	560	1004	5.5%
23-Jun	Thursday	534	548	1082	8.8%	397	478	875	-8.1%
24-Jun	Friday	521	546	1067	7.3%	428	477	905	-4.9%
25-Jun	Saturday	265	280	545		408	434	842	
26-Jun	Sunday	195	162	357		362	420	782	
27-Jun	Monday	387	485	872	-12.3%	428	522	950	-0.2%
28-Jun	Tuesday	478	515	993	-0.2%	429	507	936	-1.7%
29-Jun	Wednesday	445	519	964	-3.1%	426	518	944	-0.9%
Weekday Average				995	Weekday Average				952

Table 5-3: Traffic Flows on The Broadway ATC3

- 5.3.16 The daily variation is identified as being between -12.3% and +8.8% in the morning peak period and between -8.1% and +10.1% in the afternoon peak period. Similar traffic flow volumes were observed for both peak times with 995 veh/hr occurring in the morning and 952 occurring in the afternoon.
- 5.3.17 The variation in the peak hour flows on the day in which MCC and queue lengths were recorded (16th Jun) is shown to be 2.2% in the AM and 5.3% in the PM. Despite a variation of greater than 5% occurring in the PM, it was above the typical level of traffic observed and is therefore considered robust.
- 5.3.18 The traffic flows on Bunns Lane, near the mini roundabout with Hale Lane and The Broadway (ATC 4) are illustrated in **Table 5-4**.

Date	Weekday	Morning Peak (08:00-09:00)				Afternoon Peak (17:00-18:00)			
		EB	WB	Total	Peak Hour Var. (%)	EB	WB	Total	Peak Hour Var. (%)
16-Jun	Thursday	525	631	1156	16.2%	540	647	1187	24.7%
17-Jun	Friday	502	581	1083	8.9%	653	698	1351	41.9%
18-Jun	Saturday	332	294	626		484	512	996	
19-Jun	Sunday	195	203	398		446	527	973	
20-Jun	Monday	344	498	842	-15.3%	433	522	955	0.3%
21-Jun	Tuesday	356	435	791	-20.5%	409	447	856	-10.1%
22-Jun	Wednesday	324	459	783	-21.3%	443	477	920	-3.4%
23-Jun	Thursday	525	652	1177	18.3%	607	681	1288	35.3%
24-Jun	Friday	581	660	1241	24.8%	623	721	1344	41.2%
25-Jun	Saturday	311	319	630		447	497	944	
26-Jun	Sunday	170	192	362		431	459	890	
27-Jun	Monday	460	511	971	-2.4%	582	716	1298	36.3%
28-Jun	Tuesday	541	684	1225	23.2%	684	741	1425	49.7%
29-Jun	Wednesday	491	629	1120	12.6%	681	689	1370	43.9%
Weekday Average				1039	Weekday Average			1199	

Table 5-4: Traffic Flows on Bunns Lane ATC4

- 5.3.19 The average weekday traffic flows in peak periods indicate higher flows during the afternoon with 1199 veh/hr during the peak hour. 1039 veh/hr were recorded during the morning peak. The traffic flow variation in the morning peak is calculated to be between +24.8% to -21.3% over the weekday average. The afternoon peak traffic variation was recorded to be from +49.7% to -10.1%.
- 5.3.20 The variation in the peak hour flows on the day in which MCC and queue lengths were recorded (16th Jun) is shown to be 16.2% in the AM and 24.7% in the PM. The variation in flow on the day of the MCC's and queue surveys suggests that flow was significantly higher than the typically observed. Despite the variation the use of the data within the TA is considered to be robust given that it is deemed to be a worst case.

5.4 SUMMARY

- 5.4.1 The average travel time by vehicle as a round trip Burnt Oak Station and Bunns Lane; north of the site; in the AM peak hour is approximately 19 minutes, while in the PM peak hour is 16.25 minutes.

5.4.2 Junction turning count surveys and observed queues have been surveyed at seven junctions within the highway network surround the site. Long duration surveys counting link flows within the same network of junctions were recorded to validate whether the turning counts were typical of traffic conditions that prevail, and have demonstrated that the surveyed turning counts and queues are robust, and likely represent an increase above typical conditions in some locations.

6 EXISTING HIGHWAY CAPACITY ASSESSMENT

6.1.1 This Section of the TA summarises the assessment of base capacity available within the junctions for which MCC's were recorded in 2016 as identified in **Section 5**.

6.1.2 This Section also identifies the existing comfort level in relation to pedestrian links in the immediate vicinity of the site based on observed pedestrian movements and in accordance with TfL guidance "Pedestrian Comfort Guidance for London".

6.2 BASELINE CAPACITY ASSESSMENT

6.2.1 Interrogation of the MCC data contained within **Appendix E** has identified the network peak hours are as summarised in **Table 6-1**.

Peak	Peak Hour
Weekday AM Peak	08:00 – 09:00
Weekday PM Peak	17:00 – 18:00

Table 6-1: Network Peak Hours

6.2.2 The calibration and validation of the base models has been carried against the average observed queues, and where applicable with signalised junctions, observed Degrees of Saturation (DoS), recorded on 16th June 2016. A summary of the calibration and validation is contained within **Appendix I**. The full output modelling of the 2016 base model for each junction is presented in **Appendix J**.

Junction 1 - The Broadway / Flower Lane Junction

6.2.3 The Broadway and Flower Lane forms a non-signalised priority junction with Flower Lane forming the minor arm. A signalised pedestrian crossing is located on the south-west arm of The Broadway. The 2016 base model has been produced using Junctions 9 (PICADY), and the results of the output are summarised in **Table 6-2**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Flower Lane (Left Turn)	0.260	0.3	0.300	0.4
Flower Lane (Right Turn)	0.750	2.8	0.710	2.3
The Broadway (Straight)	0.400	1.2	0.380	1.1
The Broadway (Right Turn)	0.430	0.1	0.420	0.2

Table 6-2: The Broadway / Flower Lane 2016 Base Capacity

- 6.2.4 The results indicate that the junction currently operates with residual capacity, as no approaches report an RFC over a practical capacity threshold of 0.85. The queuing reported is low and does not significantly impact on the operation of the junction or the local network.

Junction 2 - Bunns Lane / Flower Lane Junction

- 6.2.5 The junction of Bunns Lane with Flower Lane is a priority junction. Bunns Lane is the major arm and has right turn lane that has storage capacity for up to three vehicles. A zebra crossing with a central refuge island is located at eastern arm on Bunns Lane.
- 6.2.6 The junction modelling was undertaken using Junction 9 (PICADY) software and a summary of the results is presented in **Table 6-3** below.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Flower Lane (Left Turn)	0.560	1.2	0.370	0.6
Flower Lane (Right Turn)	0.680	1.8	0.200	0.2
Bunns Lane (Straight)	0.560	2.8	0.410	1.4
Bunns Lane (Right Turn)	0.280	0.2	0.250	0.2

Table 6-3: Bunns Lane / Flower Lane 2016 Base Capacity

- 6.2.7 The junction of Bunns Lane and Flower Lane currently operates efficiently, with residual capacity and low queuing. No approaches are reported to approach a practical capacity threshold of 0.85 RFC.

Junction 3 - Fiveways Corner

- 6.2.8 Fiveways Corner is a large signalised junction, which is formed by a number of controllers / junctions. The base model of the junction has been prepared using the LinSig modelling software, and as such the results summarised in **Table 6-4** are split into subheading by junction. Full details of the model arrangement are contained in **Appendix J**.
- 6.2.9 The structure of the base model has been programmed in accordance with signal timing sheets provided by TfL which are contained within **Appendix K**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Junction 1 – Watford Way / Page Street / Hall Lane				
Watford Way EB (Lane 1 +2)	81.3%	15.6	60.0%	11.3
Watford Way EB (Lane 3)	67.5%	10.2	66.7%	12.7
Watford Way EB (Lane 4)	66.2%	10.3	64.1%	12.6
Page Street SB	76.2%	6.5	60.1%	5.7
Watford Way NB (Lane 1)	41.1%	0.4	48.9%	0.5
Watford Way NB (Lane 2)	44.3%	0.4	49.0%	0.5
Watford Way NB (Lane 3+4)	73.5%	6.6	65.5%	8.9
Hall Lane NB	1.9%	0.1	0.6%	0.0
Junction 2 – Internal Signals				
Watford Way EB (Lane 1)	54.6%	0.6	39.7%	0.3
Watford Way EB (Lane 2)	61.5%	5.8	66.1%	17.0
Watford Way EB (Lane 3)	63.3%	3.9	65.7%	16.9
Watford Way NB (Lane 1)	41.4%	0.4	48.9%	3.8
Watford Way NB (Lane 2)	45.8%	0.4	50.6%	0.5
Watford Way NB (Lane 3)	70.6%	5.3	76.1%	6.6
Junction 3 – Watford Way / Great North Way				
Great North Way EB (Lane 1)	41.6%	3.5	28.8%	2.2
Great North Way EB (Lane 2)	43.4%	2.9	32.2%	1.6
Great North Way WB (Lane 1+2)	87.4%	15.0	85.5%	16.6
Great North Way WB (Lane 3)	44.7%	4.4	80.1%	14.3
Watford Way EB (Lane 1)	71.0%	4.8	66.0%	2.9
Watford Way EB (Lane 2)	74.5%	4.6	68.3%	13.0

Watford Way EB (Lane 3+4)	27.9%	1.6	24.5%	1.3
Watford Way NB (Lane 1)	83.5%	11.5	88.2%	18.9
Watford Way NB (Lane 2)	83.6%	11.4	84.4%	19.0
Watford Way NB (Lane 3)	78.8%	9.9	84.3%	16.6
AM Cycle Time - 70s PM Cycle Time – 70s	PRC 3.0%	Total Delay 58.92 (pcuHR)	PRC 1.8%	Total Delay 71.07 (pcuHR)

Table 6-4: Fiveways Corner 2016 Base Capacity

6.2.10 The results indicate that the junction currently predominantly operates with residual capacity available.

Junction 4 - Mill Hill Circus

6.2.11 The base model for Mill Hill Circus has been prepared using the LinSig modelling software, and is constructed in accordance with the signal timing sheets supplied by TfL and contained within **Appendix K**. A summary of the results of the model is presented in **Table 6-5**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Lawrence Street (Lane 1)	96.3%	11.9	70.8%	5.2
Lawrence Street (Lane 2 + 3)	96.4%	11.8	74.7%	5.6
Watford Way WB (Lane 1)	93.0%	22.2	92.8%	25.0
Watford Way WB (Lane 2 + 3)	94.3%	23.4	95.8%	29.1
The Broadway (Lane 1)	55.1%	5.6	74.1%	6.0
The Broadway (Lane 2 + 3)	37.6%	3.1	67.2%	4.3
Watford Way EB (Lane 1)	100.3%	37.5	84.8%	15.9
Watford Way EB (Lane 2 + 3)	80.4%	16.2	70.6%	11.2
Rbt Circulation 2 (Lane 1)	31.8%	2.4	53.0%	2.6
Rbt Circulation 2 (Lane 2)	38.9%	3.6	49.7%	2.9
Rbt Circulation 2 (Lane 3)	8.6%	0.8	28.6%	1.6
Rbt Circulation 4 (Lane 1)	36.5%	3.8	50.3%	3.6
Rbt Circulation 4 (Lane 2)	58.7%	5.7	62.3%	5.1
Rbt Circulation 4 (Lane 3)	50.6%	5.0	38.9%	2.9
AM Cycle Time - 71s PM Cycle Time – 64s	PRC -11.4%	Total Delay 85.78 (pcuHR)	PRC -6.4%	Total Delay 65.02 (pcuHR)

Table 6-5: Mill Hill Circus 2016 Base Capacity

- 6.2.12 The results indicate that the operation of the junction currently exceeds capacity with a negative residual capacity and considerable queuing particularly on the Watford Way entry arms.

Junction 5 - Bunns Lane / Grahame Park Way Mini Roundabout

- 6.2.13 The junction of Grahame Park Way and Bunns Lane is formed by a three-arm mini-roundabout. The current operation of the junction has been assessed using the Junctions 9 (ARCADY) modelling software. The summary of the output results is presented in **Table 6-6**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Bunns Lane (North West)	0.870	5.9	0.860	5.7
Bunns Lane (East)	0.960	13.9	0.690	2.2
Grahame Park Way	0.640	4.4	0.700	2.2

Table 6-6: Bunns Lane / Grahame Park Way 2016 Base Capacity

- 6.2.14 The results of the base model indicate that the junction is currently operating at practical capacity in the PM peak hour on the Bunns Lane (North West) arm where an RFC of 0.86 has been reported. In the AM peak the Bunns Lane (East) arm operates over practical capacity, approaching an RFC of 1.00. As a result, this arm suffers from an increased build-up of queues during this period.

Junction 6 – The Broadway / Bunns Lane / Hale Lane Mini Roundabout

- 6.2.15 The junction is formed as a three-arm mini roundabout with The Broadway (eastern arm), Hale Lane (north-western arm) and Bunns Lane (south-western arm). It is noted that each arm features a kerbed separation between entry and exit lanes. Bunns Lane (north-wester arm) and Hall Lane have two traffic lanes on the approach to the junction.
- 6.2.16 The current operation of the junction was assessed using Junctions 9 (ARCADY) modelling software and the output results are presented in **Table 6-7**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Hale Lane	1.060	24.7	1.070	27.7
The Broadway	1.02	17.4	1.030	20.5
Bunns Lane	0.960	8.2	0.99	10.7

Table 6-7: The Broadway / Bunns Lane / Hale Lane 2016 Base Condition

- 6.2.17 The results of the base model indicate that the junction is currently operating over capacity in both the AM and PM peak hours. As a result, the junction suffers from a build-up of queues on all approach arms in both periods.

Junction 7 – Bunns Lane / Pursley Road / Page Street Mini Roundabouts

- 6.2.18 The junction of Bunns Lane, Pursley Road and Page Street is formed by two adjoined mini roundabouts. The northern roundabout is formed by Bunns Lane (western arm) and Page Street, both of which have a zebra crossing on.
- 6.2.19 The southern roundabout is located approximately 50m to the south (centre to centre) and is formed by Page Street and Pursely Road. A zebra crossing is located on the southern arm, Page Street. The link road between the roundabouts is 30m long, has flares on the approach to the mini roundabouts in both directions, and has the storage space for 8 PCUs.

6.2.20 The current operation of the junction was assessed using Junctions 9 (ARCADY) modelling software and the output results are presented in **Table 6-8**.

Junction	Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
		RFC	Queue (Veh)	RFC	Queue (Veh)
Bunns Lane – Page Street Mini Roundabout	Page Street (North)	1.250	25.1	0.790	2.9
	Page Street (South)	0.930	8.0	0.930	7.9
	Bunns Lane	1.300	91.3	1.010	20.1
Page Street – Purley Road Mini Roundabout	Pursley Road	1.320	163.7	1.200	82.2
	Page Street (South)	1.360	100.7	1.340	83.7
	Page Street (North)	0.910	7.9	0.920	7.9

Table 6-8: Bunns Lane / Grahame Park Way 2016 Base Capacity

6.2.21 The results of the base model indicate that the junction is currently operating over capacity in both the AM and PM peak hours. As a result, the junction suffers from a build-up of queues on all approach arms in both periods.

6.2.22 The AM peak hour is shown to perform over practical capacity on both roundabouts with all approaches exceeding a value of 0.85 RFC. The junction operates with slightly more capacity in the PM peak on the northern roundabout, but otherwise operates similar to the AM peak hour for the southern roundabout.

6.3 BASELINE FOOTWAY CAPACITY ASSESSMENT

6.3.1 A footway capacity assessment was carried out to assess a Pedestrian Comfort Level (PCL) along the key routes that are expected to be most utilised by pedestrians to access the proposed development. Consideration has therefore been given to the proposal to provide a new link to the site on Bunns Lane which is fully described in **Section 9**.

6.3.2 The Assessment is focused on Bunns Lane and Flower Lane and has been undertaken in accordance with TfL guidance “Pedestrian Comfort Guidance for London”.

6.3.3 The existing pedestrian flows were extracted from the video survey undertaken on 16th June 2016 and included pedestrian movements on Bunns Lane to the east of Flower Lane, and on Flower Lane to the north of Bunns Lane.

6.3.4 **Figure 6-1** shows the location at which flow has been considered for the PCL assessment and assessment of impacts in within this TA.

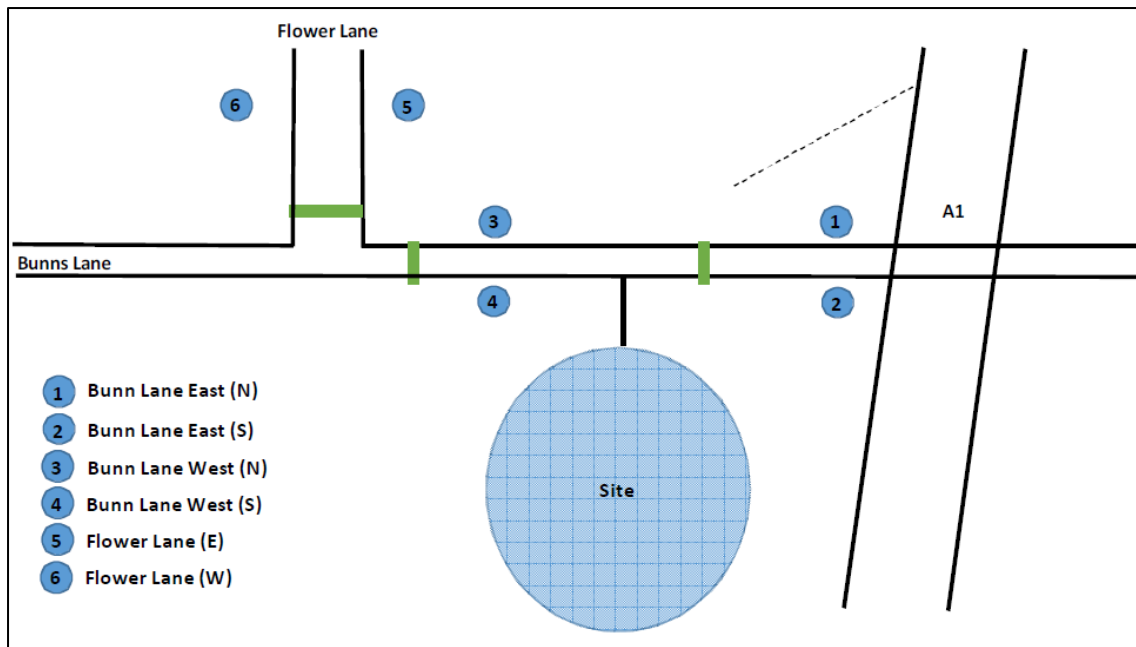


Figure 6-1: PCL Assessment Footpath Links

6.3.5

Table 6-9 presents the outputs of the analysis. The PCL rating given is based on bands that indicate the following:

- ⊙ PCL A – Comfortable for All Areas;
- ⊙ PCL B – Recommended Minimum for All Areas;
- ⊙ PCL C – Increasingly Uncomfortable; and
- ⊙ PCL D or E - Very Uncomfortable.

Footway	Pedestrians per hour	Clear Footway Width	Crowding (ppmm)	PCL
AM Peak Hour				
Bunns Lane East (N)	103	1.6	1.1	A+
Bunns Lane East (S)	91	2.2	0.7	A+
Bunns Lane West (N)	103	1.6	1.1	A+
Bunns Lane West (S)	91	2.2	0.7	A+
Flower Lane – Eastern Footway	49	3	0.3	A+
Flower Lane – Western Footway	12	2.3	0.1	A+
PM Peak Hour				
Bunns Lane East (N)	25	1.6	0.3	A+
Bunns Lane East (S)	40	2.2	0.3	A+
Bunns Lane West (N)	25	1.6	0.3	A+
Bunns Lane West (S)	40	2.2	0.3	A+
Flower Lane – Eastern Footway	39	3	0.2	A+
Flower Lane – Western Footway	12	2.3	0.1	A+

Table 6-9: Baseline Pedestrian Comfort Level

6.3.6 The capacity assessment of the existing pedestrian crossings on Flower Lane and Bunns Lane identified that the existing facilities provide high levels of comfort for pedestrians, with PCL A+, which provides plenty of space for people to walk at the speed that they choose and results in less than 3% of restricted movements.

6.4 SUMMARY

6.4.1 The baseline junction capacity assessment has indicated that some junctions within the highway network operate within capacity in both the AM and PM peak hours, while some suffer as a result of levels of demand greater than the practical capacity, resulting in instances of queuing.

6.4.2 It has been identified that the junctions of Bunns Lane / Hale Lane / The Broadway, Grahame Park Way / Bunns Lane, Bunns Lane / Page Street / Pursley Road, and Mill Hill Circus currently operate above a practical level of capacity which results in the accumulation of queued vehicles on one or more approaches.

6.4.3 A pedestrian comfort level assessment has been undertaken in accordance with TfL guidance “Pedestrian Comfort Guidance for London” which demonstrates Bunns Lane and Flower Lane have significant capacity and are currently very comfortable walking routes due to the low level of existing demand.

7 EXISTING SITE ACCESSIBILITY

7.1.1 This Section of the TA provides details of the site's accessibility by all modes, including walking, cycling and public transport.

7.2 TIME MAPPING (TIM)

7.2.1 Time Mapping (TIM) is a new tool developed by TFL within their WebCAT features to allow users to develop maps which indicate how long it takes to travel to or from a selected location by non-car modes. **Figure 7-1** shows the TIM map output for the site for public transport modes.

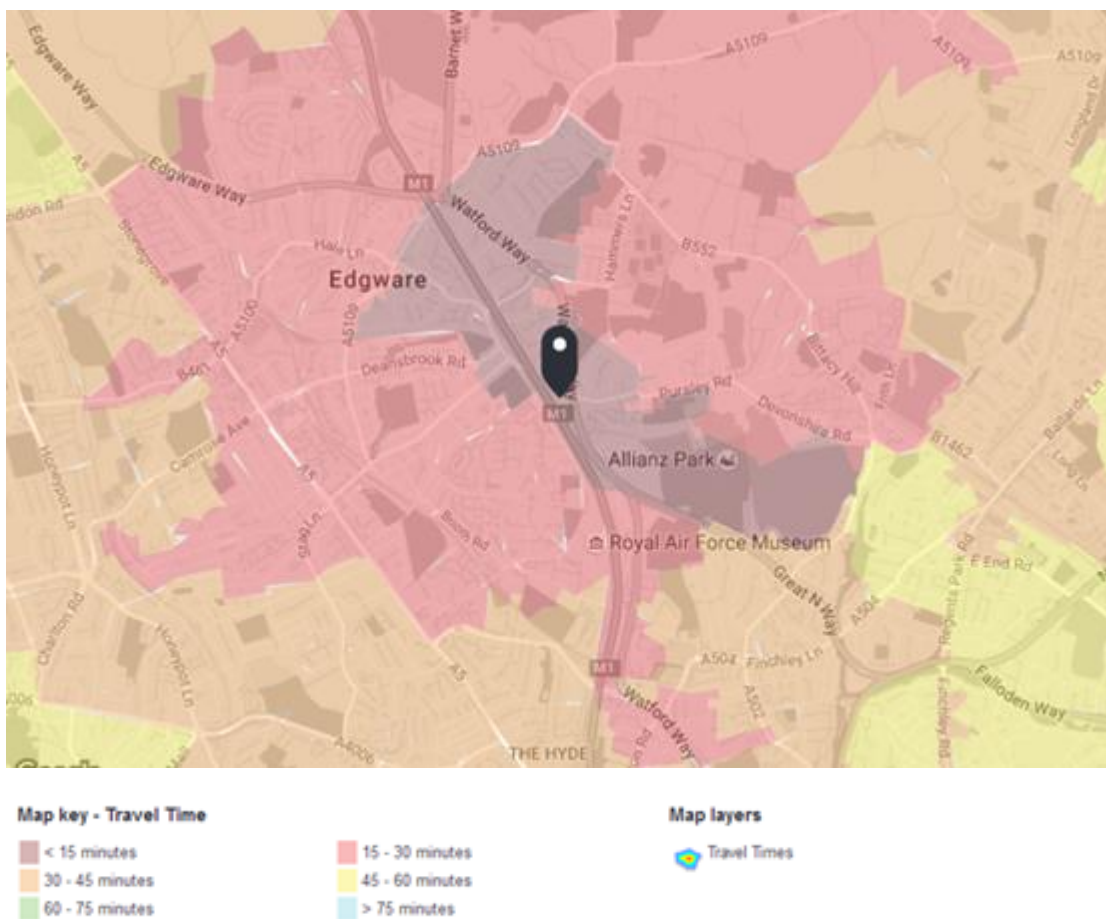


Figure 7-1: TIM Local Map (public Transport Modes)

7.3 ACCESSIBILITY BY NON-CAR MODES

Walking

7.3.1 Pedestrian access to the site is possible from the western side of the A1 (Watford Way) via the existing footway. Connectivity to the west of the site is achieved via a pedestrian bridge over the M1 approximately 200m south of the site and via a subway under the railway line at the southern end of the site. This route connects to Grahame Park Way.

- 7.3.2 It is noted that there is no direct access to the site from Bunns Lane. Pedestrians that intend to approach the site from Bunns Lane are required to walk up a staircase that connects to the western footway of the A1 and then access the site. The staircase is located approximately 230m north of the main access to the site, where Bunns Lane is located beneath the A1. Additionally, the western footway of the A1 can be accessed from Bunns Lane from a pedestrian ramp located approximately 90m north-west from the underpass. The ramp features a guardrail and leads to the bus stop of the 113 northbound service on the A1.
- 7.3.3 A pedestrian underpass which links the western footway of the A1 to Tithe Walk is located approximately 350m south-east from the site and enables pedestrians to access bus stops for buses that travel southbound.
- 7.3.4 A pedestrian link to the site is also available from Grahame Park Way, where an underpass allows pedestrians to walk underneath the railway line and access a footway bridge that enables them to cross the M1 and access the site.
- 7.3.5 A number of uncontrolled pedestrian crossing facilities are located along Bunns Lane, with a zebra crossing with flashing beacons and a central pedestrian island located near the junction with Flower Lane. An additional zebra crossing facility is located near the mini roundabout between Bunns Lane and Page Street and features flashing beacons and tactile paving on both sides of the road. Further detail on the footways and local crossing facilities in the area is provided in the Pedestrian Environment Reviews System (PERS) assessment in **Section 4**.

Pedestrian Crossing

- 7.3.6 Zebra crossing facilities are located on Watling Avenue, near Goldbeaters Grove, and on Bunns Lane, near Flower Lane. Uncontrolled crossing facilities are located on Watling Avenue, Bunns Lane and Woodland Way.
- 7.3.7 The zebra crossing facility located on Watling Avenue features pedestrian guardrails on both sides, enhancing the overall safety of users. Flashing beacons of both facilities ensure that drivers are warned to the presence of the crossing.
- 7.3.8 There is a total of eight uncontrolled crossing facilities on Bunns Lane, two on Watling Avenue, one on Flower Land and one on Woodland Way.

Cycling

- 7.3.9 **Figure 7-2** indicates that there is an off-road cycle route (Green) which extends south to Hendon and on to Brent Cross. Grahame Park Way that runs parallel to the M1 is also signed for cyclists (Blue). This route can be accessed by cyclists via the provision of the subway and footbridge, but cyclists are required to dismount as cycling is not permitted.

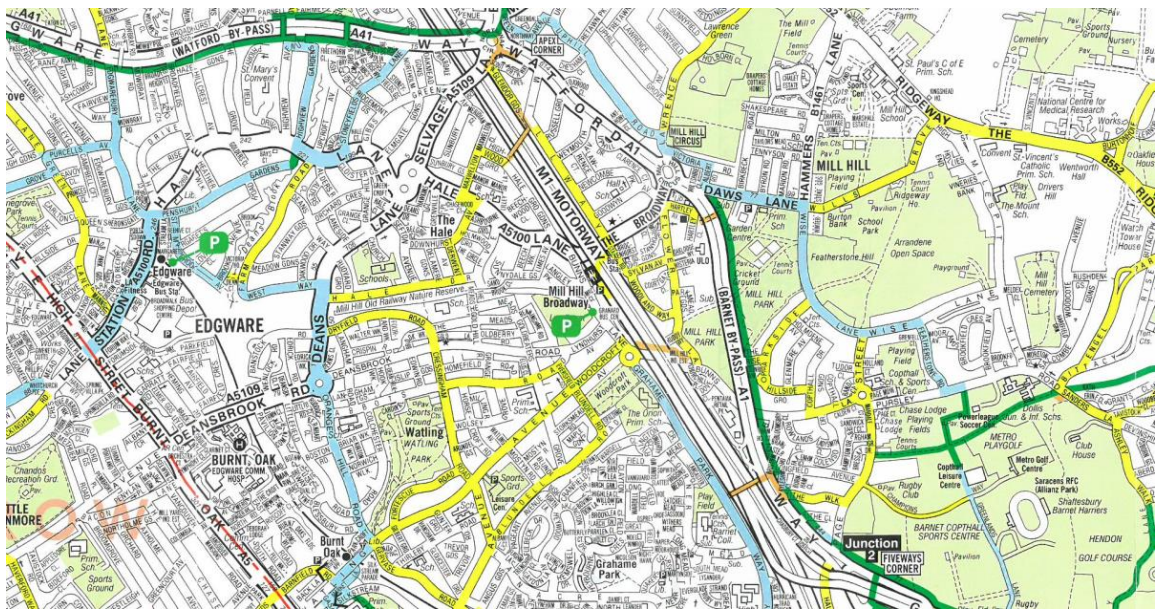


Figure 7-2: Local Cycle Map (obtained from TfL Cycle Maps)

- 7.3.10 Further to the information above a Cycle Level of Service (CLoS) assessment has been undertaken for links and junctions in the vicinity of the site. The full assessment and reporting of the results are contained within **Appendix L** of this TA.

Bus Routes

- 7.3.11 The closest bus stop to the site is on the northbound carriageway of the A1 adjacent the existing petrol station at the southern end of the site and serves the northbound bus route. The bus stop is located within a five-minute walking distance from the centre of Pentavia Retail Park.
- 7.3.12 Access to southbound bus stops is available via two routes. Pedestrians can head north on the western footway of the A1 and take steps down onto Bunns Lane, walk under the A1 and up steps on the eastern side to gain access to the footpath adjacent southbound traffic. It is noted that an 11-minute walk is required to access the southbound bus stop from the centre of the retail park.
- 7.3.13 Alternatively, pedestrians can walk south on the western side of the A1 to access an underpass which links to Tithe Walk to the east, and bus stop just south of this point. The bus stops are served by bus route 113 which provides services between Edgware and Marble Arch. This would require an eight-minute walk from the site.
- 7.3.14 Bus route 221 operates frequent service between Edgware and Turnpike Lane and provides a direct service from the Site to Mill Hill Station. Bus stops are located on Bunns Lane and are accessed via the steps on the A1.
- 7.3.15 More bus services are available within the residential streets to the west of the M1, (303,302, 251, 114, and 186) and are accessible via the existing subway / footbridge.

7.3.16 **Figure 7-3** shows the bus stops in the area surrounding the site.

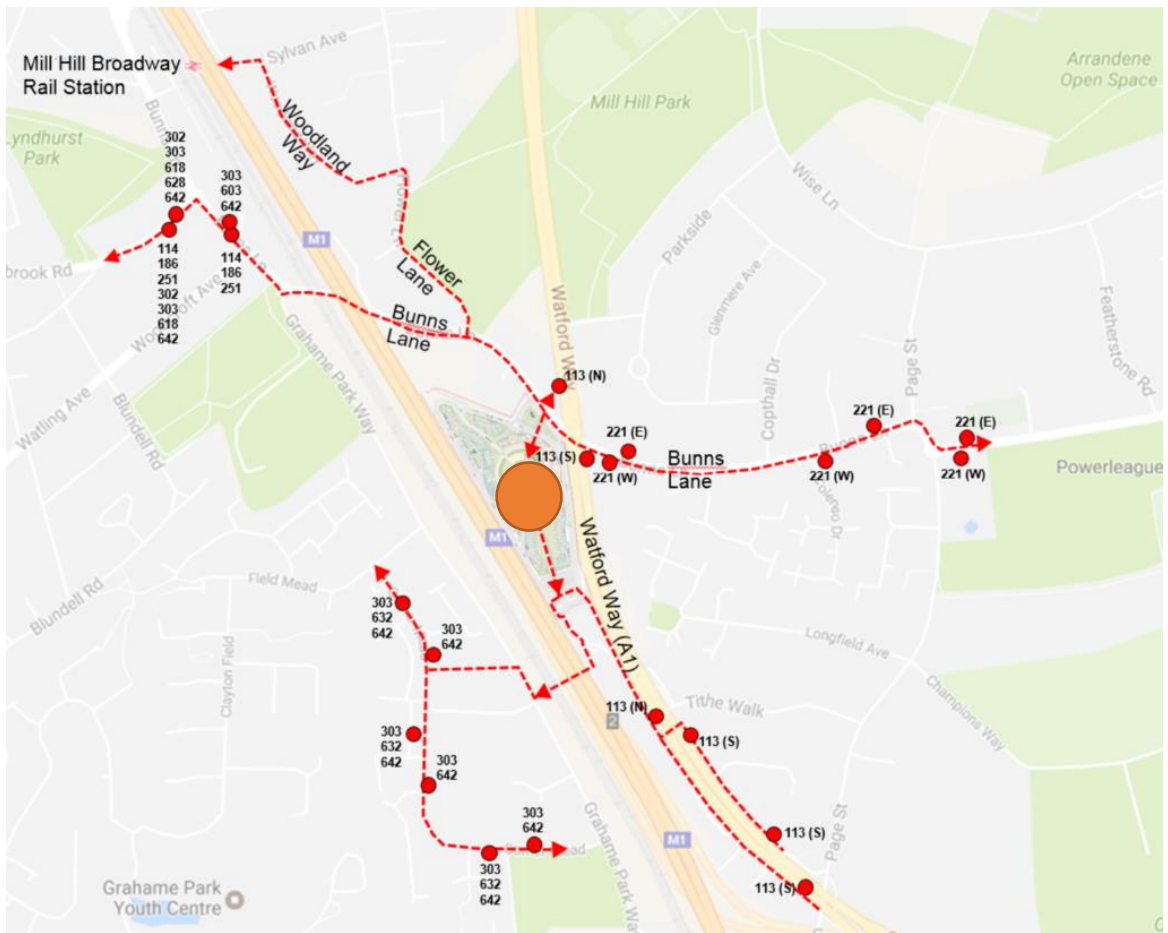


Figure 7-3: Bus Stops Locations Surrounding the Site

7.3.17 **Table 7-1** presents the details of the routes in closest proximity to the site inclusive of directions and frequencies.

Service Number	Locations	Direction / Route	First / Last Bus	AM Peak Frequency	PM Peak Frequency
113	A1 / Watford Way / Barnet By-Pass	Marble Arch Station	First 04:40 Last 00:09	5-9 minutes	8-11 minutes
		Edgware Station	First 06:08 Last 01:38	7-11 minutes	7-11 minutes
221	Bunns Lane	Turnpike Lane Station	First 05:35 Last 00:30	9-12 minutes	10-13 minutes
		Edgware Station	First 05:49 Last 00:49	10-12 minutes	10-12 minutes
302	Lyndhurst Avenue	Kensal Rise Station	First 05:30 Last 00:10	6-10 minutes (6-10 per hour)	6-10 minutes (6-10 per hour)
		Mill Hill Broadway Station	First 06:19 Last 00:37	6-9 minutes	6-9 minutes
303	Lyndhurst Avenue	Colindale Superstores	First 05:27 Last 00:07	13-14 minutes	15 minutes
		Edgware Station	First 05:37 Last 00:15	15 minutes	14-15 minutes
114	Lyndhurst Avenue / Woodcroft Avenue / Watling Avenue	Ruislip Station	First 04:55 Last 01:15	8-12 minutes	8-12 minutes
		Mill Hill Broadway Station	First 05:22 Last 01:17	7-11 minutes	7-11 minutes
186	Lyndhurst Avenue / Woodcroft Avenue	Brent Cross	First 06:08 Last 00:48	9-13 minutes	8-12 minutes
		St Mark's Hospital	First 05:26 Last 00:01	11-13 minutes	11-13 minutes
251	Lyndhurst Avenue / Woodcroft Avenue / Watling Avenue	Edgware Station	First 05:30 Last 00:20	9-12 minutes	9-12 minutes
		Arnos Grove Station	First 05:19 Last 00:29	7-12 minutes	10-14 minutes
240	The Broadway	Edgware Station	First 06:27 Last 01:30	10-14 minutes	10-14 minutes

		Golders Green Station	First 05:47 Last 00:27	11-14 minutes	11-14 minutes
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Table 7-1: Accessible Local Bus Routes

7.3.18 Further to the information regarding Bus Stop locations above and the PERS Assessment undertaken as part of this TA, an audit of bus stops has been undertaken against TfL 'Accessible Bus Stop Guidance'. The full report is contained in **Appendix M** of this TA.

7.3.19 **Figure 7-4** is an extract from a TfL Bus Map centred on accessible buses from Mill Hill Broadway. It gives a further indication that good radial connections via buses is available.

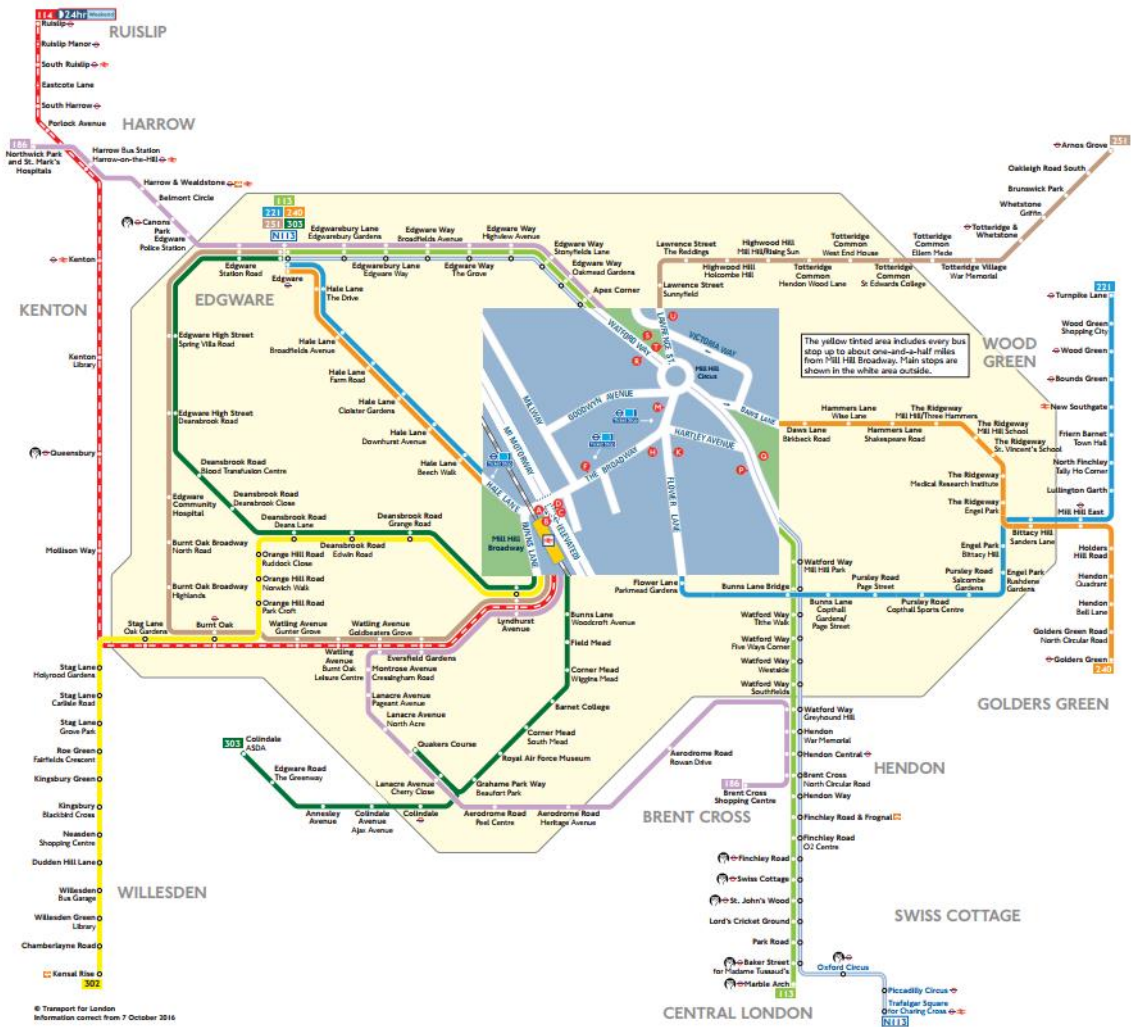


Figure 7-4: Bus Spider Map (demonstrating radial connections)

Rail/Underground

7.3.20 The nearest railway station is Mill Hill Broadway, located approximately 1.0km north-west to the site and accessible within a 13-minute walking distance. It is served by First Capital Connect running Thameslink services. The typical daytime service from the station is four trains per hour to central London, Wimbledon and Sutton, of which two terminate at St Albans and two at Luton.

7.3.21 A summary of the services available at Mill Hill Broadway is presented in **Table 7-2**.

Service	Direction / Destination	First / Last Train	AM Peak Frequency	PM Peak Frequency
Railway (Mill Hill Broadway)	Towards Three Bridges	First 00:03 Last 23:35	None during peak	None during peak
	Towards Bedford	First 00:05 Last 23:37	Service at 09:42	Service at 18:05
	Towards Brighton	First 03:33 Last 03:33	None during peak. Only one service at 03:33	None during peak. Only one service at 03:33
	Towards Sutton	First 05:14 Last 23:18	3-4 services per hour	3-4 services per hour
	Towards St Albans	First 06:06 Last 22:14	2-3 services per hour	2-3 services per hour
	Towards Luton	First 06:32 Last 22:00	1-2 per hour	2 per hour
	Towards Sevenoaks	First 06:32 Last 20:12	1-2 per hour	1-2 per hour
	Towards Bromley South	First 07:10 Last 07:48	2 services between 07:00-08:00	None

Table 7-2: Mill Hill Broadway Rail Services

7.3.22 The nearest underground stations are Burnt Oak and Colindale, located 2.0km from the site and accessible within a 26-minute walking distance. The stations are served by the Northern Line. A summary of the service frequencies at Burnt Oak Station is presented in **Table 7-3**.

Service	Accessed via Bus Route	Direction / Destination	First / Last Train	AM Peak Frequency	PM Peak Frequency
Northern Line (Burnt Oak)	302 114	Towards Edgware	First 05:42 Last 01:10	21	20
		Towards Morden / Golders Green	First 05:25 Last 00:47	21	20
Northern Line (Mill Hill East)	221	Towards Finchley Central / Kennington	First 05:25 Last 00:54	5	4
Northern Line (Colindale)	N/A	Towards Edgware	First 05:40 Last 01:08	19	21
		Towards Morden / Golders Green	First 05:27 Last 00:49	21	20
Northern Line (Hendon Central)	113	Towards Edgware	First 05:38 Last 01:05	19	21
		Towards Morden / Golders Green	First 05:30 Last 00:52	21	20

Table 7-3: London Underground Services

7.3.23 **Table 7-2** and **7-3** indicate that a number of services are available at Mill Hill Broadway and Burnt Oak Stations, although access times by non-car modes as a result of existing severance between the site and Bunns Lane means that they are currently unattractive.

Public Transport Accessibility Level

7.3.24 Public Transport Accessibility Levels (PTAL) are a theoretical measure of the accessibility of a given point to the surrounding public transport network, taking into account walk access time and service availability. A site specific public transport accessibility level (PTAL) assessment has been undertaken using the TfL database www.webptals.org (WEBCAT).

7.3.25 The WEBCAT output indicates that the site has a predominant PTAL of 1b with an area of 1a and 2 also present as shown by the WEBCAT extract in **Figure 7-5**.

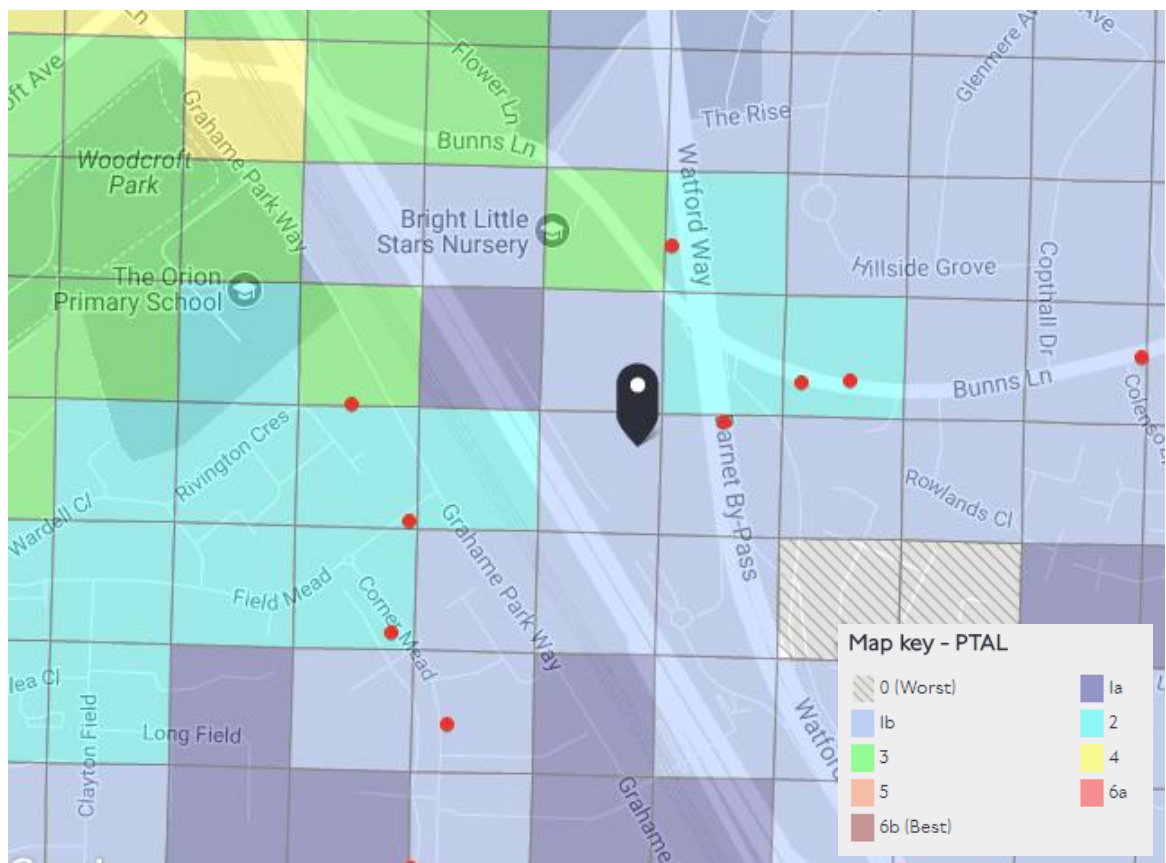


Figure 7-5: WEBCAT PTAL Output (Proposed Site)

- 7.3.26 Further investigation into the PTAL across the site has been undertaken to provide further insight into the sites access to public transport services and is contained in **Appendix N**. It demonstrates that large parts of the site are very close to scoring a PTAL of 2, which is not unsurprising giving that a portion of the site currently meets this score.
- 7.3.27 The proposed development is situated on the boundary of the PTAL criteria for scoring. Mill Hill Broadway Station is within approximately 1.0km (13min) walk from the site. As such, Mill Hill Broadway doesn't contribute to the PTAL score. Burnt Oak and Colindale Stations are located outside of the PTAL parameters, both 2.0km (25min) walk, and therefore are also not considered by the PTAL score.
- 7.3.28 It is recognised that the PTAL methodology is a tool to better understand accessibility to services, but is limited in its ability to allow interpretation of actual accessibility of a site that is located on the periphery of the parameters set i.e. someone located 981m away from a rail station does not contribute to a PTAL score, yet if they were located 1m closer they would. In reality, the small difference in distance will not fundamentally change the perception of accessibility or choice to use the service as definitively as the PTAL methodology concludes.
- 7.3.29 It is also true to say that a site with similar access to bus services (i.e. the 221 and 113) could score the same PTAL of 1b, but not have any practical access to rail or underground services at all. Clearly the two examples have different accessibility to public transport, yet they achieve the same score.

- 7.3.30 As an example, **Figure 7-6** shows a location in Barnet on the A411 which scores a PTAL of 1b based on bus route 107. Its nearest connection to a London Underground Station is at High Barnet, a 3.0km (38min) walk. Its nearest connection to a rail service is at Elstree & Borehamwood Station, a 4.2km (54min) walk.

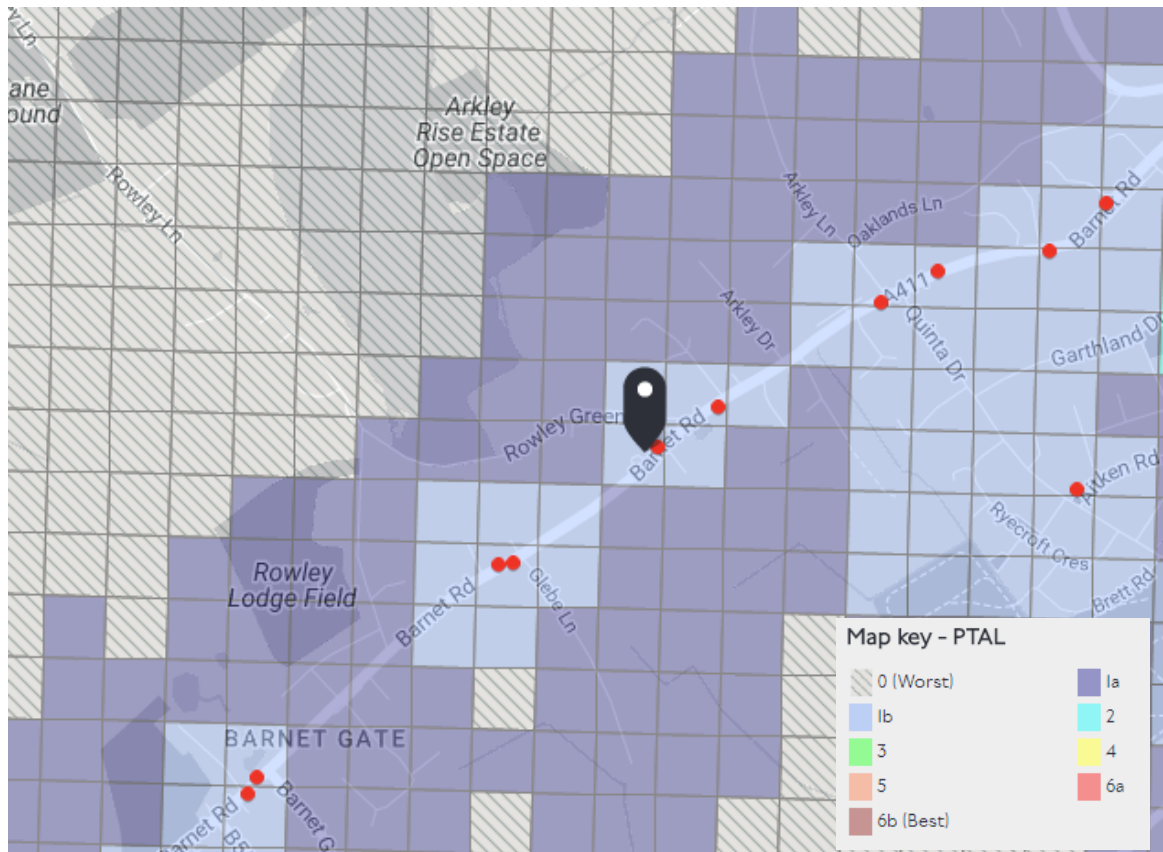


Figure 7-6: WEBCAT PTAL Output (Example of comparator 1b PTAL)

- 7.3.31 The comparator site can also be further distinguished from the proposed site by comparison of the nature of its public transport connections. **Figure 7-4** showed the proposed site has excellent access to radial bus routes in all directions, where **Figure 7-7** shows a significantly reduced and linear level of connectivity at the comparator site which scores the same PTAL.



Figure 7-7: Bus Connections of Comparator PTAL 1b Site (demonstrating poor and linear connectivity)

- 7.3.32 It is further considered that an 8 minute walk to a bus stop, and 12 minute walk to a rail station is well within what is considered reasonable by the average person, and that in reality commuters regularly walk greater distances / for longer. Given that the PTAL methodology does account for variation in distance / access time by a weighting within the calculation, it has been deemed reasonable to consider what the PTAL score would be by extending the parameters of the calculation to include for a 15 minute walk to both bus stops and rail stations.
- 7.3.33 The full assessment of the site by application of the above extended PTAL assessment is contained within **Appendix N** and demonstrates that the site scores a PTAL 3 across its full extent when a walking distance to access public transport services of 15 minutes is considered.
- 7.3.34 It is concluded that the site has much better access to public transport services than the TfL WebCAT PTAL would suggest.

7.4 ACCESS TO KEY FACILITIES

Primary Schools

- 7.4.1 According to the Department for Education and Schools Annual School Census data 2015/16, there are four primary schools within 1km of the site as shown in **Figure 7-6**.
- 7.4.2 The nearest primary school is The Orion Primary School to the west of the Site. This can currently be accessed from the Site on foot via the bridge over the M1 at the southern end of the site, approximately a 12-minute walk.
- 7.4.3 **Figure 7-6** shows the location of the primary schools from the site with walk / cycle routes marked.

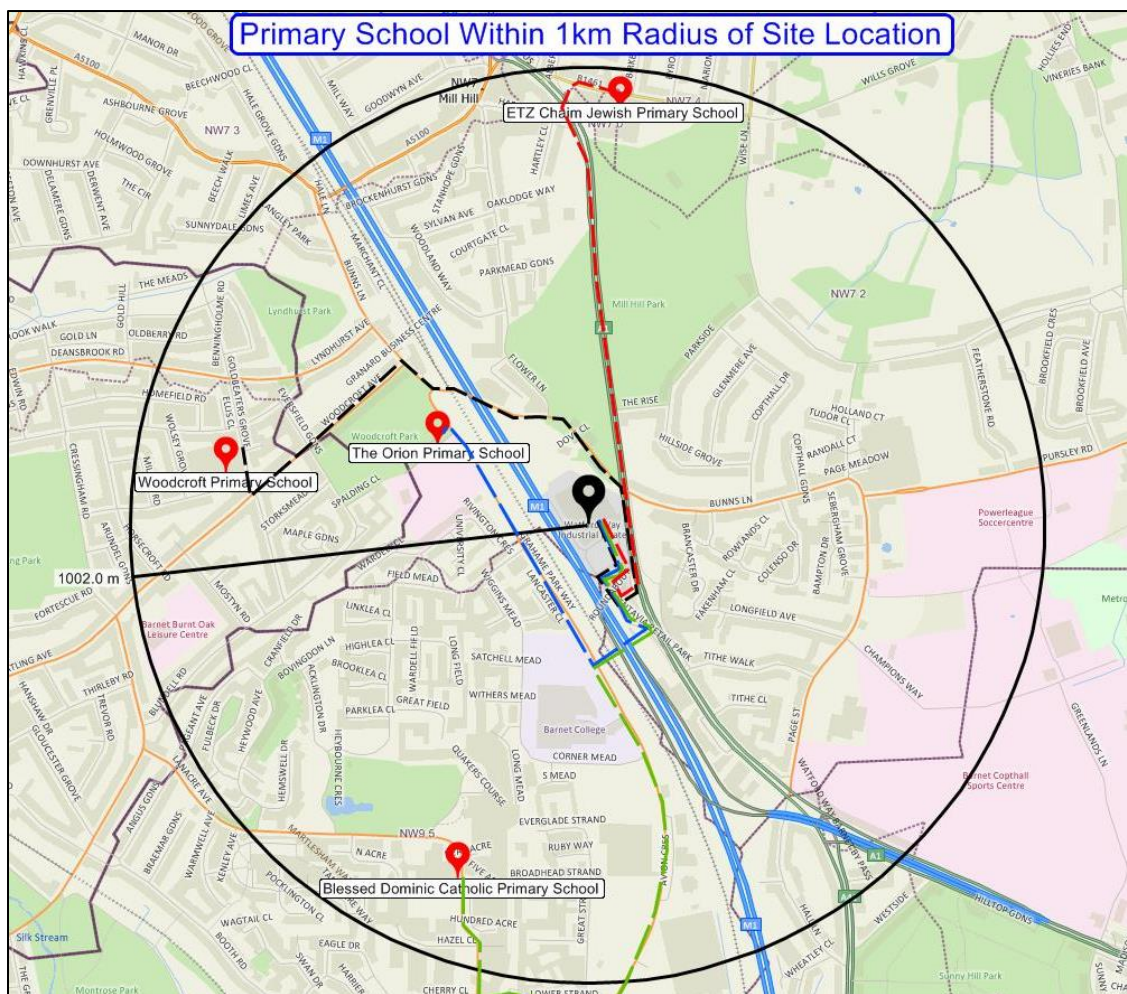


Figure 7-8: Existing Walk / Cycle Routes to Primary Schools within 1km

- 7.4.4 The nearest nursery (Bright Little Stars Nursery) is located north of the site immediately adjacent the northern boundary of the site, on Bunns Lane. It is currently accessible by an 8-minute walk via the A1 and steps down to Bunns Lane.

Secondary Schools

- 7.4.5 There are four secondary schools within the 2km of the site, and a further 20 within LBB. The nearest secondary school (Hasmonean High Girl School) is located 950m south-east of the site. It is accessible by walking (12 minutes) and cycling (eight minutes). **Figure 7-7** shows the location of the secondary schools from the site with respective walk/cycle routes marked.

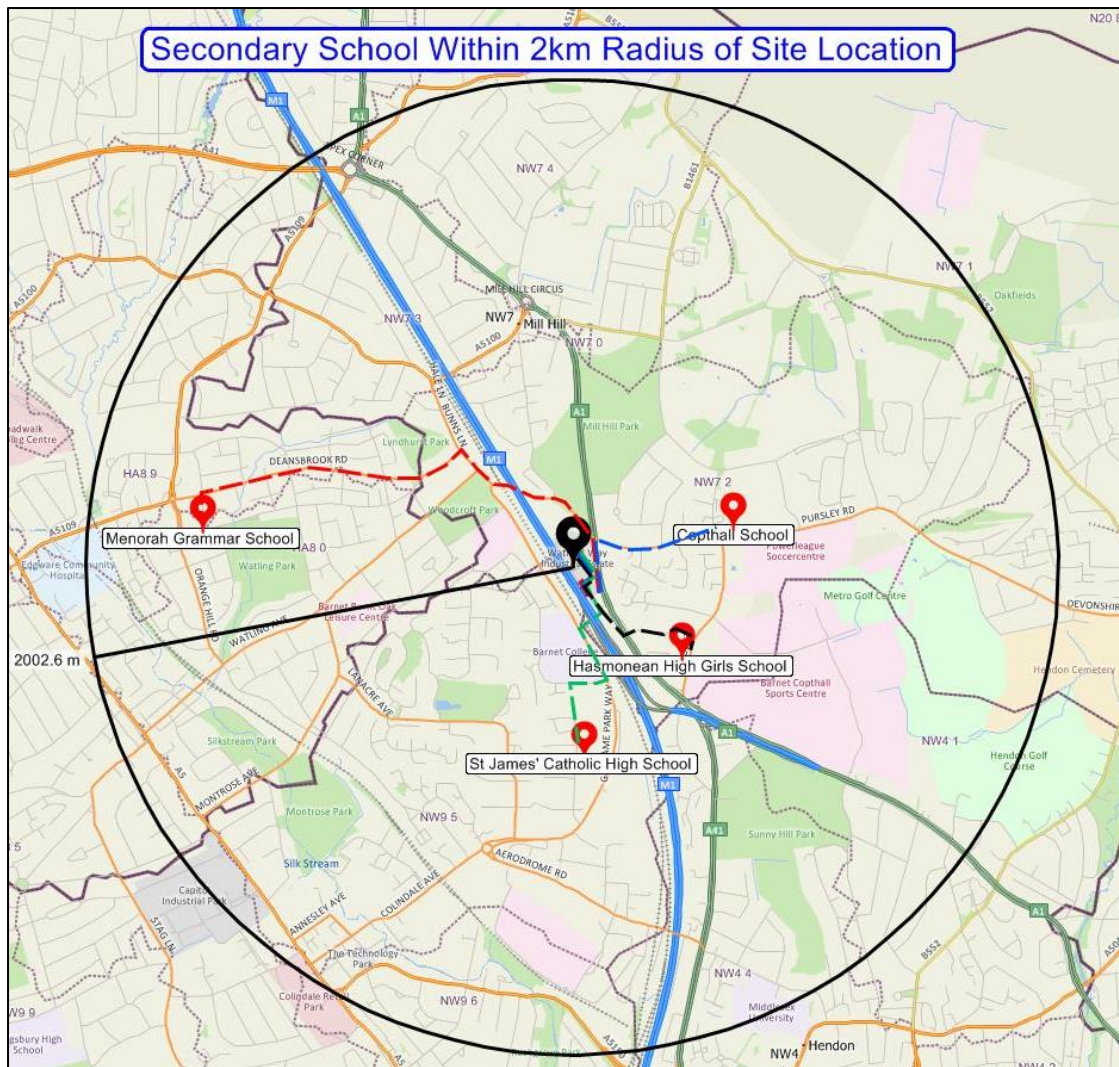


Figure 7-9: Existing Walk / Cycle Routes to Secondary Schools

Further Education

- 7.4.6 Barnet College is the nearest college to the site, and is located 500m south to the site.

Healthcare

- 7.4.7 There are three GP practices within 1km of the Site. The closest GP practice to the Site is Dr Ganesh and Partner to the south west of the Site. There are four pharmacies, five dentists and two opticians within 1km, with these facilities concentrated to the north on The Broadway, and to the south west around Grahame Park.
- 7.4.8 **Figure 7-8** illustrates the health facilities within 1km of the Site.



Figure 7-10: Healthcare Facilities within 1km

7.5 SITE ACCESS BY VEHICLE

- 7.5.1 Vehicular access/egress to the site is only available from the northbound carriageway of the A1. Access and egress is via segregated on and off-slip roads connecting to three arm roundabout from where access to Pentavia Park is achieved.

7.6 SUMMARY

- 7.6.1 A review of the existing accessibility of the site has demonstrated that there are a number of pedestrian, cycle, rail and tube routes within the local area, and that key services in the form of schools and healthcare facilities are also in close proximity.
- 7.6.2 A detailed assessment of the sites access to public transport services has been undertaken by extension of a PTAL calculation to include bus and rail stations within a 15 minute walk of the site. The assessment has demonstrated that the site scores a PTAL 3 across its full extent when a walking distance of 15 minutes is considered. It is concluded that the site has much better access to public transport services than the TfL WebCAT PTAL would suggest.

8

EXISTING SITE OPERATION

8.1.1 This Section of the TA provides details of the existing sites operations and permitted use.

8.2 EXISTING SITE USE

- 8.2.1 The site currently comprises two buildings. A large building in the middle of the site contains the retail units associated with Pentavia, and a single smaller building at the southern end of the site contains the TGI restaurant.
- 8.2.2 Up until 2015 the site had been occupied by major national retailers including Homebase, Comet and Argos (Use Class A1 / A41). Since September 2015 the site has been temporarily occupied by Kosher Outlet Store. More recently a TGI Friday restaurant (Use Class A3) ceased trading at the site.
- 8.2.3 The extant retail park has a Ground Floor Area (GFA) of 9,053sqm, and the restaurant 664sqm GFA respectively. There is parking across the site provided in 359 parking spaces. The existing site layout is contained in **Appendix O**.
- 8.2.4 As identified in **Section 7** vehicular access to the site is restricted to the southern end of the site via slip roads that provide access and egress to the northbound carriageway of the A1 only. Pedestrian access is also limited to the southern end of the site via the footpath on the M1.
- 8.2.5 It is recognised that its existing permission would allow for the occupation of the site for retail use. As such, it is recognised that current traffic generated by the site is lower than could occur within its permitted use.

8.3 EXTANT USE TRIP GENERATION

Vehicle trip generation

- 8.3.1 In order to calculate the likely number of vehicle trips that could be generated by the site if it were fully occupied, the TRICS and TRAVL databases have been interrogated for comparable sites. The sites that have been selected for the combined assessment of non-food retail and restaurant use are summarised in **Table 8-1** below and have been agreed with LBB.

Extant Restaurant (664sqm)					
Site No	Site Ref	Survey Date	Location	PTAL	GFA
1	257	04/06/1999	Merton	3	150
2	1048	28/02/2012	Richmond Upon Thames	3	120
3	BN-06-C-01	25/06/2014	Barnet	2	274
4	HD-06-C-01	07/01/2016	Ruislip	1b	850
Extant Retail Park (9,053sqm)					
Site No	Site Ref	Survey Date	Location	PTAL	GFA
1	266	10/12/1999	Waltham Forest	1	8990

Table 8-1: TRICS and TRAVL Site Selection for Extant Uses

8.3.2 The resultant vehicle trip rates and associated trip generation for the extant development is presented in **Table 8-2**.

Restaurant						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	0.000	0.118	0.118	0	1	1
Evening Peak (17:00-18:00)	2.400	1.089	3.489	16	7	23
Retail Park						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	0.534	0.133	0.667	48	12	60
Evening Peak (17:00-18:00)	0.601	0.690	1.290	54	62	116

Table 8-2: Vehicle Trip Generation for Extant Site Use

8.3.3 The data presented in **Table 8-2** indicates that the retail park produced vehicle flows during both peak hours when it was still in use. It is noted that the restaurant did not generate significant vehicle trips in the morning, which is not unexpected given that its peak operations occur outside of the network peak hours.

8.3.4 **Table 8-3** summarises the combined vehicle trips that could be generated by the existing site if fully operational.

Peak Periods	Total Trip Generation for the Extant Use		
	Arrivals	Departures	Total
Morning Peak (08:00-09:00)	48	13	61
Evening Peak (17:00-18:00)	70	69	139

Table 8-3: Total Vehicle Trip Generation for Extant Site Use

8.3.5 It is recognised that the vehicle trip generation exercise undertaken through extraction of data from TRICS/TRAVL does not take into account the level of trips which are shared between various uses on the site, and those which will result from vehicles already on the network and are currently passing the site.

8.3.6 **Table 8-4** below sets out the anticipated proportions of vehicle trips discounted in order to identify what would be new trips to the network in relation to the fully operational existing site. By application of the deductions summarised within **Table 8-4**, total new network vehicle trips anticipated has been summarised for the AM and PM peak hours in **Table 8-5**.

Land Use	% Pass-by Trips	% Linked Trips	% New Network Trips	Total
Retail Park	10%	0%	90%	100%
Restaurant	10%	10%	80%	100%

Table 8-4: Deduction of linked and pass-by vehicle trips (Extant Use)

8.3.7 **Table 8-5** summarises the combined vehicle trips that could be generated by the existing site if fully operational.

Peak Periods	Total Trip Generation for the Extant Use		
	Arrivals	Departures	Total
Morning Peak (08:00-09:00)	44	12	56
Evening Peak (17:00-18:00)	62	62	124

Table 8-5: New Vehicle Trip Generation for Extant Use

8.3.8 It is noted that the number of vehicle trips identified in **Table 8-5** includes all vehicles. This includes car, taxi, coach, HGV and motorcycle trips.

8.3.9 A multimodal assessment to understand the other mode trips that could be generated by the full operation of the existing site has been carried out and includes assessment of all other vehicle modes other than car to determine the relevant trips made within each classification, with the remainder being determined as car trips.

- 8.3.10 The multimodal assessment uses the TRAVL sites that were selected for the assessment of vehicular trips previously presented. TRICS sites were excluded as they only provided data on all vehicle trips and they did not provide further information of other mode trips.
- 8.3.11 The TRAVL data does not differentiate between public transport and walking trips, which are instead summarised as a group.
- 8.3.12 Given the location of the site is not in a Town Centre, it is deemed unlikely that any main mode trips would be taken to the extant site uses by either rail or underground.
- 8.3.13 Main mode trips within the public transport and walking modes are therefore expected to be split between walk and bus, and given existing constraints on the site to access to bus services it is assumed the vast majority would be walk trips. Therefore 10% of trips are assumed to take place by bus, and 90% by foot.
- 8.3.14 A summary of the multimodal assessment for the full operation of the existing site use are presented in **Table 8-6**. Where no daily trips are present for HGV, Coach, Cycling, Train and underground they have been excluded.

Mode	AM Peak Hour			PM Peak Hour			Daily		
	Arr	Dep	Total	Arr	Dep	Total	Arr	Dep	Total
Car	44	12	56	62	62	124	912	895	1807
Bus	0	0	0	4	1	5	32	30	62
Walk	2	2	4	32	12	44	286	269	55
Taxi	0	0	0	0	0	0	26	27	53
Motorcycle	0	0	0	0	0	0	3	3	6

Table 8-6: Extant Use Multimodal Trips

- 8.3.15 The multimodal trip generation indicates that the full operation of the existing site would generate its associated trips with the prevalent mode as the car.

8.4 SUMMARY

- 8.4.1 Up until 2015 the site had been occupied by major national retailers including Homebase, Comet and Argos (Use Class A1 / A41). Since September 2015 the site has been temporarily occupied by Kosher Outlet Store. The TGI Friday restaurant (Use Class A3) remains open.
- 8.4.2 If fully operational the existing site uses could generate an additional 56 vehicle movements in the AM peak hour, and 124 in the PM peak hour.

9 FUTURE HIGHWAY CAPACITY ASSESSMENT

9.1.1 This Section of the TA assesses how the highway network would operate in capacity terms in the future based on background traffic growth, existing committed development that will come forward, and the current permitted use of the existing site.

9.2 ASSESSMENT YEARS

9.2.1 Construction of the proposed development is estimated to complete and the full occupation of the site be available in late 2023. It is noted that it was originally anticipated that occupation of the site could take place from 2021, and it has been agreed with TfL that this TA would continue to access two future year scenarios; the Opening Year 2021 and Future Year 2026. On the basis that the assessment considers a Future Year of 2026 it has not been deemed necessary to amend the opening year assessment.

9.2.2 The following assessment scenarios have been undertaken to determine the future baseline highway capacity conditions, which would be the conditions which would otherwise prevail in those years:

- ⦿ Opening Year 2021 – inclusive of committed development and traffic flows generated by the existing use under its full permission; and
- ⦿ Future Year 2026 - inclusive of committed development and traffic flows generated by the existing use under its full permission.

9.3 FUTURE BASE TRAFFIC

Traffic Growth

9.3.1 Growth to traffic observed 2016 presented in this TA, to the Opening Year and Future Year years has been applied in accordance with growth rates which were extracted from the Collingdale Area Action Plan (CAAP) model supplied by LBB. The change in traffic flows on surrounding links were supplied for 2007 and 2026. A linear growth has been applied to produce a rate of growth for the years 2021 and 2026.

9.3.2 The CAAP model growth rates also contain all committed development deemed to be required for inclusion within the assessment by LBB with the exception of the Millbrook Park Development which has been included as additional committed development and is described within this section of the TA.

9.3.3 The growth rates used for both AM and PM peak hours and are presented in **Table 9-1**.

Peak Period	2016-2021 Growth Factor	% Increase	2016-2026 Growth Factor	% Increase
AM (08:00-09:00)	1.037	3.70%	1.074	7.40%
PM (17:00-18:00)	1.0558	5.58%	1.1116	11.16%

Table 9-1: Growth factors for the periods 2016-2021 and 2016-2026

Committed Development

- 9.3.4 Following discussion with LBB it has been advised that impact from the Millbrook Park Development should be assessed. The Millbrook Park Development will provide a total of 2,174 residential units, a primary school and other commercial units across the site. The development of the site has started in 2011 and is estimated to be completed in 2025.
- 9.3.5 To assess the impact of the committed development, the outline planning application (ref; H/04017/09) has been interrogated and the relevant trip generation data extracted.
- 9.3.6 Development traffic flow diagrams are presented in the “Mill Hill East Transport Strategy and Assessment” (Doc. No. MHE/OPA/4.1 Issue 4) and supporting appendices. The details extracted are contained within **Appendix P**. It was noted that the assessment for the Millbrook Park Development did not extend to the highway network considered as part of this TA.
- 9.3.7 It was noted that the junction of Pursley Road and Engel Pak was the closest area of network assessed relevant to the network considered within this TA. Traffic traveling to along Pursley Road has been identified as these are anticipated to have some impact on the junction of Pursley Road, Page Street, and Bunns Lane on the eastern extents of the network being assessed in this TA.
- 9.3.8 As published in the most recent newsletter relevant to the baseline traffic observations dated Summer 2016, a total of 290 residential units have been occupied to date and the school was opened in September 2014. Traffic flow data extracted for the Millbrook Park Development summarises the full committed development, between 2011 and 2025, and therefore it is assumed that a proportion of these trips (13.34%) based on the occupation of the residential units (290 / 2,174) are already present within traffic captured by our 2016 traffic surveys. As such it is anticipated that approximately 86.66% of total trips may still be yet to occur between 2016 and 2025.
- 9.3.9 **Table 9-2** summarises the data extracted in relation to the full committed development flows, and from which figure this information was taken (see **Appendix P**), as well as the adjustment made to account for traffic already on the network as a result of occupation between 2011 and 2016.

Traffic Flows on Pursley Road	Additional veh/hr (2011-2025)	Ref.	Additional veh/hr (2016-2025)
North-westbound AM Residential	45	Figure 5.5	39
South-Eastbound AM Residential	19	Figure 5.5	16
North-westbound AM Commercial	1	Figure 5.9	1
South-Eastbound AM Commercial	4	Figure 5.9	3
North-westbound PM Residential	11	Figure 5.7	10
South-Eastbound PM Residential	30	Figure 5.7	26
North-westbound PM Commercial	4	Figure 5.11	3
South-Eastbound PM Commercial	1	Figure 5.11	1

Table 9-2: Traffic Flows generated by the committed Millbrook Park Development on Pursley Road

- 9.3.10 The precise program for delivery of the remaining development is not known, and it has been assumed that the committed development traffic due to occur between 2016 and 2025 will take place in a linear fashion.
- 9.3.11 It is also noted that not all traffic identified on Pursley Road within the Millbrook Park Development data will find its way to the eastern extents of the network being assessed in this TA. It is anticipated that a significant proportion of this traffic could turn to Milespit Hill to join B552 A5109, A41 etc. The committed development to be applied is therefore based on 50% of identified movements arriving and departing the network being assessed within this TA.
- 9.3.12 **Table 9-3** summarises the traffic flows that are anticipated to arrive and depart the network form Pursley Road via the mini-roundabout with Page Street and Bunns Lane within the Opening and Future Years.

Traffic Flows on Pursley Road	Opening Year 2021	Future Year 2026
Westbound AM	10	21
Eastbound AM	5	10
Westbound PM	3	7
Eastbound PM	7	14

Table 9-3: Committed Development Vehicle Trips - Millbrook Park Development

Extant Use

- 9.3.13 **Section 8** of the TA identified the generation of traffic which would otherwise prevail were the existing site re-occupied to the capacity of its permission. **Table 8-6** indicated that an additional 56 vehicle movements could be generated in the AM peak hour, and a further 124 generated in the PM peak hour.
- 9.3.14 It is recognised that the partial occupation of the current site currently generates vehicle trips on the network that have been captured within the 2016 traffic surveys presented within this TA. However, we have not sought to discount these from the either the 2016 base traffic flows or the trips generated by the trip generation exercise for the full operation of existing uses. It is considered that this provides a robust assessment of all future traffic scenarios.

9.4 FUTURE BASELINE TRAFFIC ASSIGNMENT

- 9.4.1 It has been assumed vehicle trips generated by the existing permitted retail and restaurant uses would occur predominantly from the local area. For the purposes of identifying a suitable distribution it is assumed that vehicle trips are broadly attracted evenly from areas to the north, east, south and west of the site, and seek to take the most coherent route to the site. It is noted that these vehicle trips are restricted to access and egress from the A1 northbound carriageway only.
- 9.4.2 Further information on the routing of traffic relevant to the local area and in consideration of limited access via the A1 northbound carriageway is provided in **Section 11** of the TA.
- 9.4.3 The distribution of the traffic flows generated by the existing permitted use has been assigned on the network as presented in **Appendix Q**.

9.5 FUTURE BASELINE CAPACITY ASSESSMENT

Junction 1 - The Broadway / Flower Lane Junction

9.5.1 **Table 9-4** presents the predicted performance of the junction in both the Opening Year 2021 and Future Year 2026.

Opening Year 2021 – Future Baseline				
Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Flower Lane (Left Turn)	0.340	0.5	0.400	0.6
Flower Lane (Right Turn)	0.810	3.6	0.790	3.4
The Broadway (Straight)	0.420	1.3	0.410	1.2
The Broadway (Right Turn)	0.440	0.1	0.450	0.2
Future Year 2026 – Future Baseline				
Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Flower Lane (Left Turn)	0.500	0.9	0.630	1.5
Flower Lane (Right Turn)	0.870	4.9	0.880	5.3
The Broadway (Straight)	0.430	1.4	0.430	1.3
The Broadway (Right Turn)	0.460	0.1	0.470	0.2

Table 9-4: The Broadway / Flower Lane 2021 and 2026 Future Base

9.5.2 **Table 9-4** indicates that the overall performance of the priority junction between The Broadway and Flower Lane is expected to continue to operate within a practical level of capacity in 2021, where the highest observed RFC on the Flower Lane (Right Turn) does not exceed 0.85 RFC.

9.5.3 In 2026 the junction is anticipated to have approached and marginally exceeded practical capacity on the Flower Lane (Right Turn), with an RFC of 0.87 and 0.88 being reported in the AM and PM peaks respectively. All other arms continue to operate with residual capacity.

Junction 2 - Bunns Lane / Flower Lane Junction

9.5.4 A summary of the future performance of the priority junction between Bunns Lane and Flower Lane is presented in **Table 9-5**.

Opening Year 2021 – Future Baseline				
Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Flower Lane (Left Turn)	0.540	1.1	0.360	0.6
Flower Lane (Right Turn)	0.690	1.8	0.210	0.3
Bunns Lane (Straight)	0.790	4.9	0.620	2.5
Bunns Lane (Right Turn)	0.800	2.3	0.690	1.1
Future Year 2026 – Future Baseline				
Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Flower Lane (Left Turn)	1.000	5.7	0.410	0.7
Flower Lane (Right Turn)	0.910	3.6	0.270	0.3
Bunns Lane (Straight)	0.840	6.2	0.670	3.0
Bunns Lane (Right Turn)	0.830	2.8	0.730	1.4

Table 9-5: Bunns Lane / Flower Lane 2021 and 2026 Future Base

- 9.5.5 **Table 9-5** indicates that the overall performance of the junction is expected to continue to operate within a practical level of capacity in 2021, where the highest reported RFC does not exceed 0.85 RFC.
- 9.5.6 In 2026 the junction is shown to exceeded practical capacity in the AM peak hour on the Flower Lane approach. The PM peak continues to operate with residual capacity in 2026.
- Junction 3 - Five Ways Corner*
- 9.5.7 A summary of the future performance of the Fiveways Corner junction in the Opening Year 2021 is presented in **Table 9-6**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Junction 1 – Watford Way / Page Street / Hall Lane				
Watford Way EB (Lane 1+2)	86.1%	18.0	67.0%	13.7
Watford Way EB (Lane 3)	71.8%	11.4	71.8%	14.5
Watford Way EB (Lane 4)	70.2%	11.5	71.0%	15.0
Page Street SB	82.2%	8.2	67.5%	7.3
Watford Way NB (Lane 1)	43.7%	0.4	54.4%	0.6
Watford Way NB (Lane 2)	46.5%	0.4	53.5%	0.6
Watford Way NB (Lane 3+4)	76.1%	7.4	69.1%	9.7
Hall Lane NB	2.0%	0.1	0.8%	0.0
Junction 2 – Internal Signals				
Watford Way EB (Lane 1)	58.2%	0.7	44.7%	0.4
Watford Way EB (Lane 2)	65.1%	6.4	72.7%	19.7
Watford Way EB (Lane 3)	67.8%	4.6	71.9%	20.0
Watford Way NB (Lane 1)	43.7%	0.4	54.3%	6.1
Watford Way NB (Lane 2)	48.0%	0.5	55.3%	0.6
Watford Way NB (Lane 3+4)	73.6%	5.6	80.6%	8.3
Junction 3 – Watford Way / Great North Way				
Great North Way EB (Lane 1)	44.4%	3.5	32.0%	2.6
Great North Way EB (Lane 2)	45.8%	3.9	35.8%	2.0
Great North Way WB (Lane 1+2)	88.4%	15.6	90.9%	19.4
Great North Way WB (Lane 3)	52.2%	5.4	87.9%	17.4
Watford Way EB (Lane 1)	74.4%	5.6	70.1%	3.1
Watford Way EB (Lane 2)	77.5%	5.2	73.0%	3.3
Watford Way EB (Lane 3+4)	39.8%	2.3	56.9%	3.6
Watford Way NB (Lane 1)	87.7%	13.0	94.2%	23.3

Watford Way NB (Lane 2)	87.6%	12.8	94.2%	23.2
Watford Way NB (Lane 3)	83.9%	11.3	92.4%	21.3
AM Cycle Time - 70s PM Cycle Time – 70s	PRC 1.8%	Total Delay 68.14 (pcuHR)	PRC -4.7%	Total Delay 92.17 (pcuHR)

Table 9-6: Fiveways Corner 2021 Future Base

- 9.5.8 The results of the model output for the future Opening Year 2021 indicate that the junction will operate with a small amount of Practical Reserve Capacity (PRC) in the AM peak hour of 1.8%. The junction will operate over capacity in the PM peak hour, with a reported PRC of -4.7%.
- 9.5.9 In both the AM and PM peak hours the highest degrees of saturation occur on the southern part of the junction where the A1 and A41 meet. The northern junction between A1 and Page Street and the internal signals both operate with some residual capacity.
- 9.5.10 A summary of the future performance of the Fiveways Corner junction in the Future Year 2026 is presented in **Table 9-7**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Junction 1 – Watford Way / Page Street / Hall Lane				
Watford Way EB (Lane 1+2)	89.0%	19.9	70.3%	14.9
Watford Way EB (Lane 3)	74.1%	12.1	75.3%	15.8
Watford Way EB (Lane 4)	72.7%	12.2	74.7%	16.4
Page Street SB	85.7%	9.4	71.0%	8.1
Watford Way NB (Lane 1)	45.2%	0.4	56.0%	0.6
Watford Way NB (Lane 2)	48.1%	0.5	57.0%	0.7
Watford Way NB (Lane 3+4)	79.0%	8.2	72.8%	10.5
Hall Lane NB	2.2%	0.1	0.8%	0.0
Junction 2 – Internal Signals				
Watford Way EB (Lane 1)	60.3%	0.8	46.9%	0.4
Watford Way EB (Lane 2)	67.5%	7.1	76.4%	21.6
Watford Way EB (Lane 3)	70.1%	5.1	75.5%	21.5
Watford Way NB (Lane 1)	45.2%	0.5	55.9%	7.3
Watford Way NB (Lane 2)	49.6%	0.5	58.9%	0.7
Watford Way NB (Lane 3+4)	76.6%	6.0	85.2%	11.4
Junction 3 – Watford Way / Great North Way				
Great North Way EB (Lane 1)	45.9%	3.6	33.9%	2.8
Great North Way EB (Lane 2)	47.6%	4.5	37.4%	2.1
Great North Way WB (Lane 1+2)	90.3%	16.7	95.1%	22.9
Great North Way WB (Lane 3)	55.8%	5.8	93.0%	20.6
Watford Way EB (Lane 1)	77.6%	6.5	74.2%	3.3
Watford Way EB (Lane 2)	80.0%	5.7	76.5%	4.1
Watford Way EB (Lane 3+4)	42.4%	2.5	58.7%	3.8
Watford Way NB (Lane 1)	90.8%	14.5	98.9%	30.3

Watford Way NB (Lane 2)	91.0%	14.4	99.0%	30.3
Watford Way NB (Lane 3)	86.7%	12.2	97.7%	27.1
AM Cycle Time - 70s PM Cycle Time – 70s	PRC -1.1%	Total Delay 76.75 (pcuHR)	PRC -10.0%	Total Delay 119.66 (pcuHR)

Table 9-7: Fiveways Corner 2026 Future Base

9.5.11 The results of the model output for the Future Year 2026 indicate that the junction will operate at or above capacity on some arms in both the AM and PM peak hours. PRC's of -1.1% and 10.0% are reported for the AM and PM peak hours respectively.

9.5.12 It is noted that the northern junction between A1 and Page Street begins to operate at capacity in the Future Year 2026, where previously results indicated residual capacity existed.

Junction 4 - Mill Hill Circus

9.5.13 A summary of the future performance of the Mill Hill Circus junction is presented in Table 9.8 and **Table 9-9**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Lawrence Street (Lane 1)	103.4%	27.9	76.8%	6.0
Lawrence Street (Lane 2 + 3)	104.0%	27.0	81.2%	6.5
Watford Way WB (Lane 1)	96.7%	26.9	98.5%	36.2
Watford Way WB (Lane 2 + 3)	97.5%	28.7	100.7%	45.4
The Broadway (Lane 1)	58.6%	5.9	81.8%	7.1
The Broadway (Lane 2 + 3)	40.2%	3.1	78.1%	5.3
Watford Way EB (Lane 1)	106.7%	64.4	93.5%	22.3
Watford Way EB (Lane 2 + 3)	81.0%	16.3	71.1%	11.5
Rbt Circulation 2 (Lane 1)	32.4%	2.3	54.2%	2.7
Rbt Circulation 2 (Lane 2)	40.1%	3.6	53.6%	3.2
Rbt Circulation 2 (Lane 3)	7.8%	0.6	30.9%	1.7
Rbt Circulation 4 (Lane 1)	38.1%	4.0	51.5%	3.7
Rbt Circulation 4 (Lane 2)	59.5%	5.7	66.1%	5.5
Rbt Circulation 4 (Lane 3)	53.4%	5.4	42.1%	3.2
AM Cycle Time - 71s PM Cycle Time – 64s	PRC -18.5%	Total Delay 134.49 (pcuHR)	PRC -11.9%	Total Delay 101.62 (pcuHR)

Table 9-8: Mill Hill Circus 2021 Future Base

- 9.5.14 The results of the model output for the future Opening Year 2021 indicate that the Mill Hill Circus junction will operate above capacity in both peaks hours with a reported PRC of -18.5% in the AM peak hour and -11.9% in the PM peak hour.
- 9.5.15 The highest degrees of saturation occurs on Lawrence Street and Watford Way eastbound in the AM peak hour and on Watford Way westbound in the PM peak hour. The southern entry of The Broadway and the signalised inner circulation lanes operate with some levels of reserved capacity in both AM and PM peak hours.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Lawrence Street (Lane 1)	107.0%	31.7	92.8%	9.5
Lawrence Street (Lane 2 + 3)	107.4%	30.9	94.7%	11.1
Watford Way WB (Lane 1)	100.7%	36.8	103.9%	61.0
Watford Way WB (Lane 2 + 3)	101.2%	40.4	105.9%	80.3
The Broadway (Lane 1)	61.4%	6.4	87.0%	8.4
The Broadway (Lane 2 + 3)	42.0%	3.6	85.0%	6.5
Watford Way EB (Lane 1)	113.2%	98.4	99.6%	35.1
Watford Way EB (Lane 2 + 3)	81.5%	16.5	69.8%	11.0
Rbt Circulation 2 (Lane 1)	30.3%	2.0	55.7%	3.0
Rbt Circulation 2 (Lane 2)	41.0%	3.7	56.8%	3.5
Rbt Circulation 2 (Lane 3)	9.9%	0.7	32.9%	1.7
Rbt Circulation 4 (Lane 1)	40.5%	4.2	53.2%	3.9
Rbt Circulation 4 (Lane 2)	60.6%	5.9	68.5%	5.8
Rbt Circulation 4 (Lane 3)	55.6%	5.6	43.7%	3.3
AM Cycle Time - 71s PM Cycle Time – 64s	PRC -25.8%	Total Delay 197.07 (pcuHR)	PRC -17.7%	Total Delay 181.83 (pcuHR)

Table 9-9: Mill Hill Circus 2026 Future Base

- 9.5.16 The results of the model output for the Future Year 2026 indicate that the Mill Hill Circus junction will operate above capacity in both peaks hours with a reported PRC of -25.8% in the AM peak hour and -17.7% in the PM peak hour.
- 9.5.17 The highest degrees of saturation occurs on Lawrence Street and Watford Way eastbound in the AM peak hour and on Watford Way westbound in the PM peak hour. The southern entry to the junction, The Broadway, and the signalised inner circulation lanes operate with some levels of reserved capacity in both AM and PM peak hours.

Junction 5 - Bunns Lane / Grahame Park Way Mini Roundabout (Proposed Layout)

- 9.5.18 Through pre-application discussions with LBB it is understood that the junction of Grahame Park Way and Bunns Lane is currently proposed to be improved to provide additional capacity. LBB have supplied a layout of the proposed amendment to the junction, a copy of which is contained within **Appendix R**.
- 9.5.19 The proposal will provide the following:
- ⦿ The approach on Bunns Lane (East arm) is proposed to be widened and will include a left-turn lane. The central refuge is proposed to be relocated to the south to provide widening to the exit lane.
 - ⦿ Bunns Lane (north-west arm) is proposed to be widened and will provide two traffic lanes on the approach. The central refuge is proposed to be re-located and exit arm widened.
 - ⦿ Both of the entry and exit lanes on Graham Park Way are proposed to be locally widened and will include minor re-location of the refuge island.

- 9.5.20 A summary of the future performance of the junction is presented in **Table 9-10**.

Opening Year 2021 – Future Baseline				
Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Bunns Lane (North West)	0.780	3.4	0.800	3.8
Bunns Lane (East)	0.970	15.1	0.710	2.4
Grahame Park Way	0.790	3.5	0.680	2.1
Future Year 2026 – Future Baseline				
Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Bunns Lane (North West)	0.810	4.2	0.840	5.1
Bunns Lane (East)	1.010	25.0	0.760	3.0
Grahame Park Way	0.830	4.3	0.740	2.7

Table 9-10: Bunns Lane / Grahame Park Way 2021 and 2026 Future Base

- 9.5.21 The modelled results indicate that although the proposed works offer some benefit by mitigating the impact of additional traffic in the future years, the junction will continue to operate above practical capacity in the AM peak hour. The junction will operate with residual capacity in the PM peak hour.

Junction 6 – The Broadway / Bunns Lane / Hale Lane Mini Roundabout

- 9.5.22 A summary of the future performance of the mini roundabout formed by The Broadway, Bunns Lane and Hale Lane is presented in **Table 9-11**.

Opening Year 2021 – Future Baseline				
Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Hale Lane	1.140	44.4	1.190	57.8
The Broadway	1.080	30.3	1.120	43.6
Bunns Lane	1.030	13.4	1.070	20.1
Future Year 2026 – Future Baseline				
Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Hale Lane	1.200	61.8	1.280	87.9
The Broadway	1.130	42.1	1.210	66.4
Bunns Lane	1.060	17.8	1.120	28.4

Table 9-11: Hale Lane / Bunns Lane / The Broadway 2021 and 2026 Future Scenarios

- 9.5.23 It was identified that the junction operates above capacity in 2016 in **Section 6**. As the result of additional traffic the junction will continue to perform less efficiently in the future years, suffering from increased queuing and delays.

Junction 7 – Bunns Lane / Pursley Road / Page Street Mini Roundabouts

- 9.5.24 A summary of the future performance of the double mini roundabout formed by Bunns Lane, Pursley Road and Page Street is presented in **Table 9-12**.

Junction	Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
		RFC	Queue (Veh)	RFC	Queue (Veh)
Opening Year 2021 – Future Baseline					
Bunns Lane – Page Street Mini Roundabout	Page Street (North)	1.280	34.3	0.950	6.7
	Page Street (South)	0.930	8.0	0.930	7.9
	Bunns Lane	1.380	126.1	1.150	77.3
Page Street – Purley Road Mini Roundabout	Pursley Road	1.380	200.0	1.280	126.1
	Page Street (South)	1.430	119.6	1.400	108.9
	Page Street (North)	0.910	7.9	0.910	7.9
Future Year 2026 – Future Baseline					
Bunns Lane – Page Street Mini Roundabout	Page Street (North)	1.330	42.7	1.020	9.7
	Page Street (South)	0.930	8.0	0.930	7.9
	Bunns Lane	1.430	153.8	1.240	124.3
Page Street – Purley Road Mini Roundabout	Pursley Road	1.440	241.1	1.350	171.3
	Page Street (South)	1.500	141.5	1.480	138.0
	Page Street (North)	0.910	7.9	0.920	7.9

Table 9-12: Hale Lane / Bunns Lane / The Broadway 2021 and 2026 Future Base

- 9.5.25 It was identified that the junction operates above capacity in 2016 in **Section 6**. As the result of additional traffic the junction will continue to perform less efficiently in the future years, suffering from increased queuing and delays.

9.6 SUMMARY

- 9.6.1 The future baseline junction capacity assessment has indicated that by the Future Year 2026 all junctions in the assessment area will have reached a level of practical capacity and experience accumulation of queued vehicles and increased delays as a result of background traffic growth and committed development.
- 9.6.2 Full results of the base model outputs for the Opening Year 2021 and Future Year 2026 are contained within **Appendix S**.

10 PROPOSED DEVELOPMENT

10.1.1 This Section of the TA provides a description of the proposed development with specific reference to schedule of accommodation, and the nature of the uses proposed.

10.2 SCHEDULE OF ACCOMMODATION

10.2.1 The proposed development comprises the demolition of all existing buildings and construction of 844 new Class C3 residential units and ancillary Class C3 Build to Rent facilities; 405sqm Gross Internal Area (GIA) Class A1 Retail; 326sqm (GIA) Class A3 and A4 food; and 297sqm (GIA) Class D1 Community; new pedestrian access to Bunns Lane; open space, landscaping; car parking; and highway/pedestrian improvements. It is anticipated that works could take place between 2019 and 2023.

10.2.2 **Table 10-1** below sets out the proposed development schedule in more detail.

Proposed Use	Quantum
C3 - Residential	844 Units
C3 - Ancillary	894 sqm GIA
A1 – Convenience Store	251 sqm GIA
A1 – Dry Cleaners/Hairdressers	154 sqm GIA
A3 / A4 – Restaurant / Pub	154 sqm GIA
A3 – Coffee Shop / Café	171 sqm GIA
D1 – Healthcare / Nursery	297 sqm GIA

Table 10-1: Proposed Development Schedule

10.2.3 Proposed ground floor and lower ground floor plans of the development are contained within **Appendix T** and form the basis for the description of the development within the TA.

10.3 PROPOSED RESIDENTIAL ACCOMMODATION

10.3.1 The development will provide 844 residential units in a mix of one, two, and three bedroom units. 458 units are proposed to be Build to Rent (54% of all units), of which 188 units will be offered as affordable housing, comprising 30% London Living Rent (LLR) and 70% Discounted Market Rent (DMR). 386 units will be conventional residential (46% of all units), of which 157 will be offered as affordable housing, comprising 60% London Affordable Rent and 40% shared ownership.

10.3.3 **Table 10-2** provides a breakdown of the number of unit types proposed.

No. of Bedrooms	No. of Units
Studio (1 Person)	4
1 bedroom (2 Person)	281
2 bedroom (3 Person)	96
2 bedroom (4 Person)	340
3 bedroom (5 Person)	24
3 bedroom (6 Person)	99
Total	844

Table 10-2: Proposed Residential Unit Mix

Build to Rent

10.3.4 Built to Rent means that the development:

- ⦿ is purpose built for the rental market with a higher quality longer lasting specification;
- ⦿ secures longer tenancy terms with capped rent rises during tenancies;
- ⦿ is professionally managed over the long term by a single institution;
- ⦿ provides a range of on-site services (i.e. concierge and maintenance support); and
- ⦿ provides shared residential amenities.

10.3.5 The benefits of Build to Rent accommodation are:

- ⦿ housing to meet the growing demand for rental properties in Mill Hill;
- ⦿ secure tenancies for young professionals and families;
- ⦿ good quality, secure accommodation for the squeezed middle (no equity deposit or mortgage required); and
- ⦿ employment opportunities linked to building management and maintenance.

Affordable Housing

10.3.6 It is proposed to offer 41% of the residential units as affordable housing, comprising 30% LLR and 70% DMR of the Build to Rent units, and 60% London Affordable Rent and 40% shared ownership of the conventional residential units.

Residential Ancillary Uses

- 10.3.7 The nature of the residential as Build to Rent means that dedicated space is provided for the ongoing management facility, inclusive of a concierge service that will have a 24-hour presence within the site.
- 10.3.8 Other ancillary uses will also be provided inclusive of a residents post office, meeting space, and a fitness centre for build to rent residents to use exclusively. It is recognised that this also acts to mitigate against vehicle trips that might otherwise be generated for the purposes of accessing these uses, and supports those who are unable to afford car ownership, and influences choice against car ownership.
- 10.3.9 Ancillary uses to the residential development are proposed to be located at ground floor level within the 'inner circus'; a central connective hub at the heart of the development, for socialising, recreation and biodiversity.

Context in Barnet and Mill Hill

- 10.3.10 It is recognised that the proposed residential accommodation offered is not typical in its nature, and in particular it is different by comparison to housing stock and tenure that currently exists in Mill Hill and more widely in Barnet.
- 10.3.11 **Figure 10-1** below indicates the proportion of residential dwellings within defined areas by tenure type.

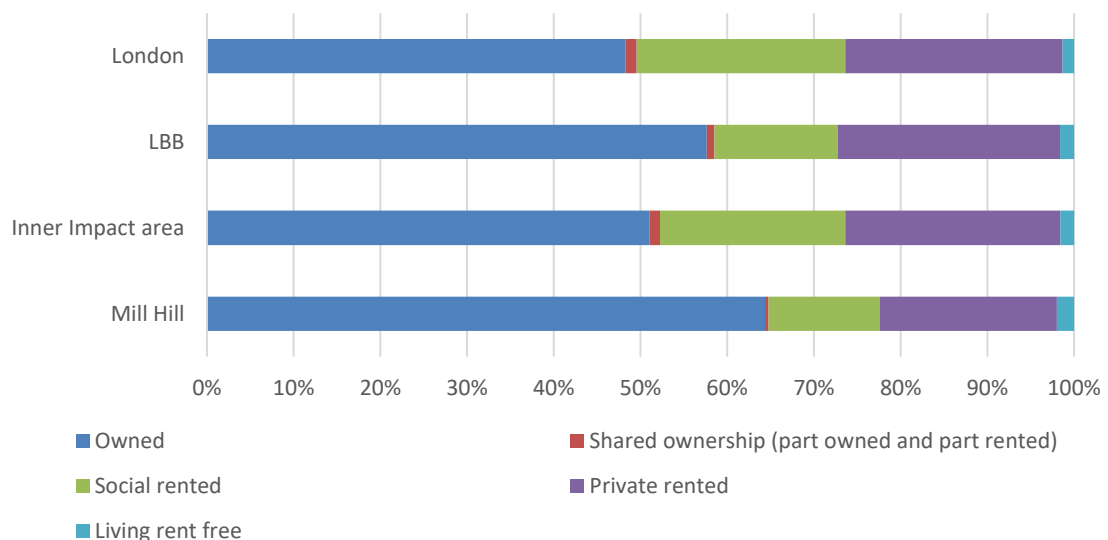


Figure 10-1: Contextual Tenure Profile

- 10.3.12 The area described as the Inner Impact Area (IIA) consist of Burnt Oak, Colindale, Hale, Hendon and Mill Hill Wards combined.
- 10.3.13 A significant proportion of residents in each of the assessed areas own their homes. Home ownership is highest in Mill Hill (64%) and LBB (58%), and lowest in London (48%) and the IIA (51%). The proportion of residents living in social rented accommodation lower in Mill Hill ward (13%) and Barnet (14%), and highest in London (48%) and the IIA (21%). Also the proportion of residents living in private rented accommodation is lower in Mill Hill ward (20%) when compared to the IIA (25%), LBB (26%) and London as a whole (25%).

10.3.14 **Figure 10-2** below shows the proportion of flats by comparison to houses within the same geographic areas as **Figure 10-1**.

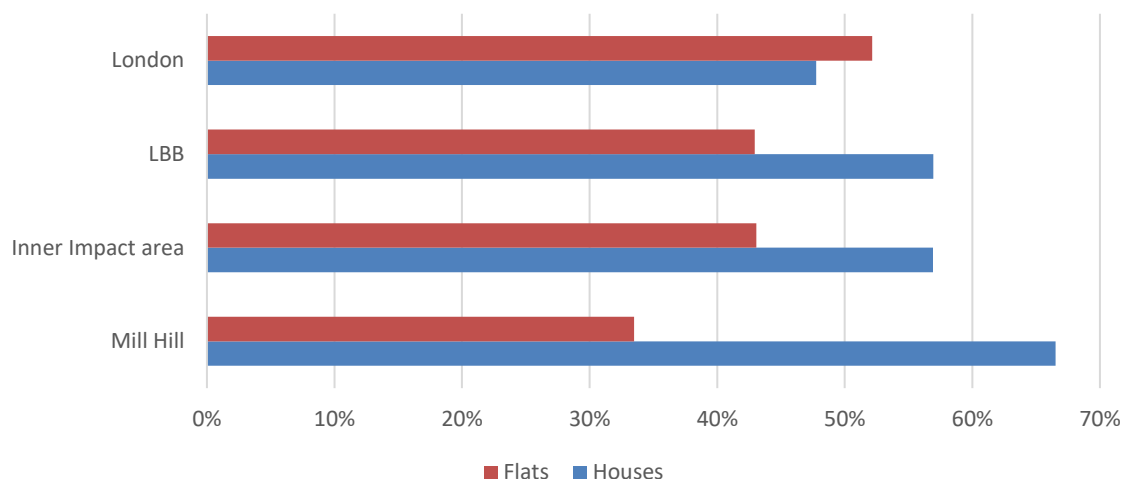


Figure 10-2: Dwelling Type

10.3.15 Within London as a whole the majority (48%) of residents live in flats. Within the LBB, the IIA and Mill Hill ward the majority of residents live in houses, 57%, 57% and 67% respectively.

10.3.16 The data above highlights the fact that the proposed development is not typical of existing housing stock or tenure type in LBB and more specifically Mill Hill. This is considered to be an important distinction in determining appropriate measures to cater for the developments specific needs, and is fundamental in determining an appropriate parking strategy for the site (see **Section 12**).

10.4 OTHER SITE USES

10.4.1 The other non-residential uses proposed on the site are described in the development schedule **Table 10-1**. These uses are located in two distinct areas of the proposed development.

10.4.2 Retail uses (A1 uses) including the dry cleaners and hair dressers, the proposed coffee shop (A3 use), Nursery / Healthcare Centre (D1 use), and restaurant / bar (A3/A use) are proposed to be located within the 'inner circus' of the development.

10.4.3 The small convenience store (A1 use) is proposed to be located at the southern-most end of the site.

10.4.4 Although these facilities will be accessible to the wider public, it is anticipated they will be heavily supported by the residential development and as such will operate more like an ancillary use.

10.5 SUMMARY

10.5.1 The development will provide 844 residential units in a mix of one, two, and three bedroom units. 458 units are proposed to be Build to Rent (54% of all units), of which 188 units will be offered as affordable housing, comprising 30% London Living Rent (LLR) and 70% Discounted Market Rent (DMR). 386 units will be conventional residential (46% of all units), of which 157 will be offered as affordable housing, comprising 60% London Affordable Rent and 40% shared ownership.

10.5.2 Other ancillary uses will also be provided inclusive of a resident's post office, meeting space, and a fitness centre for build to rent residents to use exclusively.

- 10.5.3 The proposed residential accommodation offered is not typical in its nature, and in particular it is different by comparison to housing stock and tenure that currently exists in Mill Hill where 64% of homes are owner occupied, and 67% of properties are houses.

11 DEVELOPMENT ACCESS STRATEGY

11.1.1 This Section of the TA describes both changes to, and how, access to the site will occur as a result of the proposed development.

11.2 OVERVIEW

11.2.1 Proposed site layout plans are contained within **Appendix T**. The proposed development is formed by a number of building blocks.

- ⊙ Blocks A, C, E, G, I, J, L, N, O, Q, and R run along the full extents of the western extents of the site forming a screen to the adjacent M1 motorway;
- ⊙ Blocks B, D, F, H, K, M, and P are located along the eastern extents of the site forming a screen to the A1; and
- ⊙ Blocks K and L oppose each other on the east and west sides of the development at its widest point to create a large central amenity space for activity to occur, known as the inner circus;

11.2.2 The form and landscaping of the development are proposed to maximise the amount of outdoor amenity space on the development, and as such the severance of intrusive vehicular traffic is proposed to be pushed to the periphery of the site by means of a two-way peripheral road located on the western boundary of the site.

11.2.3 It is from the internal peripheral road that access can be gained to the lower ground floor parking areas for residents, which is described in more detail in **Section 12**.

11.2.4 In order to ensure that some activity is maintained within the inner circus, a minimal amount of vehicular traffic will be able to access this area by means of control and for short stay durations (i.e. taxis, small deliveries, refuse collection).

11.2.5 Vehicular access and egress to the site is maintained in accordance with the existing arrangements. Vehicles enter and exit the site from the northbound carriageway of the A1. Vehicles access and egress is via the on and off-slip roads linked to the A1 which are proposed to be maintained in their current form.

11.3 PEDESTRIAN AND CYCLE ACCESS

Primary Bunns Lane Access

11.3.1 A new pedestrian link is proposed between the site and Bunns Lane that unlocks what was a barrier to the site. In pre-application feedback TfL stated that they consider “that a direct pedestrian and cycle access onto Bunn’s Lane is necessary for a residential use of the site and should be provided”.

11.3.2 The link is proposed to have a positive impact on both the sites accessibility, permeability, and resident’s ability to access key services located north of the development. It is intended that the link will open up access to bus routes 221 on Bunns Lane, and 113 on the A1, as well as significantly improve connections to Mill Hill Broadway station.

- 11.3.3 The proposed access and egress will provide a direct and coherent link from Bunns Lane with both the A1, and the site. An access to the proposed link will be formed in the northern corner of the central area of the site between block M and K which is located directly on the desire line. The continuation of the link from Bunns Lane permeates through the site, allowing for a coherent and pleasant route.
- 11.3.4 An accessible route linking Bunns Lane with the development is also proposed. This includes a 1:21 gradient ramp that zig-zags up the embankment with more direct stepped access either side. The route will be landscaped with trees and groundcovers to balance surveillance with a buffering from surrounding traffic.
- 11.3.5 **Figure 11-1** indicates the proposed primary access / egress to Bunns Lane, with visual representations of the how this route would appear shown in **Figures 11-2 & 11-3**.

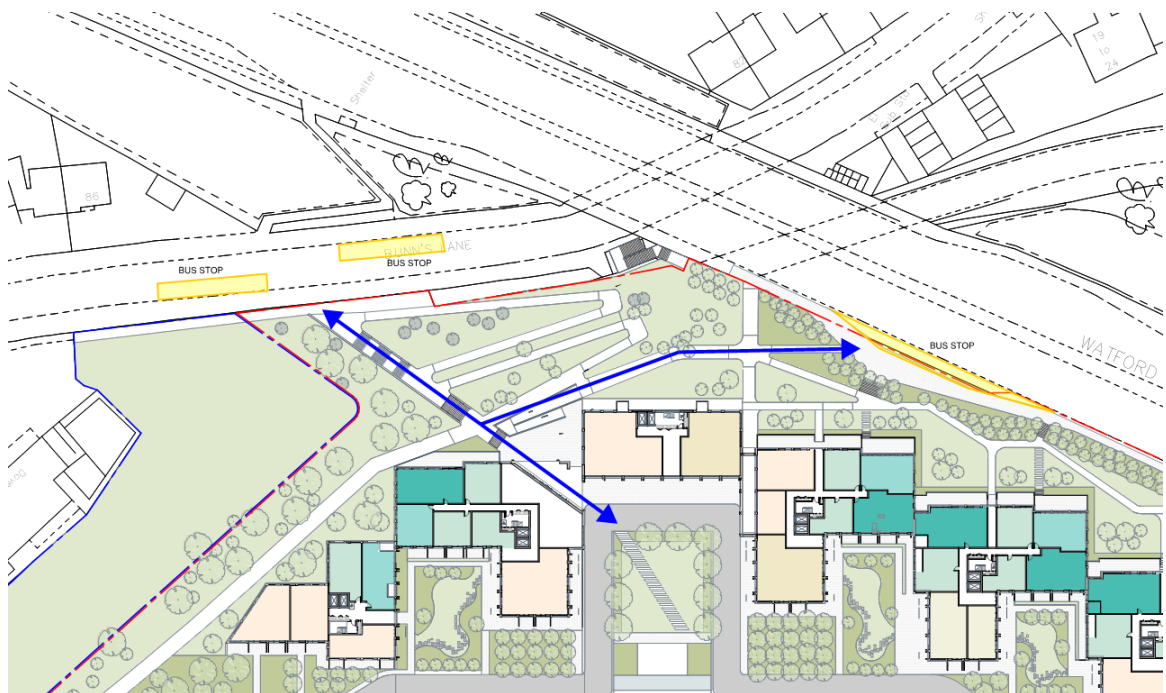


Figure 11-1: Proposed Primary Bunns Lane Link



Figure 11-2: View from Bunns Lane



Figure 11-3: View into the central area of the development

Secondary Bunns Lane Access

- 11.3.6 It is proposed to provide a secondary route to Bunns Lane, which both connects to the site and the A1. The route is proposed as a shared cycle footpath (3.0m wide), to extend the existing shared cycle footpath on the A1 and provide a connection not currently available.
- 11.3.7 The secondary access route is shown below in **Figure 11-4**.

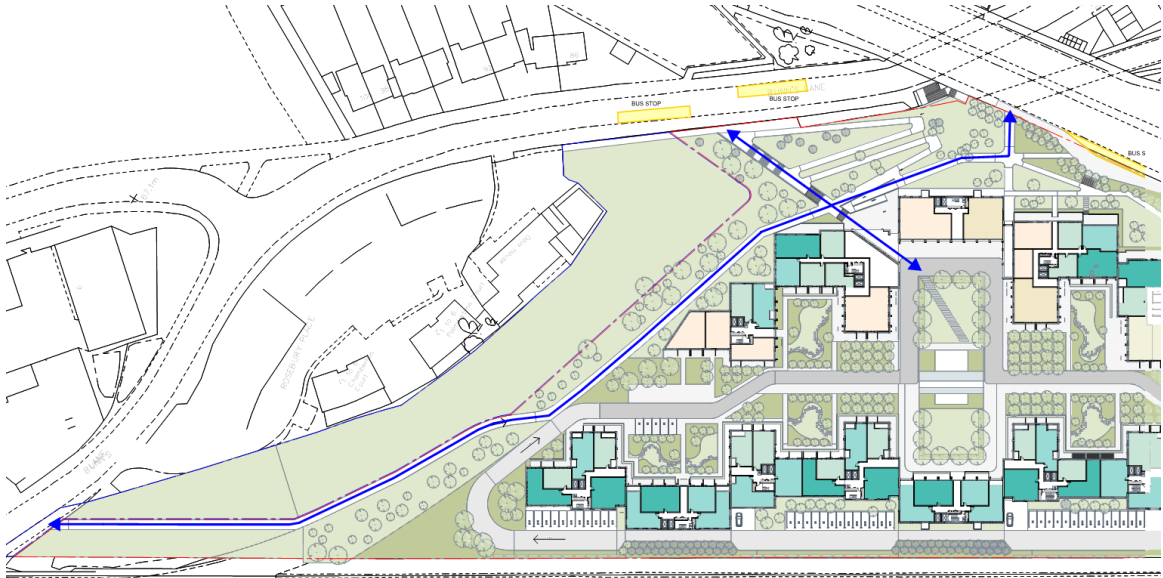


Figure 11-4: Proposed Secondary Bunns Lane Link

- 11.3.1 The primary function of the secondary access route is expected to provide access to Bunns Lanes with the onward journey in that direction (i.e. continuing on Bunns Lane, access to Grahame Park Way etc), whereas those wishing to access Flower Lane for Mill Hill Broadway would seek to use the new link adjacent the main pedestrian access to Bunns Lane.
- 11.3.2 Both encourage left turn movements and therefore would not require a crossing to cater for the predominant demand. This was considered preferential given the significant local concerns regarding any interventions that might disrupt the flow of traffic on Bunns Lane. Any such proposal that might be brought forward in conjunction with the development would also need to consider the balance of sustainable modes utilising Bunns Lane. Within this TA it is identified that in the AM Peak 57 people are likely to utilise the 221 bus service, and a further 175 pedestrian movements will be generated. This compares to only 17 total cycle trips in any direction (i.e. not necessarily on Bunns Lane). On balance, significant cycle infrastructure improvements such as introduction of Toucan Crossings or segregated cycle tracks were not considered appropriate or relative to the development's specific demands

Access to the A1

- 11.3.3 Dual core access is proposed to the blocks located on the east side of the site, adjacent the A1. This facilitates direct access / egress to the A1, and is provided in conjunction with some defensible space to the ground floor units by way of terraces.
- 11.3.4 The provision of access to the cores will activate this edge of the site and will assist in providing a further level of natural surveillance to the landscape buffer between the site and the A1. It is also proposed to allow access through the blocks on the east side of the site for those residents in blocks to the east. Thus removing the eastern buildings as a barrier to A1, and increasing permeability whilst reducing walking distance to the wider highway network.

- 11.3.5 Access, activation and surveillance of the A1 edge has been further enhanced by relocation of a site concierge / reception to face the A1 within Block H. Access between the A1 and the central area of the site will also be facilitated through a tunnel adjacent the concierge for both residents and visitors.
- 11.3.6 A linear park is proposed to provide a buffer between the site and the A1 which can also be used as a secondary route to connect to Bunns Lane rather than the footpath on the A1.
- 11.3.7 **Figure 11-5** shows the newly proposed connections from the site to the A1 as described above.

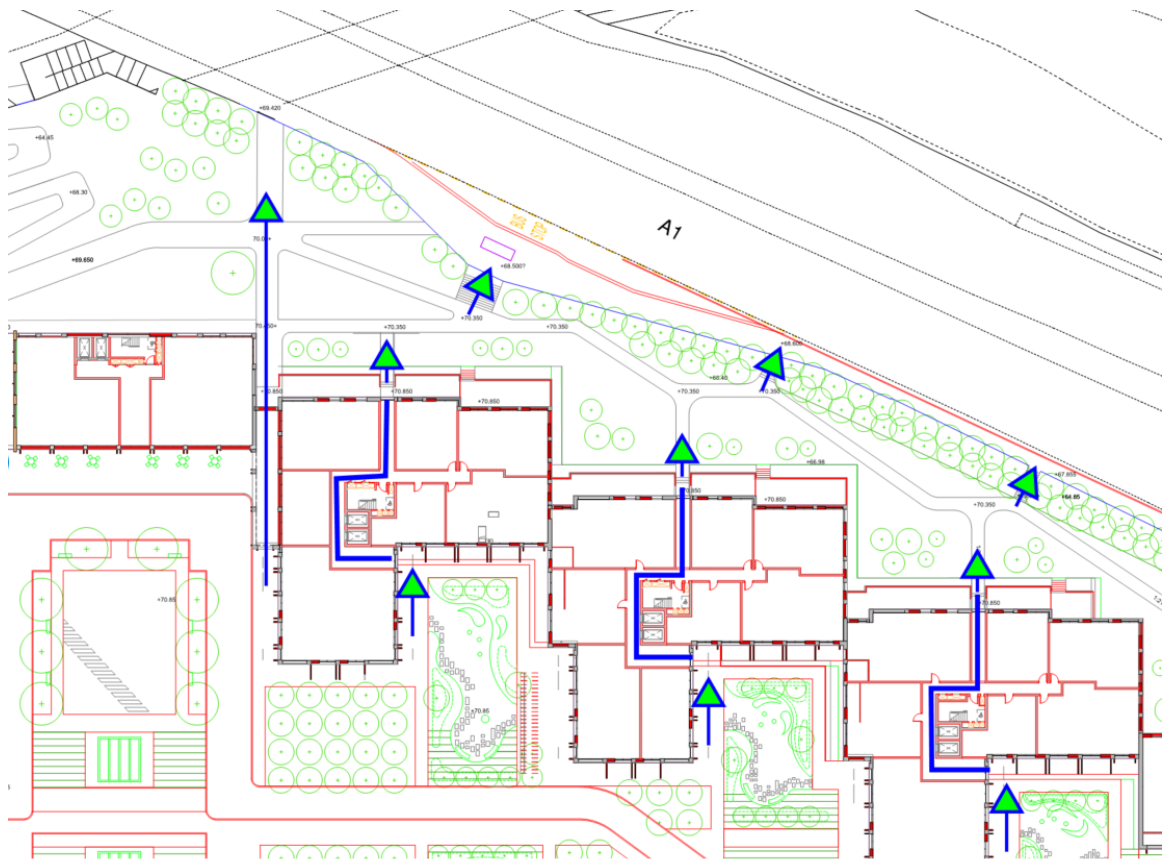


Figure 11-5: Connections to the A1

Southern 'Entry Square'

- 11.3.8 A piazza will be created that will provide a great sense of arrival for both the residents and the wider community. It facilitates pedestrian desire lines through to the central park through the development; to the retail store south of the space; the residential concierge to the north, and the route up to the linear park adjacent to the A1.
- 11.3.9 Sculptural seating and lighting is placed throughout the piazza to encourage social interaction throughout the day and early evening. **Figure 11-6 & 11-7** show the proposed treatment of the area.



Figure 11-6: Proposed Layout (Southern Entry Square)



Figure 11-7: Visualisation of Southern Entry Square

Connection to M1 Footbridge

- 11.3.10 Access to the site for pedestrians and cyclists is proposed to be further improved by the provision of a footpath that connects directly to the bottom of the existing ramp to bridge over the M1 and access Grahame Park Way.
- 11.3.11 The proposed route connecting the development to the M1 footbridge will involve substantial landscape improvements, including the creation of the new footpath together with attractive and robust planting adjacent to this path and up to the connection to the bridge ramp.
- 11.3.12 These combined enhancements will ensure that these present key routes across the major infrastructures will become more popular and attract regular usage. This in turn will provide a feeling of greater safety and security through surveillance.

Grahame Park Way Underpass Improvement

- 11.3.13 The development will fund an improvement scheme to the railway underpass to Grahame Park Way inclusive of the M1 footbridge. It is understood that both of these assets are owned by third parties (e.g Highways England), and therefore it has been discussed and agreed with LBB that the exact nature and details of the improvements will be determined post determination and secured by planning condition.
- 11.3.14 Although the details of the improvements are not defined, it is proposed that they will broadly consist of stone and masonry refurbishment, improved landscaping, and additional lighting and surveillance.
- 11.3.15 **Figure 11-8** is an illustrative example of how the underpass could be improved.

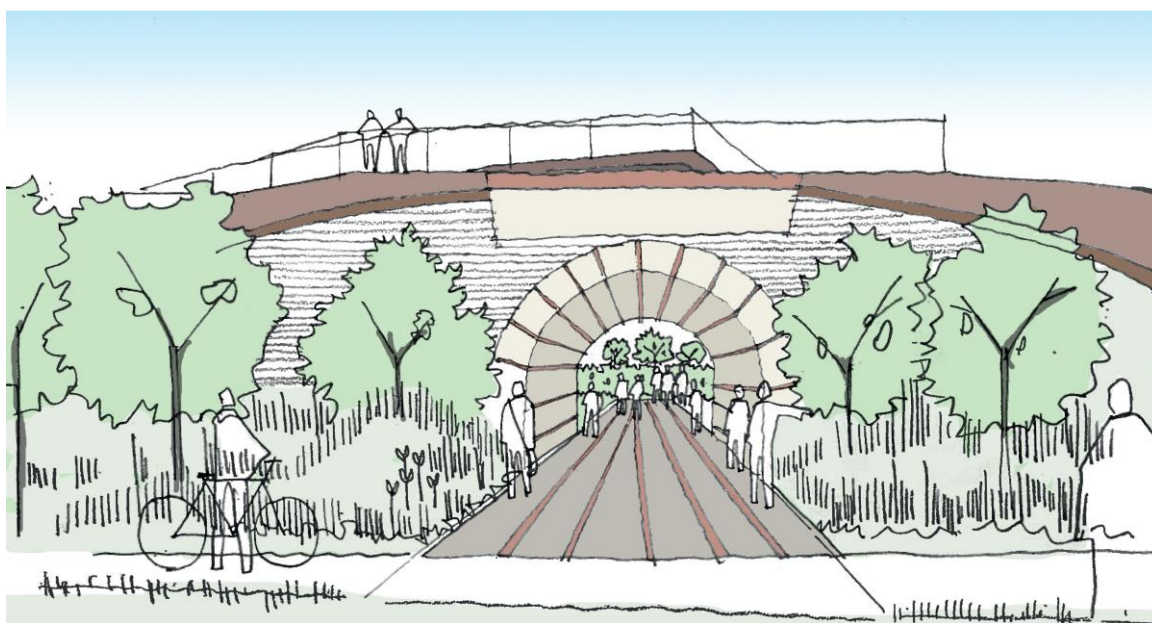


Figure 11-8: Potential Grahame Park Way Underpass Improvement (for illustrative purposes)

Central Site Areas

- 11.3.16 Interaction with vehicular traffic is minimised within the site for north-south movements due to the provision of the peripheral road located on the western side of the site which will cater for the majority of vehicle movements.

- 11.3.17 The surface treatment to the shared, trafficable surfaces within the inner circus are less intrusive than the peripheral road and highlight that the space is for shared use by pedestrian and cyclists also. The route connects to both the north and the south and facilitates permeability across the site for both pedestrians and cyclists.
- 11.3.18 To further assist the connections across the site, a pedestrian / cycle route extends from 'Mill Hill Walk' (refer to plans in **Appendix T**) across the southern entry square. This allows connection to the crossing point on the egress slip road to the A1, which gives access to the A1's footpath and bus stops for route 113.

Connecting Cycling Routes

- 11.3.19 A combination of all the proposed accessibility improvements assists in making the site highly permeable for both pedestrians and cyclists. The proposal creates new cycle links between the A1 and Bunns Lane which currently do not exist. The proposal also allows for varied route choice and route choice characteristics in order to make the new connection, which widens the appeal of the cycling connections to a wider cohort of cyclists with varying degrees of experience and confidence.
- 11.3.20 New connections are made to Bunns Lane (which currently do not exist other than via a very steep & narrow connection on the north side of Bunns Lane), which facilitates the opening up of access to Mill Hill Town Centre via either Flower Lane or Bunns Lane.
- 11.3.21 As with Mill Hill Town Centre, the new cycle connections facilitate access to Flower Lane & Mill Hill Park by creation of a new cycle link between the Site / A1 and Bunns Lane.
- 11.3.22 The proposed new 3.0m wide cycle connection to Bunns Lane adjacent the M1 / Rail Bridge facilitates access to the northern end of Grahame Park Way and its associate cycle lane. This is a new and direct (as direct as possible given the site is bound by the M1 and Rail lines to the west) access towards Collindale. Direct access to the ramps associated with the M1 bridge at the southern end of the site can also be gained by cyclists via the new proposed path which would otherwise require circulation around the east side of the BP Petrol Station (and associated crossing movements with the on & off slip roads). This connects to Grahame Park Way via the rail underpass which is subject to improvements as described in this Section of the TA.
- 11.3.23 **Figure 11-9** demonstrates how the proposal helps unlock a new connection between cycle routes to the north and south of the site.

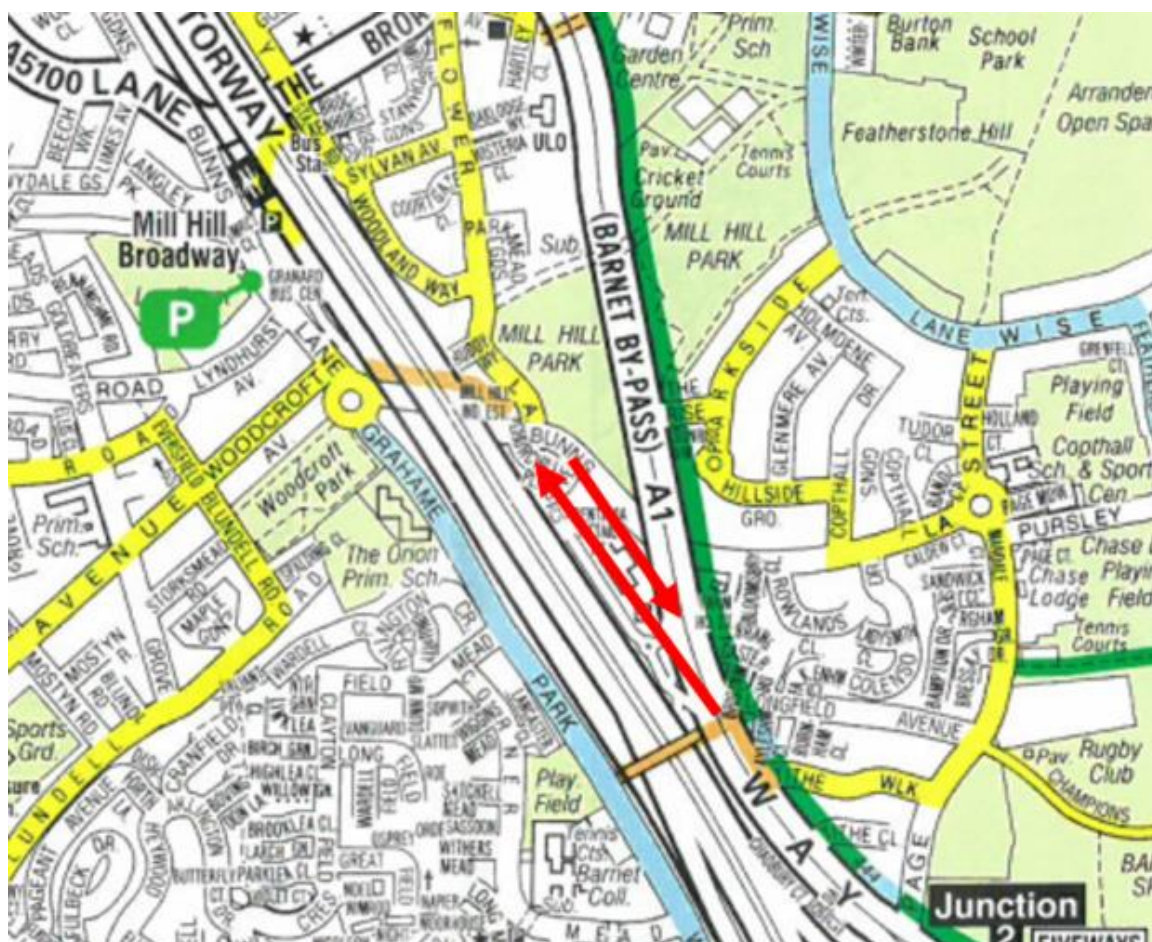


Figure 11-9: Connecting Cycle Routes

- 11.3.24 Extensive cycle parking is provided throughout the site such that access to the site for those wishing to do so by cycle have convenient and safe places to park. The provision of cycle parking is discussed in more detail in **Section 12**.
- 11.4 INTERNAL HEALTHY STREETS AUDIT**
- 11.4.1 To assess the internal access route through the site to make sure it promotes healthy and active travel modes a Healthy Streets Audit has been undertaken. The audit is based on the guidance provided in TfL's 'Guide to the Healthy Streets Indicators' and the 'Healthy Streets Check for Designers' checklist tool.
- 11.4.2 The Healthy Streets approach is a set of policies and strategies to encourage more walking, cycling and public transport, and less car use. When undertaking an audit the context of a street should be considered in terms of its place and movement functions. The area assessed as part of the audit is indicated on **Figure 11-10**.

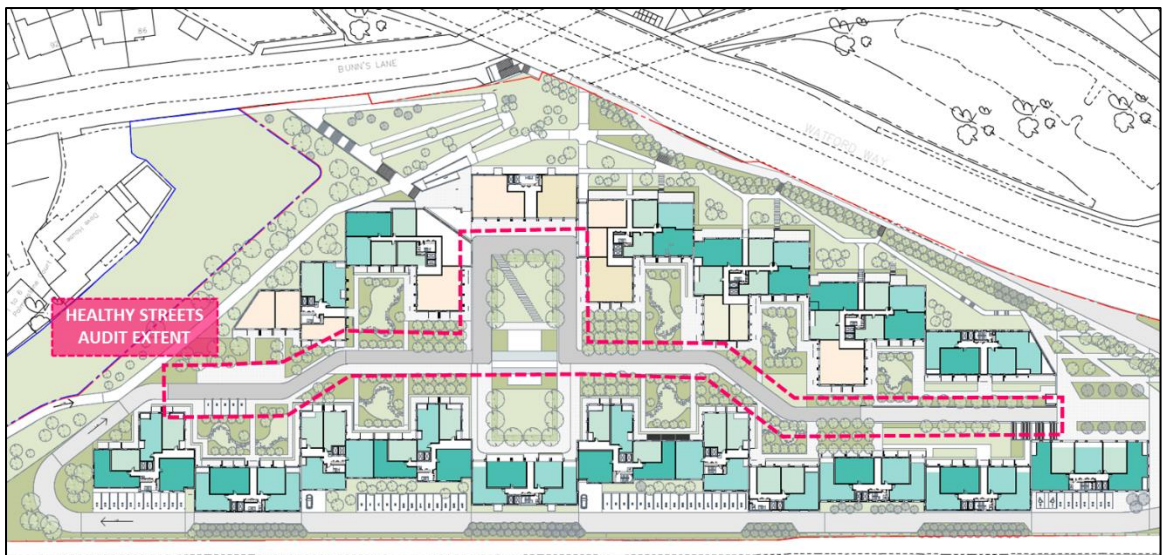


Figure 11-10: Healthy Streets Audit Extent

- 11.4.3 The Healthy Streets audit is provided within **Appendix Ah** and identifies that the infrastructure and landscaping improvements associated with the internal route within the Proposed Development site scores highly on all of the Healthy Streets parameters. The internal route assessed as part of the audit is restricted to a small volume of delivery and servicing vehicles and car club vehicles only. The space is shared with pedestrians and cyclists and is designed to promote active travel modes and encourage slow vehicle speeds.
- 11.4.4 The outcome of the audit is shown in **Figure 11-11** and **Table 11-1**.

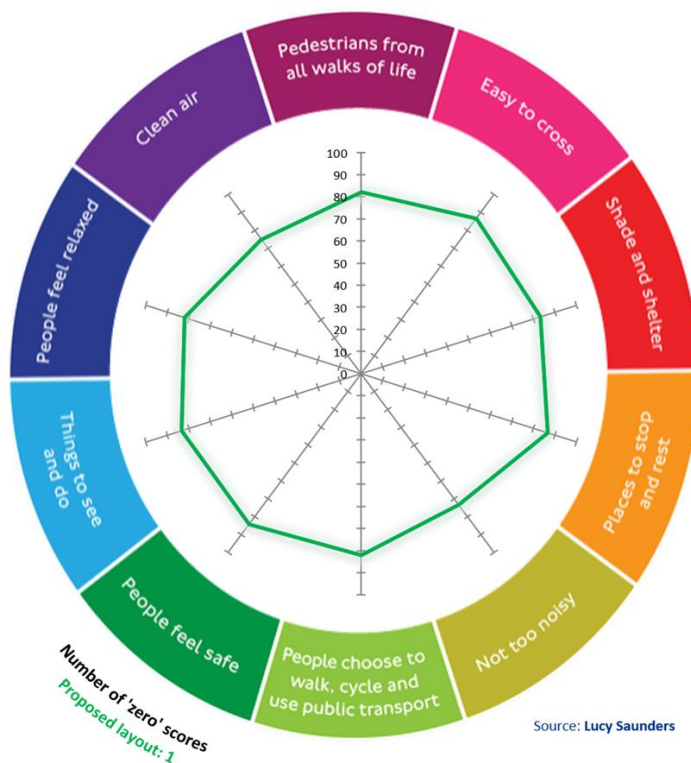


Figure 11-11: Healthy Streets Audit Summary Diagram

CRITERIA	PROPOSED LAYOUT
Pedestrians from all walks of life	82
Easy to cross	87
Shade and shelter	83
Places to stop and rest	87
Not too noisy	73
People choose to walk, cycle and use public transport	82
People feel safe	84
Things to see and do	83
People feel relaxed	82
Clean Air	75
Overall Healthy Streets Check score	82

Table 11-1: Healthy Streets Check Scores

- 11.4.5 The design of the development internal route promotes all aspects of the Healthy Streets approach, with high scores across all of the criteria.
- 11.4.6 Overall, the route will provide plenty of shade and shelter from street trees, places to rest, with benches, and plenty of public realm spaces to stop and rest. The route will be a shared space, meaning that pedestrians and cyclists will be prioritised over motorised vehicles. Furthermore, vehicle speeds will be low due to the nature of the route and its operation as a shared space.
- 11.4.7 The route will provide excellent and safe connections for cyclists and pedestrians from the existing cycle and pedestrian routes along the A1 to Bunns Lane and Flower Lane.
- 11.4.8 The slightly lower criteria are 'Not too noisy' and 'Clean air'. However, it is expected that the route won't be subject to excessive traffic noise due to vehicles on the access road as even though the proportion of heavier vehicles is high, the overall number of vehicles allowed to use the internal route is very low.
- 11.4.9 The development will provide plenty of passive surveillance, amenity lighting, and subsequent feeling of safety through the site. The route provides excellent connections for pedestrians to nearby public transport facilities on Bunns Lane and the A1.
- 11.4.10 The route has only one zero score, which is associated with cyclists interacting with a 'high proportion of heavy vehicles'. However, the proportion is calculated based on the mix of traffic which is predominately limited to servicing vehicles to prevent significant traffic volume within the area. The number of vehicles within the area is actually low (less than 150 movements per day); and therefore limits interaction with active modes allowing for active travel to take place comfortably.

11.5 DELIVERY AND SERVICING ACCESS

- 11.5.1 A DSP has been prepared in support of the planning application, and provides a detailed description of the way in which these operations will occur. A copy of the DSP is has been submitted as a stand-alone document of the planning application.
- 11.5.2 Entry control measures will be in place to prevent unauthorised access (see **Section 12**), but a trade button will allow contact to a site management representative to facilitate access to the site.
- 11.5.3 Delivery and servicing activities of non-residential uses will take place outside of peak times, and will take place from a dedicated servicing area located at the southern end of the site, or at designated loading areas within the sites internal route.

- 11.5.4 Deliveries for residents will also take place in the inner circus, where they will be received by the on-site post / sorting office.
- 11.5.5 Refuse collection will take place from various designated collection points within the inner circus where the on-site management team will consolidate refuse from the development for collection.
- 11.5.6 Vehicle tracking which demonstrates the movements associated with site wide delivery and servicing is contained within the DSP.

11.6 EMERGENCY ACCESS

- 11.6.1 Emergency access is will be achieved throughout the development, via the A1, the internal periphery road, and also internally within the inner circus of the site. Vehicle tracking demonstrating the emergency access routes of the site by LfB Fire Tender are contained in **Appendix U**.

11.7 CONSTRUCTION ACCESS

- 11.7.1 A separate CTMP has been prepared in support of the planning application which fully describes the proposed operation of traffic during the demolition and construction phases of the development.
- 11.7.2 It is also assumed that a full Construction Logistics Plan (CLP) will be secured by planning condition prior to the commencement of any works.

11.8 SUMMARY

- 11.8.1 The existing A1 access and egress will be retained for all vehicle access and egress.
- 11.8.2 A new pedestrian and cycle link is proposed between the site and Bunns Lane which further unlocks the existing constraints of the site. It positively impacts on both the sites accessibility, permeability, and resident's ability to access key services located north of the development.

12 DEVELOPMENT PARKING STRATEGY

12.1.1 This Section of the TA provides a description of the proposed development with specific reference to the parking arrangements and strategy for managing parking activities.

12.2 PROPOSED SITE PARKING

12.2.1 **Table 12-1** provides a summary of proposed site wide car parking provision.

	Residential	Resident Visitor	Car Club	Retail / Commercial / Community	Total
Standard Parking Bays					
with electrical charging point	74	10	5	7	96
with passive electrical provision	207	0	0	0	207
Sub-Total	281	10	5	7	303
Disabled Parking Bays					
with electrical charging point	85	0	0	2	87
Total	85	0	0	2	87
All Car Parking					
Total	366	10	5	9	390

Table 12-1: Site Wide Car Parking Provision

12.2.2 In addition to the parking spaces proposed from the outset, further provision has been made to allow for a further 31 residential car parking spaces within landscaped areas adjacent the peripheral road to the west of the site. These could be converted should demand require, and be secured via a planning condition.

12.2.3 More specific description of proposed car parking provision is provided in the relevant sub-sections that follow.

12.2.4 **Table 12-2** provides a summary of the application of the draft New London Plan Cycle Parking Standards for the non-residential uses proposed.

Use	GIA (sqm)	Long Stay Requirement	Short Stay Requirement	Long Stay Proposed	Short Stay Proposed
A1 – Convenience Store	251	1/175	1/40	1	7
A1 – Dry Cleaners/Hairdressers	154	1/250	1/125	1	2
A3 / A4 – Restaurant / Bar	154	1/175	1/40	1	4
A3 – Coffee Shop / Café	171	1/175	1/40	1	4
D1 – Healthcare / Nursery	297	Based on Staff / Not GFA		4	4
Total				8	21

Table 12-2: Retail / Commercial Cycle Parking Provision

12.2.1 **Table 12-3** provides a summary of the application of draft New London Plan Cycle Parking Standards for the residential units proposed.

Unit Type	No. Units	Long Stay Requirement	Short Stay Requirement	Long Stay Proposed	Short Stay Proposed
Studio	4	1/1	1/40	4	0
1-bedroom (2 Person)	281	1.5/1		422	7
2-bedroom +	559	2/1		1,118	14
Total				1544	21

Table 12-3: Retail / Commercial Cycle Parking Provision

12.2.2 **Table 12-4** provides a summary of proposed site wide cycle parking provision.

	Residential	Retail / Commercial	Total Development
Cycle Parking			
Long Stay	1,544	8	1,552
Short Stay	30	21	51
Total	1,574	29	1,603

Table 12-4: Site Wide Cycle Parking Provision

- 12.2.3 More specific description of proposed cycle parking provision is provided in the relevant sub-sections that follow.

12.3 RESIDENTIAL CAR PARKING

- 12.3.1 It is proposed to provide a total of 366 car parking spaces for the use of residents within the proposed development site. All 366 residential car parking spaces are proposed to be provided within a lower ground level car park.
- 12.3.2 It is proposed that 10% of all accessible units could be provided with a disabled parking space if required. Therefore, it is proposed that 85 parking spaces will be sized and marked for the use of disabled motorists. All disabled spaces will have full electric charging capability. Of the remaining 281 residential car parking spaces 20% will have active electric charging facilities, with the remaining all having passive provision.
- 12.3.3 In addition to the parking spaces proposed from the outset, further provision has been made to allow for a further 31 residential car parking spaces within landscaped areas adjacent the peripheral road to the west of the site. These could be converted should demand require, and be secured via a planning condition. This would result in a total of 397 car parking spaces for residents.

Car Park Management

- 12.3.4 Specific details relating to the management of residential car parking can be found within the CPMP submitted as a stand-alone document of the application. However, it is noted that allocation of parking to residents will be on a rented basis.
- 12.3.5 Parking spaces will be rented to residents rather than allocated by specific unit. This enables parking capacity within the car park to be maximised much more efficiently by comparison to more typical residential parking allocation. Where in other developments, a car parking space is sold or rented in conjunction with an allocated spot, this can result in it being empty if the occupier does not own a car. If an occupier in the proposed development does not own a car they will not rent a space, and thus it will be available to rent to occupiers who do.
- 12.3.6 It is considered that other developments with more typical parking allocation would suffer overspill more quickly due to the fact that they do not optimise parking capacity in this way. For example, an instance can arise where overspill occurs even though 30 parking spaces are free, but allocated to non-car owners. The proposed residential car parking therefore operates equivalent to an unallocated car park.

Demand for Car Ownership

- 12.3.7 At the highest level, a summary of national method of travel to work patterns between Census 2001 and 2011 as shown in **Figure 12-1** shows the change in mode share between the two data sets.

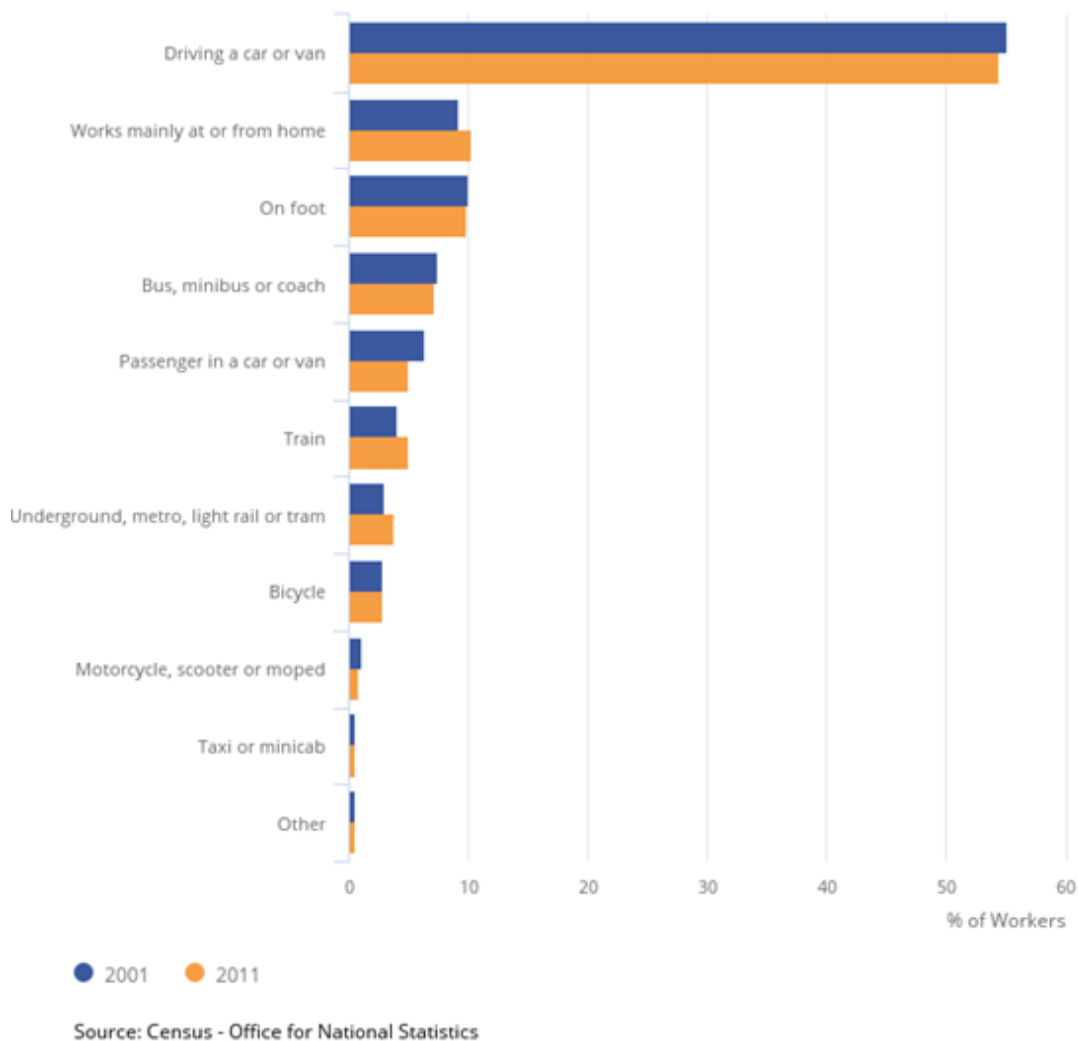


Figure 12-1: Mode of Travel to Work, UK, Census 2001 and 2011

- 12.3.8 **Figure 12-1** demonstrates that there has been a reduction in all vehicle trip generating modes, i.e. driving a car or van, being a passenger, traveling by motorcycle and by taxi. There has been an increase in use of public transport modes such as train and the Underground, as well as an increase in people who mainly work from home.
- 12.3.9 It is anticipated that the trend of declining car use has continued, and will continue in the future. The use of 2011 Census data is therefore robust for the purposes of considering demand for car ownership.
- 12.3.10 The nature of car ownership among rented flats / apartments has been investigated further with specific consideration of average ownership within both LBB, Outer London, and London wide.

- 12.3.11 A data requested was made to extract 2011 Census data on car ownership within the two geographic areas. It should be noted that this data includes all sites within the specific housing category of flats, maisonettes or apartments, and has been considered based on the number of units proposed within each tenure type, and by unit size.
- 12.3.12 The full assessment is presented within **Appendix V** and demonstrates that based on 2011 Census data for LBB the proposed development could be expected to generate demand for ownership of approximately 588 vehicles. Data from Outer London indicates demand for ownership of 514 vehicles could be expect, whilst based on London wide data indicates 423 owned vehicles could be owned.
- 12.3.13 It is recognised that whilst useful, the car ownership information is from 2011 and only really indicates historic ownership trends without reflecting upon current and future trends which are expected to have decreased and continue to decrease given the themes of emerging planning policy that have been developed to meet challenging targets associated with tackling pollution and wider health issues.
- 12.3.14 Within the 2011 Census data for car ownership there is an indication that the parking demand is likely to be in excess of the proposed number of residential parking spaces. As such, there is a recognition that the development is contributing towards a change of car ownership behaviour within the area by reducing access to parking below typical levels of demand.
- 12.3.15 Whilst a small minority of people who may wish to own a car and not have access to parking could seek to park in the wider area, the practicalities of doing so will make it unattractive to live at the proposed development, and therefore the development will predominantly attract people who are not reliant on ownership of a vehicle, and who will make use of proposals to improve public transport, pedestrian and cycle links, supplemented by subsidised access to shared vehicles via a proposed car club.
- 12.3.16 Although overspill parking is not anticipated due to the site's specific context, a number of local residents have expressed concerns regarding the matter through the extensive consultation process undertaken on the proposal. In order to provide comfort to residents that their parking amenity will be protected, it is proposed that by legal agreement residents and visitors of the development will be prevented from any rights to obtain parking permits for any future implementation of a Controlled Parking Zone.
- 12.3.17 Furthermore, it is proposed that the developer will fund two Controlled Parking Zone consultations, one prior to occupation of the development, and the second between 12-18 months post occupation of the development to determine whether residents would like such measures implemented.

TfL's Residential Parking Provision in New Developments (2011)

- 12.3.18 TfL's research report "Residential Parking Provision in New Developments" provides further evidence into the suitability of parking provision proposed.
- 12.3.19 The report presents the findings of survey fieldwork carried out to better understand the relationship between parking, car ownership and use amongst residents of new developments in Greater London.
- 12.3.20 To better understand the relationship between parking, car ownership and use, TfL undertook a large-scale postal survey in November 2011 with residents of developments (with 10 or more units) built between 2004 and 2009. In total, around 3,000 responses were received from more than 800 developments across London. Two thirds of respondents were residents of Outer London, many living in areas with low access to public transport; one third were residents of Inner London and typically lived in areas with better public transport provision.

12.3.21 The key findings as summarised within report, and that are of relevance were:

- ⦿ For all groups, and in all areas, people living in developments with more parking available had higher levels of car ownership than people living in developments with less parking;
- ⦿ People choose a home that meets their needs; there is a close relationship between the importance attached to parking and satisfaction with the quality of parking;
- ⦿ Overall, developments with more parking contain more car owners and generate more car journeys than developments with less parking provided;
- ⦿ Home owners are more likely to own a car than those renting their home;
- ⦿ Households living in developments with up to 0.5 parking spaces per unit are significantly less likely to own a car than those living in developments with more than 0.5 spaces per unit; and
- ⦿ A regression analysis identified key factors influencing car ownership to be tenure, housing type, household structure, working status, area and access to public transport, level of parking provision, and car club membership.

12.3.22 Of all respondents, 20% lived in developments with less than 0.5 parking spaces per unit; a clear indication that such provision is widely acceptable both by residents and London Planning Authorities.

12.3.23 **Figure 12-2** is an extract from TfL's research report which summarises the proportion of car owning households in London within different tenure and dwelling types.

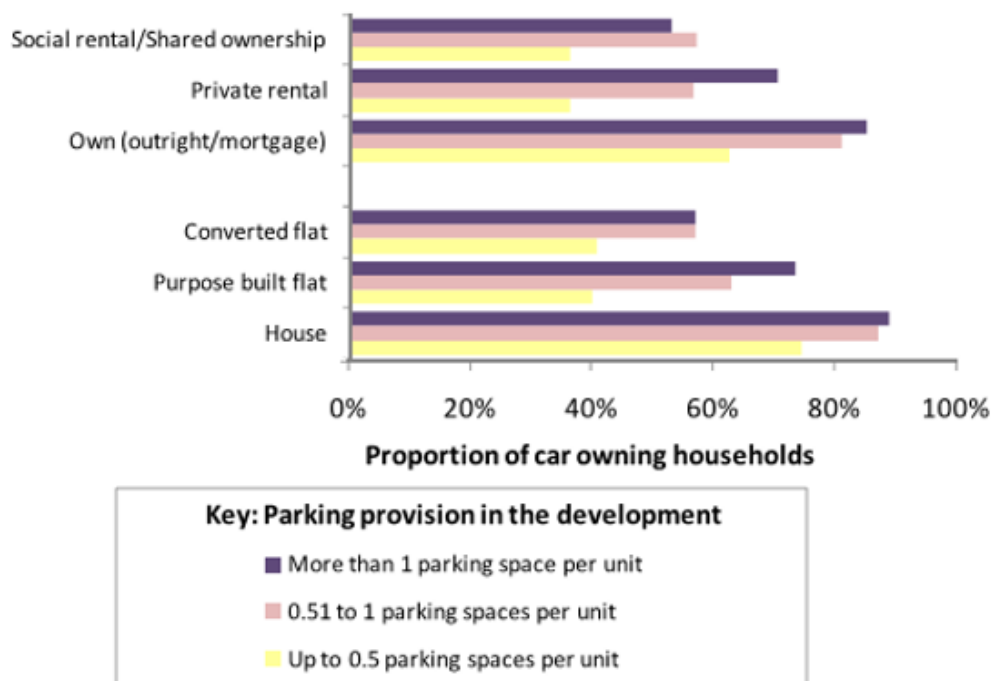


Figure 12-2: Car Ownership by parking provision and other factors

- 12.3.24 **Figure 12-2** indicates that within purpose built flats with up to 0.5 parking spaces only 40% of households are car owners. With parking provision of between 0.5 and 1 space per household ownership is approximately 60%.
- 12.3.25 The data shows that among all tenure types (i.e. inclusive of owned / mortgaged properties) houses have a significantly greater level of household car ownership, by comparison to purpose built flats, particularly where parking provision is more restrained.
- 12.3.26 TfL's research also sought to assess attitudes to car ownership. **Figure 12-3** summarises the responses given by Outer London respondents to the statement 'My lifestyle is dependent on having a car'.

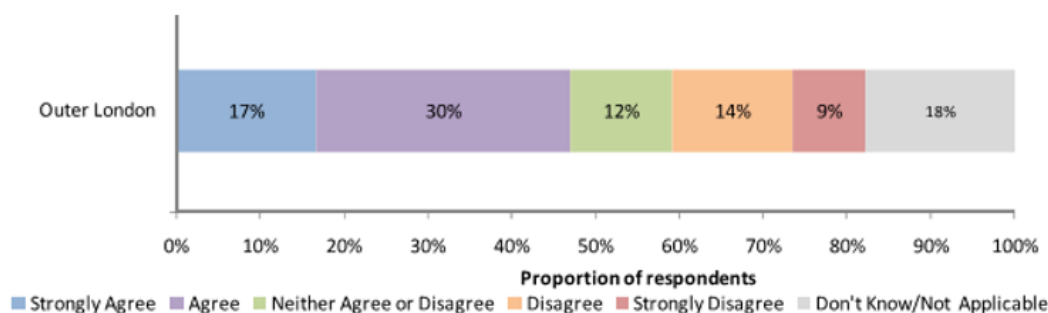


Figure 12-3: Response to statement 'My lifestyle is dependent on having a car'

- 12.3.27 **Figure 12-3** indicates that within Outer London only 47% of respondents agreed with the statement. The data includes all tenure types and household types, and as previously demonstrated by **Figure 12-2**, it is reasonable to assume that even less dependency on owning a car would be prevalent within purpose built flats.

DCLG Residential Car Parking (2007)

- 12.3.28 Research has been carried out on behalf of Department of Communities and Local Government (DCLG) on Residential Car Parking (2007) using Census of Population data. In reference to rented accommodation, the DCLG research states that:

"households occupying rented accommodation can have up to 0.5 fewer cars than owner-occupied households in dwellings of similar size and type"

- 12.3.29 The DCLG research also stated:

"Basing expected car ownership upon Census or other survey data, as set out above, implicitly assumes that new housing will have similar car ownership characteristics to the existing housing stock in the area. Local planning authorities will want to consider whether this is an appropriate generalisation when developing car parking policies for their area"

- 12.3.30 Parking spaces will not be specifically allocated to certain units. Therefore the proposed development has the benefit of flexibly allocating spaces in a varied ratio against the unit type subject to demand at that time (i.e. one bedroom units would not be excluded from access to car parking should demand be different from any proportions considered by the applicable planning policy).

- 12.3.31 Research carried out on behalf of the DCLG on the typical levels of efficiency generated by provision of unallocated residential parking by comparison to allocated parking determined that unallocated residential parking can require between 10-20% less parking spaces where car ownership is in the range of 0.5-1 cars per household and parking is allocated at one space per household.
- 12.3.32 Although this is based on a higher level of car ownership, it demonstrates that this method of management means less parking spaces are required by comparison to an equivalent market sale development.
- 12.3.33 The efficiency is gained as a result of market sale properties where a non-car owner has a parking space associated with their lease. The inefficiency of allocated parking can also result in a market sale owner who owns a vehicle not having a parking space, despite a space being empty due to the non-car owning residents allocation of a parking space.

12.4 RESIDENTIAL PARKING: DM17 COMPLIANCE

LBB Policy DM17

- 12.4.1 LBB Policy DM17 sets out the parking standards for the borough, and are a continuation of the Unitary Development Plan (UDP) standards originally adopted in 2006. All parking is required to be in accordance with the London Plan, with the only departure being for residential car parking. The departure allows for a greater level of car parking to be provided.
- 12.4.2 Paragraph 18.8.2 of DM17 states that parking restraint is accepted, and confirms that the intention of the more onerous car parking standard is to allow for flexibility to cater for local sensitivities; stating:
- “Our approach to parking provision accepts the need for restraint, but intends to apply it with sensitivity to local circumstances”*
- 12.4.3 LBB Policy DM17 states within (g) part 2 (i):
- “Residential development may be acceptable with limited or no parking outside a Controlled Parking Zone (CPZ), but only where it can be demonstrated through a survey that there is sufficient on street parking capacity”*
- 12.4.4 Therefore, it is understood that a residential development can be car free and remain compliant with DM17.
- 12.4.5 This is further clarified by paragraph 18.8.5 of the policy which states:
- “Development proposals will need to demonstrate through a parking survey that sufficient on- street capacity is available to justify limited or no on-site parking.”*
- DM17 2012 Examination in Public (LBB’s Evidence)*
- 12.4.6 The planning history of DM17 within the 2012 Examination In Public (EIP) has been reviewed to better understand what evidence was provided to the Planning Inspectorate, and framed the decision to permit the adoption of higher maximum parking standards than the London Plan.
- 12.4.7 LBB’s submission of evidence is contained within **Appendix W**, and included the following statements considered relevant in influencing the decision of the Inspector.

- 12.4.8 LBB stated that application of:
- “the council would continue to apply its own residential parking standards which provide greater flexibility to take into account issues such as public transport accessibility and local parking stress”*
- 12.4.9 LBB specifically reference the standards will be applied with flexibility, and it is therefore inferred that the more onerous maximum parking standard being sought would only be applied where appropriate to local sensitivities.
- 12.4.10 LBB make further reference to the application of the flexibility LBB take, and intend to continue, in the application of the parking standards; and that evidence based submissions are given suitable consideration, stating:
- “Since adoption in 2006 the Council has assessed the residential parking requirements of each application on its individual merits in line with the UDP standards set out policy M14 and has exercised flexibility”*
- “we are always mindful of the technical submissions on parking and accept parking ratios that meet our UDP standards where they are supported by technically sound pieces of work.”*
- “The parking standards for 1 and 2 bed flats allow Barnet flexibility to vary the provision according to all relevant local circumstances”*
- 12.4.11 LBB also provided some evidence relating to existing flatted developments within the borough. This consisted of six sites, and whilst the validity of the data is not questioned, it did not appear to give a representative cross section of unit or development size. The developments ranged from just 9 flats to 49 flats, none of which consisted of a broad mix of apartment sizes; across all sites 87% of the units consisted of two bedrooms or more.
- 12.4.12 LBB state of public transport provision:
- “Barnet’s concern with PTALs is that the PTAL scores measure ease of access to any public transport route, so a location may have a high score because it has good radial links to central London, but this is not necessarily a reflection of more general public transport provision”*
- “in different parts of the borough and for many residents at the periphery of the GLA boundary travel to towns in Hertfordshire may be just as important as travel into central London. This needs to be carefully considered as part of the process in determining what the appropriate parking standards should be as part of residential planning applications”*
- 12.4.13 Although LBB’s evidence references “radial links to central London” it is assumed that the description was intended to refer to linear links, such as the London Underground. It is suggested that having good radial links would provide access in all directions both within the borough and to Hertfordshire.
- 12.4.14 **Figure 12-4** shows a wider view of the Public Transport Mode TIM mapping for the site, which demonstrates that the site has good radial links. It is noted that the TIM mapping only extends to the edge of the GLA boundary, but that this occurs expediently (15-30mins).

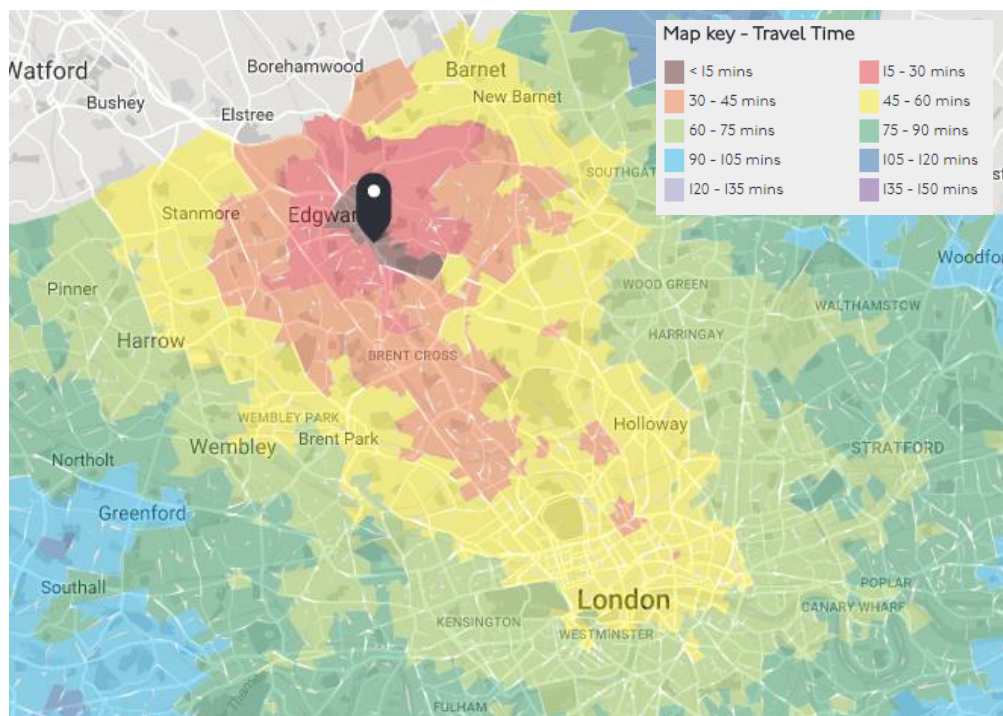


Figure 12-4: Wide Scale TIM Mapping (Public Transport Modes)

- 12.4.15 **Figure 7-4** within **Section 7** is an extract from a TfL Bus Map centred on accessible buses from Mill Hill Broadway. It gives a further indication that good radial connections via buses is available.

Relevant Planning Precedent

- 12.4.16 A review of planning applications within LBB refused on the grounds of lack of parking, and subsequently approved on appeal, has been undertaken. The cases reviewed ranged in parking ratio of zero car parking to 0.29 spaces per unit. The full review of relevant cases is contained within **Appendix X**.
- 12.4.17 The key reasons given by the Inspectors for approval were:

“although the off street parking provided would be less than is suggested in the Council’s car parking standards, those standards are maximum standards which among other things, aim to encourage more sustainable non car modes of transport”

“The appeal site is located within a relatively short walking distance to a variety of public transport choices”

“The National Planning Policy Framework in paragraph 32 advises that development should only be prevented or refused on transport grounds where the residual cumulative impacts are severe. For the reasons given the proposal would not harm highway or pedestrian safety and would accord with policy DM17 of the DMP in this regard”

12.5 CAR CLUB

12.5.1 For those unable to afford a private vehicle or requiring occasional access to a vehicle rather than ownership, the development proposes to provide car club access on-site. It has not been determined whether this would be operated by the developer, or whether an external car club provider might be utilised, however, ZipCar have been approached and provided a viability assessment which indicates they would be able to place up to five cars on the site. A copy of the viability assessment is contained in **Appendix Y**.

12.5.2 Convenient access to a car club facility will encourage lower levels of car ownership. Evidence which summarised below:

- ⊙ Carplus (2014) Annual Survey: London (p. 25):

the percentage of new joiners reporting owning no car before joining a car club was 58 per cent and after joining the car club was 73 per cent. Indicating the potential for a 15% reduction in car ownership relative to conditions that might otherwise prevail;

- ⊙ TfL (2014) Parking and Car Club Potential Users and Use, Systra (p. 2):

Research of London license holders identified that household car ownership is not reviewed regularly. When it is, reasons include life events, such as moving house or having a baby and external impacts such as changing parking policy or age / functionality of the car owned. This highlights that the proposed development is well best placed to maximise the benefits of a car club as all occupiers will initially be moving home;

- ⊙ Zip Car, A Transport Solution (2017 Viability Assessment):

Zipcar provided car club car takes an average of 10-15 privately owned vehicles off the roads of the UK, because members often sell (or don't replace) a car when they join.

12.5.3 Each car club vehicle can offset approximately 10-15 privately owned vehicles. The proposed provision of five resident car club vehicles would offset the equivalent demand for between 50-75 vehicles / parking spaces, and if demand is sufficient the proposed development has scope to deliver more vehicles. Therefore, the proposed residential car parking caters for the equivalent demand of 550 residential parking spaces as a minimum (i.e. 0.77 spaces per unit), with the potential to cater for the equivalent demand of 575 residential parking spaces as a minimum (i.e. 0.8 spaces per unit).

12.6 VISITOR PARKING

12.6.1 It is proposed to provide visitors of the residential development with access to 10 car parking spaces. The car parking spaces are located at the ground floor level adjacent the access road.

12.6.2 Further details in relation to the operation and management of the parking in this area of the development is contained within the CPMP.

12.7 RETAIL / COMMERCIAL / COMMUNITY USE CAR PARKING

12.7.1 It is proposed to provide 9 car parking spaces for activity associated with the retail and commercial uses. The parking will be located at the southern end of the site, immediately accessible from the A1. This enables control of the site to prevent vehicle movements occurring internally within the site to facilitate a more permeable environment for pedestrian and cyclists.

- 12.7.2 In response to specific requests made by the GLA during consultation it is intended to limit surface car parking at the southern end of the site.
- 12.7.3 LBB adopt the parking standards of the London Plan in consideration of both retail and leisure uses. It is recognised that the London Plan provides maximum parking standards for these uses.
- 12.7.4 Given the number of residential units proposed as part of the development, it is recognised that a high proportion of trips that will support these uses will be made on foot, by residents who already have access to a car parking space within the residential parking area.
- 12.7.5 The restriction on access and egress to the site via the A1 northbound carriageway only, further deters significant new or diverted trips being drawn to these uses by private car, as they will not be convenient for non-residential users by comparison to other retail offerings in the wider area. For this reason, it was always anticipated that the previous provision of 36 Pay & Display car parking spaces would be an overprovision relative to demand.
- 12.7.6 It is therefore considered that an appropriate level of car parking would be to provide for a small level of pass-by trade associated with vehicles already on the northbound carriageway of the A1 who might seek to stop and access the A1 food convenience store proposed. However, it should be noted that given the presence of the adjacent BP Petrol Filling Station and associated 'Wild Bean Café' and M&S food convenience, it is likely that pass-by trade for food retail will be absorbed in this location.
- 12.7.7 In conjunction with reviewing the parking requirements at the southern end of the site, the size of the A1 food convenience store has been reduced from 656sqm to 252sqm. As a result, its ability to attract trips external to the sites residents through pass-by, diversion or new has been further mitigated.
- 12.7.8 It is therefore proposed to provide 9 parking spaces, inclusive of two disabled spaces, to the west of the site, adjacent the access road which runs parallel to the M1 motorway. This locates the parking immediately adjacent the proposed A1 food convenience store, and allows for the formation of an 'entry square' at the southern end of the site.
- 12.7.9 Members of staff will be encouraged to travel to the site by sustainable modes of transport by following the procedures highlighted in the TP.
- 12.7.10 The 9 parking spaces provided at the south end of the site will be Pay & Display to ensure that long stay parking is discouraged and that there is a turn-over of parking spaces.
- 12.7.11 The impact of the level of parking has been assessed against the anticipated demand within **Section 18** of the TA to determine any impacts of this proposal.

12.8 CYCLE PARKING

- 12.8.1 It is proposed to provide all cycle parking across the site in accordance with the draft New London Plan. There will be an allocation of 1,574 cycle spaces provided in relation to the residential use, 30 of which will enable parking for visitors. A further 29 cycle parking spaces will be provided in relation to the retail and commercial uses.
- 12.8.2 Cycle parking is located on the lower ground floor in secure stores and also within external areas. Residential cycle storage areas have been designed with additional capacity to enable further parking to be installed and to enable oversized cycle storage. The exact locations can be identified on the proposed development plans contained in **Appendix T**.

- 12.8.3 Cycle parking has been distributed throughout the development in accordance with the relevant minimum standards for the mix of units within each core. Information on the distribution of residential cycle parking is provided in **Appendix Af**.
- 12.8.4 The access points to the car park are of sufficient width to allow the safe interaction of cycles and vehicles. The widths vary from 6.5m to 7.2m, with level access afforded on the most southerly ramp (which can be accessed from all cycle storage locations). The steepest ramp to the car park is at the most northerly access, and is a gradient of 1:13 for a distance of 6m.

12.9 SUMMARY

- 12.9.1 It is proposed to provide a total of 366 car parking spaces for the use of residents within the proposed development site, with the ability to increase to 397 parking spaces should demand require. It is proposed that 10% of all accessible units could have access to a disabled parking space if required. A further 10 visitor parking spaces, and five car club spaces will also be provided.
- 12.9.2 There will be 1,574 cycle spaces provided in relation to the residential use, 30 of which will enable parking for visitors. A further 29 cycle parking spaces will be provided in relation to the retail and commercial uses.

13 DEVELOPMENT TRIP GENERATION

- 13.1.1 This Section of the TA estimates trip generation proposed development and provides a multimodal summary.
- 13.1.2 The predominant use of the proposed development is residential, and it is therefore anticipated that it will generate its peak level of vehicle trips during the weekday morning and evening peaks when the highway network is at its most sensitive to changes in traffic.
- 13.1.3 It is noted that some retail uses are proposed as part of the development, for which peak vehicle trip generation is unlikely to occur within the weekday network peaks, however, the existing use of the site shares the properties of retail trip profiles which is likely to generate greater trips over the weekend and outside of the peaks, with the potential to have higher daily and weekly trips.
- 13.1.4 Through agreement with LBB it has not been deemed necessary to assess weekend related trips, as it is considered that the most critical period of assessment in highway terms will occur during the morning and evening weekday peaks.

13.2 RESIDENTIAL USE – VEHICLE TRIPS

- 13.2.1 The submission of the TA in June 2018 contained a trip generation assessment based on a 724 unit scheme with 545 car parking spaces for residents. As discussed in the meeting with TfL 5th December 2018, there is a potential disconnect between the impact of the proposed reduction in car parking and the trips that could be generated based on adoption of original the methodology within the TA.
- 13.2.2 As a summary of the progression of the trip generation assessment it should be noted that in September 2016 trip rates based on comparable sites were agreed with LBB. In January 2017, the sites agreed with LBB were further supplemented with additional sites via agreement with TfL. In November 2017, the comparable sites and resultant trip rates were fully revised to meet TfL Guidance. The sites and trip rates agreed in November 2017 remained applicable in the June 2018 planning submission.
- 13.2.3 Further details, including sensitivity testing of trip generation is contained within the most recent scoping note issued to TfL in December 2018.
- 13.2.4 The number of total persons trips generated by the proposed residential development has been estimated in accordance with TfL's Best Practice Guidance.
- ⦿ Trip generation estimations have been made by drawing on comparable sites from the TRICS database;
 - ⦿ Comparable sites have only been used where data is available for the most recent 5 year period;
 - ⦿ Comparable sites from within the Greater London area have been considered; and
 - ⦿ Comparable sites within a PTAL range of 1-3 have been considered.

13.2.5 It is recognised that this differs from the agreed scoping undertaken in 2016 with LBB, but has been undertaken through agreement with current LBB Highways Officers on the basis that the previously agreed scope did not accord with current TfL best practice (i.e. all sites selected were greater than 5 years old, and were no longer comparable to the current proposal). Further information regarding the outdated trip generation methodology is contained within **Appendix Z**.

13.2.6 The sites presented in **Table 13-1** are included in the trip generation assessment.

Site No	Site Ref	Survey Date	Location	PTAL	Unit No.	Parking	Parking Rate
1	EN-03-K-03	05/05/2015	Enfield	3	68	50	0.74
2	HV-03-C-02	04/01/2017	Havering	2	493	246	0.50
3	HO-03-C-03	25/01/17	Hounslow	2	150	106	0.71

Table 13-1: TRICS and TRAVL Site Selection for Proposed Residential Use

13.2.7 As agreed with TfL, application of a proportional decrease in trip rate in accordance with the proportional decrease in car parking i.e. based on the June 2018 per unit trip rates there is a per parking space trip rate inherent (i.e. vehicle trips / 545 = trip rate per parking space).

13.2.8 The proposed residential development includes 366 car parking spaces for residents from the outset, however it is proposed that this could be expanded to 397 parking spaces should demand require. Therefore, to form a robust assessment of trip generation the trip rates have been applied to 397 car parking spaces.

13.2.9 The vehicle trip rates and associated trip generation for the residential use is presented in **Table 13-2**.

Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate (per parking space)			Trip Generation		
Morning Peak (08:00-09:00)	0.073	0.145	0.218	29	58	87
Afternoon Peak (17:00-18:00)	0.183	0.123	0.306	73	49	122

Table 13-2: Vehicle Trip Generation for Proposed Residential Use

13.2.10 **Table 13-2** indicates that 29 and 73 vehicle arrivals are estimated to occur in the morning and evening peak times respectively; and 58 and 49 vehicle departures are predicted for the morning and evening peaks respectively. 87 two-way vehicle movements are expected in the morning peak and 122 in the evening peak.

13.3 NON-RESIDENTIAL USE – VEHICLE TRIPS

13.3.1 Survey information contained within the TRICS and TRAVL databases was interrogated to estimate the vehicle trips associated with the proposed leisure and retail uses. The selection of comparable non-residential sites for selection in the trip generation exercise has been subject to significant input and subsequent agreement with LBB through the scoping process.

13.3.2 The sites presented in **Table 13-3** were included in the trip generation assessment.

Proposed Restaurant (154sqm)					
Site No	Site Ref	Survey Date	Location	PTAL	GFA
1	257	04/06/1999	Merton	3	150
2	1048	28/02/2012	Richmond Upon Thames	3	120
3	BN-06-C-01	25/06/2014	Barnet	2	274
4	HD-06-C-01	07/01/2016	Ruislip	1b	850
Proposed Café (127sqm)					
Site No	Site Ref	Survey Date	Location	PTAL	GFA
1	1053	16/11/2011	Barnet	3	105
Proposed Community Use (297sqm)					
Site No	Site Ref	Survey Date	Location	PTAL	GFA
1	69	18/10/1993	Harrow	2	415
2	104	25/04/1995	Bexley	2	155
Proposed Convenience Store (254sqm)					
Site No	Site Ref	Survey Date	Location	PTAL	GFA
1	278	11/02/2000	Sutton	3	790
2	287	23/06/2000	Sutton	2	520
3	708	27/11/2008	Enfield	1	263
Proposed Dry Cleaner & Hair Dresser (154sqm)					
Site No	Site Ref	Survey Date	Location	PTAL	GFA
1	1074	30/05/2012	Bexley	3	400
2	1084	18/05/2012	Bexley	4	540

Table 13-3: TRICS and TRAVL Site Selection for Proposed Non-Residential Uses

13.3.3 It is noted that due to the lack of comparable sites for the dry cleaner and hair dresser uses, TRAVL sites classified as 'A1 Other Uses' were utilised. For this assessment, an Argos and Superdrug sites were used and it is likely that the trip rates associated with these developments are higher than the ones expected for the dry cleaner and hair dresser uses. Hence, a robust assessment has been produced.

- 13.3.4 A similar principal has been applied to the D1 community use which could reasonably expected to operate as a Healthcare Centre. Trip generation has been calculated on the basis of this type of use as agree with LBB.
- 13.3.5 The resultant vehicle trip rates and associated trip generation for each use is presented in **Table 13-4**.

Restaurant						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	0.000	0.118	0.118	0	0	0
Evening Peak (17:00-18:00)	2.400	1.089	3.489	4	2	6
Café						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	15.238	17.143	32.381	19	22	41
Evening Peak (17:00-18:00)	1.905	0.000	1.905	2	0	2
Community Use						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	2.410	0.964	3.373	7	3	10
Evening Peak (17:00-18:00)	4.139	3.657	8.245	12	11	23
Local Convenience Store						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	2.007	1.267	3.274	5	3	8
Evening Peak (17:00-18:00)	4.798	5.242	10.040	12	13	25
Other Retail (Dry Cleaner & Hair Dresser)						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		

Morning Peak (08:00-09:00)	0.185	0.000	0.185	0	0	0
Evening Peak (17:00-18:00)	0.750	1.125	1.875	1	2	3

Table 13-4: Vehicle Trip Generation for Proposed Non-Residential Uses

- 13.3.6 The data presented in **Tables 13-4** shows that the main vehicle movements during the morning peak are associated with the café albeit it is anticipated these will not be new trips (i.e. they will be predominantly residents). Low or no vehicle movements associated with the other proposed uses are expected during the morning peak as they tend to generate vehicle movements outside of this time.
- 13.3.7 **Table 13-5** below presents the total vehicle trip generation associated with the proposed non-residential uses.

Peak Periods	Arrivals	Departures	Total
	Trip Generation		
Morning Peak (08:00-09:00)	31	28	59
Evening Peak (17:00-18:00)	31	28	59

Table 13-5: Total Vehicle Trip Generation for Proposed Non-Residential Uses

13.4 IDENTIFICATION OF NEW NETWORK VEHICLE TRIPS

- 13.4.1 It is recognised that the vehicle trip generation exercise undertaken through extraction of data from TRICS/TRAVL does not take into account the level of trips which are shared between various uses on the site, those which will be contained as a result of the close proximity of residential dwellings, and those which will result from vehicles already on the network and are currently passing the site.
- 13.4.2 It is recognised that the residential use acts as a generator of vehicle trips, and trips are not attracted to it as a result of other uses. However, it is anticipated that a high proportion of trips associated with other retail and leisure uses proposed will be generated from the residential use, and as such will be contained within the site. For the purposes of the initial assessment these have been deemed to be linked trips that can be discounted from the generation of trips associated with non-residential uses.
- 13.4.3 It is also assumed that there will be some further linked trips between the proposed retail and commercial uses on site, which will reduce the number of vehicle trips identified in **Table 13-5**.
- 13.4.4 All non-residential uses proposed at the site will only be accessible by car via the northbound carriageway of the A1, and as such, due to the limited route choice, it is anticipated that a limited number of vehicle trips identified via the TRICS/TRAVL assessment will be new to the wider network.

New Leisure / Commercial Use Vehicle Trips

13.4.5

Table 13-6 below sets out the anticipated proportions of vehicle trips discounted in order to identify new trips to the network. The assumptions made were based on discussions and previous agreement of principals with LBB. By application of the deductions summarised within **Table 13-6**, total new network vehicle trips anticipated has been summarised for the AM and PM peak hours in **Table 13-7** and **13-8**.

Land Use	% Pass-by Trips	% Linked Trips	% New Network Trips	Total
A3/A4 Restaurant	0%	90%	10%	100%
A3 Café	0%	95%	5%	100%
D1 Community Use	0%	85%	15%	100%
A1 Convenience Store	10%	90%	0%	100%
A1 Other	5%	85%	10%	100%

Table 13-6: Deduction of linked and pass-by vehicle trips

Land Use	% Pass-by	% Linked	% New Network Trips	Total
A3/A4 Restaurant	0	0	0	0
A3 Café	0	39	2	41
D1 Community Use	0	9	1	9
A1 Convenience Store	1	7	0	8
A1 Other	0	0	0	0

Table 13-7: AM Peak Hour New Retail / Community Use Vehicle Trips

Land Use	% Pass-by	% Linked	% New Network Trips	Total
A3/A4 Restaurant	0	5	1	6
A3 Café	0	2	0	2
D1 Community Use	0	20	3	23
A1 Convenience Store	2	23	0	25
A1 Other	0	3	0	3

Table 13-8: PM Peak Hour New Retail / Community Use Vehicle Trips

Total Development Net Vehicle Trips

13.4.6

In order to understand the net development increase in vehicle trips **Table 13-9** summarises the new trips generated by the leisure and commercial uses (from **Table 13-8**), and the residential vehicle trips (from **Table 13-2**) and subtracts the trips that could otherwise be generated by the existing use (**Table 8-5**).

Peak Periods	Arrivals	Departures	Total
Proposed Residential Trips (+)			
Morning Peak (08:00-09:00)	29	58	87
Evening Peak (17:00-18:00)	73	49	122
Retail / Community Trips (New Trips Only) (+)			
Morning Peak (08:00-09:00)	2	1	3
Evening Peak (17:00-18:00)	2	2	4
Extant Use Trips (-)			
Morning Peak (08:00-09:00)	44	12	56
Evening Peak (17:00-18:00)	62	62	124
Net Development Vehicle Trips			
Morning Peak (08:00-09:00)	-13	47	34
Evening Peak (17:00-18:00)	13	-11	2

Table 13-9: Total Vehicle Trip for the Development

- 13.4.7 **Table 13-9** indicates that the proposed development will generate an additional 34 vehicle movements on the surrounding highway network above conditions that might otherwise have prevailed in the AM peak hour. The proposed development would also generate an additional 2 vehicle movements within the PM peak hour.

13.5 MULTI-MODAL TRIP GENERATION

- 13.5.1 It is noted that the number of vehicle trips identified in this section of the TA includes car, taxi, coach, HGV and motorcycle trips.

- 13.5.2 A multimodal assessment to understand the other mode trips that will be generated by the proposed development has been carried out and includes assessment of all other vehicle modes other than car to determine the relevant trips made within each classification, with the remainder being determined as car trips.

Retail and Community Use Trips

- 13.5.3 Trips generated by other modes of transport have been assessed for proposed development. This was carried out by use of the TRAVL sites that were selected for the assessment of vehicular trips previously presented. TRICS sites were excluded as they only provided data on all vehicle trips and they did not provide further information of other mode trips.

- 13.5.4 As identified in **Section 8**, the TRAVL data does not differentiate between public transport and walking trips, which are instead summarised as a group.

- 13.5.5 It is recognised that the mode with which trips takes place for the proposed retail and commercial uses wouldn't significantly differ from that of the existing site, however the same assumptions as described in **Section 6** for the existing site uses have been applied to the retail and community uses proposed.

- 13.5.6 A summary of the multimodal trip generation for the proposed retail and commercial uses are presented in **Table 13-10**.

Mode	AM Peak Hour			PM Peak Hour			Daily		
	Arr	Dep	Total	Arr	Dep	Total	Arr	Dep	Total
Car	2	1	3	2	2	4	32	30	62
Bus	0	0	0	0	0	0	8	8	16
Walk	2	1	3	4	4	8	72	74	146
Cycle	0	0	0	0	0	0	0	0	0
Taxi	0	0	0	0	0	0	1	1	2
Motorcycle	0	0	0	0	0	0	0	0	0
LGV/OGV	0	0	0	0	0	0	0	0	0

Table 13-10: Multimodal Retail and Commercial Development Trip Generation

- 13.5.7 The multimodal trip generation summarised in **Table 13-10** represents the total number of trips that will be generated by the retail and community uses within the relevant stated time periods.

Residential Trips

13.5.8

Table 13-11 summarises the trip rate per unit for multi-modal travel during the weekday AM and PM peak hours extracted from the TRICS sites selected.

	AM Peak Hour 0800-0900			PM Peak Hour 1700-1800		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Underground	0.0000	0.0133	0.0133	0.0147	0.0007	0.0153
Train	0.0030	0.0360	0.0390	0.0167	0.0020	0.0187
Bus	0.0140	0.0707	0.0847	0.0317	0.0123	0.0440
Walk	0.0433	0.1210	0.1643	0.1033	0.0553	0.1587
Cycle	0.0030	0.0123	0.0153	0.0037	0.0023	0.0060
Taxi	0.0030	0.0037	0.0067	0.0073	0.0050	0.0123
Motorcycle	0.0023	0.0067	0.0090	0.0057	0.0023	0.0080
LGV/OGV	0.0470	0.1113	0.1583	0.1180	0.0643	0.1823

Table 13-11: Proposed Residential Weekday Peak Hour Vehicle and Non-Vehicle Trip Rates

13.5.9

A summary of the multimodal trip generation for the proposed residential use is presented in **Table 13-12**.

Mode	AM Peak Hour			PM Peak Hour			Daily		
	Arr	Dep	Total	Arr	Dep	Total	Arr	Dep	Total
Car	21	47	68	44	25	69	370	383	753
Underground	0	14	14	19	1	22	106	146	253
Train	5	37	42	22	4	28	106	105	210
Bus	21	73	92	42	26	64	261	329	591
Walk	37	102	139	87	47	134	609	647	1255
Cycle	5	12	17	5	6	8	67	64	131
Taxi	3	3	6	6	4	10	28	28	56
Motorcycle	2	6	8	5	2	7	19	16	35
LGV/OGV	3	1	4	18	18	36	135	130	265

Table 13-12: Multimodal Residential Development Trip Generation

- 13.5.10 The multimodal trip generation summarised in **Table 13-12** represents the total number of trips that will be generated by the residential development within the relevant stated time periods.

Multimodal Development Trips

- 13.5.11 **Table 13-13** summarises the combined multimodal trips for all of the proposed development uses.

Mode	AM Peak Hour			PM Peak Hour			Daily		
	Arr	Dep	Total	Arr	Dep	Total	Arr	Dep	Total
Car	23	48	71	46	27	73	402	413	815
Underground	0	14	14	19	1	22	114	154	269
Train	7	38	45	26	8	36	178	179	356
Bus	21	73	92	42	26	64	261	329	591
Walk	37	102	139	87	47	134	610	648	1257
Cycle	5	12	17	5	6	8	67	64	131
Taxi	3	3	6	6	4	10	28	28	56
Motorcycle	2	6	8	5	2	7	19	16	35
LGV/OGV	3	1	4	18	18	36	135	130	265

Table 13-13: Multimodal Development Trip Generation

Net multimodal Development Trips

- 13.5.12 To fully understand the impact of the development a summary of the net development impact (i.e. trips above which would otherwise prevail upon full operation of the existing site uses) **Table 13-14** summarises the resultant trips by subtraction of the existing use trips (**Table 8-6**) from the proposed development trips (**Table 13-13**).

Mode	AM Peak Hour			PM Peak Hour			Daily		
	Arr	Dep	Total	Arr	Dep	Total	Arr	Dep	Total
Car	-21	36	15	-16	-35	-51	-510	-482	-992
Underground	0	14	14	19	1	22	114	154	269
Train	7	38	45	26	8	36	178	179	356
Bus	21	73	92	38	25	59	229	299	529
Walk	35	100	135	55	35	90	324	379	1202
Cycle	5	12	17	5	6	8	67	64	131
Taxi	3	3	6	6	4	10	2	1	3
Motorcycle	2	6	8	5	2	7	16	13	29
LGV/OGV	3	1	4	18	18	36	135	130	265

Table 13-14: Net Multimodal Development Trips

- 13.5.13 It is noted that the trip generation for the existing site use did not disseminate LGV/OGV trips, which would be expected due to its use as a retail park. The proposed development trip generation has identified these modes, and as such demonstrates an increase; however, the data shows that there is overall a net reduction vehicle trips, with the proposed development generated less over a full day.
- 13.5.14 The net multimodal trip summary indicates that the proposed development will generate more trips than the existing site use across all modes in the peak hours, albeit the magnitude of which is not considered significant.
- 13.6 SUMMARY**
- 13.6.1 A multimodal trip generation exercise for all proposed site uses has identified that development will generate 71 and 73 vehicle movements in the AM and PM peak hours respectively.
- 13.6.2 The vehicle movements generated represent an additional 15 movements in the AM peak hour, and a reduction of 51 movements in the PM peak hour by comparison to the permitted use of the existing site.

14 DEVELOPMENT TRIP ASSIGNMENT

- 14.1.1 This Section of the TA sets out how the assignment of additional trips as a result of the development have been assigned to the highway network, footpaths and public transport services.
- 14.1.2 Given that it is anticipated that main mode trips which take place by rail, London Underground and by bus; all generate pedestrian movements in the immediate vicinity of the site, the assignment of these modes is presented prior to that which summarises assignment of pedestrians.
- 14.1.3 Main mode London Underground trips are also expected to generate trips to the bus network, and as such these have been assessed prior to that of bus assignment.

14.2 VEHICLE TRIP DISTRIBUTION

Residential Vehicle Distribution

- 14.2.1 The residential vehicle trip distribution has been based on 2011 Census of population. Statistics on the distances travelled to work (WP702EW) has been extracted for population living within London Borough of Barnet and is summarised in **Table 14-1**.

Distance travelled to work	%
Less than 2km	15.7%
2km to less than 5km	18.9%
5km to less than 10km	21.2%
10km to less than 20km	15.4%
20km to less than 30km	4.6%
30km and over	6.1%
No fixed place	18.1%
Total	100%

Table 14-1: 2011 Census of Population: Distance Travelled to work (LBB)

- 14.2.2 Based on the proportion of vehicle trips over varying distance, consideration has been given to the highway network and connectivity in the vicinity of the site to determine appropriate vehicle routing.
- 14.2.3 Following the discussion with LBB, it was agreed to apply an equal split between northbound and southbound trips within the 5km-10km range, although it is anticipated that trips would be more heavily weighted towards travel to the north / A1 due to the much heavier use of public transport to access central London to the south in this range.

- 14.2.4 The following further assumptions have been made in assignment of residential trips:
- ⊙ All car trips that have origin and/or destination within 2km distance from the site (here 15.7% of all trips) have been distributed by proportions derived from 2011 Census of population (WU03EW - Location of usual residence and place of work by method of travel to work - MSOA level), which indicated that 52.6% is expected to travel to the west and 47.4% to the east.
 - ⊙ 18.9% of residential car trips are expected to travel distances between 2 and 5km. Based on the 2011 Census data (WU03EW), the likely destinations of travel were identified and showed that 35% are likely to travel to the north, 46% to the east and the remaining 19% is predicted to travel to the west.
 - ⊙ The remaining 54.8% of car trips were predicted to travel distances longer than 10km. It has been assumed that these trips will aim to access A1, and thus 50% of trips are expected to use A1 and travel to the north and the remaining 50% is expected to travel south on the A1 having circulated at Mill Hill Circus.

14.2.5 The vehicle trip distribution was discussed in detail with LBB at a meeting on 3rd August 2016, and the following further inclusions were made:

- ⊙ Traffic flows generated by the development that arrive at the double-mini-roundabout (Page Street /Purley Rad) have been distributed in accordance with the existing traffic turning proportions at the junction. Both AM and PM traffic flows showed similar trends and the average between the peak times was applied;
- ⊙ Traffic flows that arrive at Grahame Park Way will travel via A1 (northbound), The Broadway and turn left to Flower Lane and right to Bunns Lane, before arrive at the junction with Grahame Park Way.

14.2.6 The vehicle trip distribution diagrams which fully describe the assignment of residential vehicle trips are appended in **Appendix Aa**.

Non-Residential Vehicle Distribution

14.2.7 It has been assumed that new non-residential vehicle trips generated in association with the proposed retail and community uses will occur predominantly from the local area. For the purposes of identifying a suitable distribution it is assumed that vehicle trips are broadly attracted evenly from areas to the north, east, south and west of the site, and seek to take the most coherent route to the site.

14.2.8 Traffic flows diagrams illustrating the distribution applied to traffic flows generated by the non-residential uses of the development are presented in **Appendix Ab**.

14.3 RAIL TRIP ASSIGNMENT

14.3.1 All trips by rail are expected to take place from Mill Hill Broadway Station being that it is the most accessible location in relation to the site. Therefore, all rail trips will arrive and depart from Mill Hill Broadway Station.

14.3.2 It has been identified that in the AM peak hour, a total of 38 departures and 7 arrivals are anticipated. Given that these do not occur concurrently (i.e. departures board as arrivals alight), the greatest demand is placed by those departing.

14.3.3 In the PM peak hour, a total of 26 arrivals and 8 departures by rail are anticipated. The greatest demand is placed by those arriving.

14.4 LONDON UNDERGROUND TRIP ASSIGNMENT

- 14.4.1 It has been identified that in the AM peak hour, a total of 14 departures and 0 arrivals are anticipated. In the PM peak hour, a total of 19 arrivals and 1 departure are anticipated.
- 14.4.2 As a result of pre-application discussions with TfL it has been assumed that access to London Underground Services would take place by bus, and although Burnt Oak Station and Colindale Stations are the most closely located to the site geographically, access to Hendon Central (by route 113) and to Mill Hill East (by route 221) is also attractive.
- 14.4.3 It is still anticipated that access to Colindale Station will occur, but will be accessed on foot via the bridge over the M1 and access to Grahame Park Way.
- 14.4.4 **Tables 14-2 and 14-3** below summarises the assignment of London Underground trips to the network. Given the location of accessible station at the northern extents of the northern line, it has been assumed that all departures do so in a southbound direction on the northern line, and all arrivals do so in a northbound direction on the northern line.
- 14.4.5 It is noted that demand at Collingdale and Hendon Central are cumulative demands as they are on the same line as Burnt Oak which is the most northern extent to which access to the network from the development is expected.

Station	Direction Northbound (NB) = Arrivals Southbound (SB) = Departures	% Assigned	Accessed via	Boarding / Alighting	Cumulative Demand
Burnt Oak	NB	20%	Bus Route 302 (E) Bus Route 114 (E)	0	0
	SB	20%	Bus Route 302 (W) Bus Route 114 (W)	3	3
Mill Hill East	NB (i.e. terminating)	20%	Bus Route 221 (W)	0	0
	SB	20%	Bus Route 221 (E)	3	3
Colindale	NB	20%	Walking	0	0
	SB	20%	Walking	3	6
Hendon Central	NB	40%	Bus Route 113 (N)	0	0
	SB	40%	Bus Route 113 (S)	6	11

Table 14-2: AM Peak Hour London Underground Trip Assignment

Station	Direction Northbound (NB) = Arrivals Southbound (SB) = Departures	% Assigned	Accessed via	Boarding / Alighting	Cumulative Demand
Burnt Oak	NB	20%	Bus Route 302 (E) Bus Route 114 (E)	4	4
	SB	20%	Bus Route 302 (W) Bus Route 114 (W)	0	0
Mill Hill East	NB (i.e. terminating)	20%	Bus Route 221 (W)	4	4
	SB	20%	Bus Route 221 (E)	0	0
Colindale	NB	20%	Walking	4	8
	SB	20%	Walking	0	0
Hendon Central	NB	40%	Bus Route 113 (N)	8	15
	SB	40%	Bus Route 113 (S)	1	1

Table 14-3: PM Peak Hour London Underground Trip Assignment

- 14.4.6 The assignment of London Underground trips indicates that the development will place its most significant increase in demand at Hendon Central Station, both by cumulative demand and specific boarding and alighting activity.
- 14.4.7 This is expected to occur as a result of the accessibility of the site to bus route 113 which serves both the southern and northern areas of the development, and due to the fact that bus travel is not zoned, and therefore could be free for holders of a Zone 1-3 Travel Card, the extents of which is Hendon Central.
- 14.5 BUS TRIP ASSIGNMENT**
- 14.5.1 It has been identified that in the AM peak hour, a total of 73 departures and 21 arrivals are anticipated as main mode bus trips. In the PM peak hour, a total of 42 arrivals and 26 departures are anticipated as main mode bus trips.
- 14.5.2 The assignment of main mode bus trips has taken place on the basis of the location and convenience of access to the services, as well as by consideration of the geographic area and access to services which they provide.
- 14.5.3 **Table 14-4** summarises the assignment of arrivals and departures from the bus network for main mode bus trips only in the peak hours.

Route No.	Direction	% Assigned (Arr)	% Assigned (Dep)
113	SB	10%	20%
	NB	20%	0%
221	EB	20%	30%
	WB	30%	30%
302	WB	5%	5%
	EB	0%	0%
303	WB	5%	2.5%
	EB	0%	2.5%
114	WB	5%	5%
	EB	0%	0%
186	WB	5%	2.5%
	EB	0%	2.5%

Table 14-4: Peak Hour Main Mode Bus Trip Assignment

14.5.4 **Table 14-5** shows the main mode bus trips generated in the peak hours by the development.

Route No.	Direction	AM Peak Hour		PM Peak Hour	
		Arr	Dep	Arr	Dep
113	SB	2	15	4	5
	NB	4	0	8	0
221	EB	4	22	8	8
	WB	6	22	13	8
302	WB	1	4	2	1
	EB	0	0	0	0
303	WB	1	2	2	1
	EB	0	2	0	1
114	WB	1	4	2	1
	EB	0	0	0	0
186	WB	1	2	2	1
	EB	0	2	0	1
Total*		20	75	41	27

Table 14-5: Peak Hour Main Mode Bus Trip Assignment

* Minor rounding errors inherent within the data

- 14.5.5 **Table 14-5** indicates that the greatest number of peak hour main mode bus trips occur on route 221 in both directions in the AM peak. It is anticipated that this occurs as a result of the increased accessibility to this route via the provision of the link between Bunns lane and the development.
- 14.5.6 As a result of pre-application discussions with TfL it has been assumed that access to London Underground Services would take place by bus. The trips accessing the bus network have been identified in **Tables 14-2** and **14-3**. Where applicable the demand for use of routes 114 and 302 to and from Burnt Oak Station have been split 50/50.
- 14.5.7 **Table 14-6** summarises the total demand placed by the development on the bus network in the AM peak hour.

Route No.	Direction	Main Mode Bus Trips		London Underground Bus Trips		Total Development Bus Trip Demand	
		Arr	Dep	Arr	Dep	Arr	Dep
113	SB	2	15	0	6	2	21
	NB	4	0	0	0	4	0
221	EB	4	22	0	3	4	25
	WB	6	22	0	0	6	22
302	WB	1	4	0	1	1	5
	EB	0	0	0	0	0	0
303	WB	1	2	0	0	1	2
	EB	0	2	0	0	0	2
114	WB	1	4	0	1	1	5
	EB	0	0	0	0	0	0
186	WB	1	2	0	0	1	2
	EB	0	2	0	0	0	2
Total		20	75	0	11	20	86

Table 14-6: AM Peak Hour Development Bus Trip Demand

* Minor rounding errors inherent within the data

14.5.8

Table 14-7 summarises the total demand placed by the development on the bus network in the PM peak hour.

Route No.	Direction	Main Mode Bus Trips		London Underground Bus Trips		Total Development Bus Trip Demand	
		Arr	Dep	Arr	Dep	Arr	Dep
113	SB	4	5	0	1	4	6
	NB	8	0	8	0	16	0
221	EB	8	8	0	0	8	8
	WB	13	8	4	0	17	8
302	WB	2	1	0	0	2	1
	EB	0	0	2	0	2	0
303	WB	2	1	0	0	2	1
	EB	0	1	0	0	0	1
114	WB	2	1	0	0	2	1
	EB	0	0	2	0	2	0
186	WB	2	1	0	0	2	1
	EB	0	1	0	0	0	1
Total		41	27	16	1	57	28

Table 14-7: PM Peak Hour Development Bus Trip Demand

* Minor rounding errors inherent within the data

- 14.5.9 **Tables 14-6 and 14-7** summarises the total additional demand placed on bus services within the peaks as a result of the development. It is noted that maximum demand is placed by either arrivals or departures as boarding and alighting is likely to take place at the same stop and is therefore never combined.
- 14.5.10 The greatest demand is anticipated to occur on the westbound service of route 221 in the AM peak hour when an additional demand for 28 passengers occurs.
- 14.6 PEDESTRIAN TRIP ASSIGNMENT**
- 14.6.1 It has been identified that in the AM peak hour, a total of 102 departures and 37 arrivals are anticipated. In the PM peak hour, a total of 87 arrivals and 47 departures are anticipated. These are main mode trips and do not account for pedestrian movements generated by bus, rail and London Underground users.
- 14.6.2 Main mode walking trips are anticipated to be heavily attracted to the north via Bunns Lane due to the presence of the retail offerings on The Broadway. The distribution of pedestrian trips for arrivals and departures in the AM and PM peak has taken place in accordance with **Figure 14-1**.

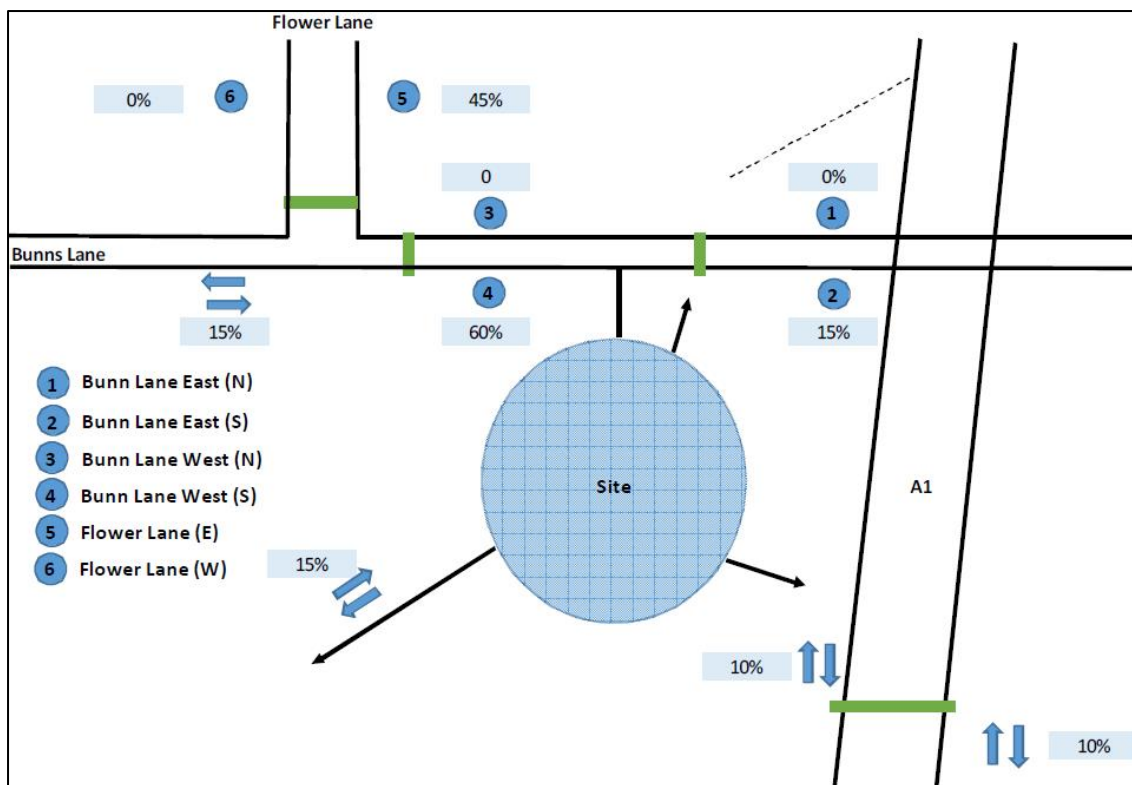


Figure 14-1: Distribution of Main Mode Pedestrian Trips

14.6.3 By application of the assignment shown in Figure 14-1, Table 14-8 summarises the arrivals and departure movements on the footpaths for which the base PCL assessment has been undertaken in Section 5.

Road	Footway	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Total	Arr	Dep	Total
Bunns Lane East	N	0	0	0	0	0	0
	S	6	15	21	13	7	20
Bunns Lane West	N	0	0	0	0	0	0
	S	22	61	83	52	28	80
Flower Lane	E	17	46	63	39	21	60
	W	0	0	0	0	0	0

Table 14-8: Peak Hour Development Main Mode Walking Trip Demand

14.6.4 It is recognised that all rail trips, and all bus trips, inclusive of those generated by London Underground linked trips, will generate pedestrian movements in the immediate vicinity of the site.

- 14.6.5 All pedestrian movements generated by departures by rail are expected to take place on the southern footway of Bunns Lane (West), crossing onto Flower Lane, and then immediately onto Flower Lane (West) to head north to Mill Hill Broadway Station. The reverse movement is expected to occur in relation to arrivals.
- 14.6.6 Pedestrian movements generated by bus trips inclusive of London Underground users are identified as a result of the assignment to bus routes.
- 14.6.7 **Tables 14-9 and 14-10** summarise the total peak hour pedestrian movements generated by the development on the footpaths for which the base PCL assessment has been undertaken.

Road	Footway	Peds Only		Other Ped Movements		Development Ped Movements		
		Arr	Dep	Arr	Dep	Arr	Dep	Total
Bunns Lane East	N	0	0	4	25	4	25	29
	S	6	15	0	0	6	15	21
Bunns Lane West	N	0	0	0	0	0	0	0
	S	22	61	17	75	39	136	175
Flower Lane	E	17	46	0	0	17	46	63
	W	0	0	7	38	7	38	45

Table 14-9: AM Peak Hour Development Pedestrian Demand

Road	Footway	Peds Only		Other Ped Movements		Development Ped Movements		
		Arr	Dep	Arr	Dep	Arr	Dep	Total
Bunns Lane East	N	0	0	8	8	8	8	16
	S	13	7	0	0	13	7	20
Bunns Lane West	N	0	0	0	0	0	0	0
	S	52	28	51	20	103	48	151
Flower Lane	E	39	21	0	0	39	21	60
	W	0	0	26	8	26	8	34

Table 14-10: PM Peak Hour Development Pedestrian Demand

- 14.6.8 **Table 14-9 and 14-10** indicate that the development places the greatest demand for pedestrian movements on the southern footway of Bunns Lane, west of the proposed pedestrian link. It is anticipated that 175 pedestrian movements could take place here within the AM peak hour.

14.7 SUMMARY

- 14.7.1 All rail trips are expected to take place from Mill Hill Broadway, accessed on foot by the new pedestrian link to Bunns Lane.
- 14.7.2 The development will generate both its greatest boarding and alighting and cumulative demand on the London Underground at Hendon Central Station. This occurs as a result of the accessibility of the site to bus route 113 which serves both the southern and northern areas of the development, and due to the fact that bus travel is not zoned, and therefore could be free for holders of a Zone 1-3 Travel Card, the extents of which is Hendon Central.
- 14.7.3 The greatest additional demand to a bus route is anticipated to occur on the westbound service of route 221 in the AM peak hour when an additional demand for 28 passengers occurs.
- 14.7.4 The greatest demand for pedestrian movements will occur on the southern footway of Bunns Lane, west of the proposed link to the development. Up to 175 additional pedestrian movements will take place here within the AM peak hour.

15 DEVELOPMENT HIGHWAY CAPACITY

15.1.1 This Section of the TA summarises the junction capacities resultant from the proposed development vehicle trips on the local highway network.

15.2 JUNCTION CAPACITY ASSESSMENT

15.2.1 **Section 13** of the TA has set out the anticipated vehicle trip generation of the proposed development. Assignment of the vehicle trips generated has also been described in **Section 14**. The resultant network flow diagrams are contained in **Appendix Ac**.

15.2.2 The junctions which form the assessment area as agreed with LBB/TfL have been assessed for the following traffic flow/distribution scenarios:

- ⊙ Opening Year 2021 + Development; and
- ⊙ Future Year 2026 + Development.

15.2.3 It is noted that the baseline, 2021 and 2026 scenarios were assessed in **Section 6**.

Junction 1 - The Broadway / Flower Lane Junction

15.2.4 A summary of the modelling results for the with development scenarios is presented in **Table 15-1**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
<i>Opening Year 2021 + Development</i>				
Flower Lane (Left Turn)	0.350	0.5	0.390	0.6
Flower Lane (Right Turn)	0.810	3.7	0.790	3.3
The Broadway (Straight)	0.420	1.3	0.410	1.2
The Broadway (Right Turn)	0.440	0.1	0.450	0.2
<i>Future Year 2026 + Development</i>				
Flower Lane (Left Turn)	0.520	1.0	0.600	1.3
Flower Lane (Right Turn)	0.870	5.0	0.870	5.1
The Broadway (Straight)	0.430	1.4	0.430	1.3
The Broadway (Right Turn)	0.460	0.1	0.470	0.2

Table 15-1: The Broadway / Flower Lane 2021 and 2026 with Development

15.2.5 **Tables 15-1** indicates that the overall performance of the priority junction between The Broadway and Flower Lane is expected to operate within a practical level of capacity in 2021, where the highest observed RFC does not exceed 0.81 RFC.

15.2.6 In 2026 the junction is anticipated to have approached and marginally exceeded practical capacity on the Flower Lane (Right Turn), with an RFC of 0.87 being reported in the AM and PM peaks. All other arms continue to operate with residual capacity.

Junction 2 - Bunns Lane / Flower Lane Junction

15.2.7 A summary of the modelling results for the with development scenarios expected at the junction between Bunns Lane and Flower Lane is presented in **Table 15-2**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Opening Year 2021 + Development				
Flower Lane (Left Turn)	0.560	1.2	0.340	0.5
Flower Lane (Right Turn)	0.710	1.9	0.210	0.3
Bunns Lane (Straight)	0.790	4.9	0.620	2.5
Bunns Lane (Right Turn)	0.800	2.3	0.690	1.1
Future Year 2026 + Development				
Flower Lane (Left Turn)	1.020	6.1	0.390	0.6
Flower Lane (Right Turn)	0.920	3.8	0.270	0.4
Bunns Lane (Straight)	0.840	6.2	0.670	2.9
Bunns Lane (Right Turn)	0.830	2.8	0.730	1.4

Table 15-2: Bunns Lane / Flower Lane 2021 and 2026 with Development

15.2.8 **Table 15-2** indicates that the junction will operate within a practical level of capacity in 2021, where the highest reported RFC does not exceed 0.80 RFC. In 2026 the junction is shown to exceeded practical capacity in the AM peak hour on the Flower Lane approach. The PM peak continues to operate with residual capacity in 2026.

Junction 3 – Fiveways Corner

15.2.9 A summary of the development scenario for 2021 at the Fiveways Corner junction is presented in **Table 15-3**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Junction 1 – Watford Way / Page Street / Hall Lane				
Watford Way EB (Lane 1+2)	88.9%	19.8	70.1%	14.6
Watford Way EB (Lane 3)	71.0%	11.3	71.9%	14.5
Watford Way EB (Lane 4)	69.8%	11.4	70.8%	14.7
Page Street SB	81.7%	8.1	67.5%	7.4
Watford Way NB (Lane 1)	43.1%	0.4	52.3%	0.5
Watford Way NB (Lane 2)	46.0%	0.4	55.6%	0.6
Watford Way NB (Lane 3+4)	76.1%	7.3	69.1%	9.7
Hall Lane NB	1.9%	0.1	0.7%	0.0
Junction 2 – Internal Signals				
Watford Way EB (Lane 1)	59.3%	0.7	45.7%	0.4
Watford Way EB (Lane 2)	64.5%	6.4	72.9%	19.7
Watford Way EB (Lane 3)	67.4%	4.6	72.0%	20.0
Watford Way NB (Lane 1)	43.1%	0.4	52.3%	5.5
Watford Way NB (Lane 2)	47.5%	0.5	57.3%	0.7
Watford Way NB (Lane 3+4)	73.5%	5.6	80.4%	8.2
Junction 3 – Watford Way / Great North Way				
Great North Way EB (Lane 1)	44.7%	3.5	32.4%	2.7
Great North Way EB (Lane 2)	47.0%	3.9	36.7%	2.1
Great North Way WB (Lane 1+2)	88.4%	15.6	90.3%	19.1
Great North Way WB (Lane 3)	50.3%	5.1	86.7%	16.7
Watford Way EB (Lane 1)	74.3%	5.6	69.5%	3.0
Watford Way EB (Lane 2)	76.9%	4.9	72.5%	7.8
Watford Way EB (Lane 3+4)	36.5%	2.1	64.1%	4.1
Watford Way NB (Lane 1)	86.7%	12.6	93.6%	22.9

Watford Way NB (Lane 2)	86.4%	12.4	93.4%	22.5
Watford Way NB (Lane 3)	83.2%	11.1	91.5%	20.4
AM Cycle Time - 70s PM Cycle Time – 70s	PRC 1.3%	Total Delay 67.81 (pcuHR)	PRC -4.0%	Total Delay 90.62 (pcuHR)

Table 15-3: Fiveways Corner 2021 with Development

- 15.2.10 The results of the model output for the with development scenario indicate that the junction will operate close to PRC in the AM peak hour (1.3%) and slightly over in the PM peak hour (-4.0%). However, it is noted that the lack of capacity is a result of only a few lanes of the junction, and the majority of the junction is shown to have residual capacity.
- 15.2.11 A summary of the development scenario for 2026 at the Fiveways Corner junction is presented in **Table 15-4**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Junction 1 – Watford Way / Page Street / Hall Lane				
Watford Way EB (Lane 1+2)	91.8%	22.2	73.4%	16.2
Watford Way EB (Lane 3)	73.4%	12.0	75.3%	15.8
Watford Way EB (Lane 4)	72.2%	12.1	74.6%	16.4
Page Street SB	85.1%	9.1	71.0%	8.3
Watford Way NB (Lane 1)	44.9%	0.4	56.0%	0.6
Watford Way NB (Lane 2)	47.3%	0.4	57.1%	0.7
Watford Way NB (Lane 3+4)	79.0%	8.2	72.8%	10.5
Hall Lane NB	2.2%	0.1	0.8%	0.0
Junction 2 – Internal Signals				
Watford Way EB (Lane 1)	61.4%	0.8	48.0%	0.5
Watford Way EB (Lane 2)	66.9%	7.1	76.6%	21.6
Watford Way EB (Lane 3)	69.7%	5.1	75.7%	21.7
Watford Way NB (Lane 1)	44.9%	0.5	55.9%	7.2
Watford Way NB (Lane 2)	48.8%	0.5	58.9%	0.7
Watford Way NB (Lane 3+4)	76.4%	6.0	85.0%	11.2
Junction 3 – Watford Way / Great North Way				
Great North Way EB (Lane 1)	46.6%	3.6	34.2%	3.1
Great North Way EB (Lane 2)	48.4%	4.5	38.4%	2.2
Great North Way WB (Lane 1+2)	90.1%	16.4	94.3%	22.3
Great North Way WB (Lane 3)	54.1%	5.6	92.0%	19.9
Watford Way EB (Lane 1)	77.2%	6.4	73.7%	3.2
Watford Way EB (Lane 2)	79.7%	5.6	75.9%	3.9
Watford Way EB (Lane 3+4)	40.0%	2.3	66.3 %	4.3
Watford Way NB (Lane 1)	90.0%	14.1	98.3%	29.2

Watford Way NB (Lane 2)	89.6%	13.8	98.2%	28.9
Watford Way NB (Lane 3)	86.0%	12.0	96.8%	26.0
AM Cycle Time - 70s PM Cycle Time – 70s	PRC -2.0%	Total Delay 76.44 (pcuHR)	PRC -9.2%	Total Delay 115.66 (pcuHR)

Table 15-4: Fiveways Corner 2026 with Development

- 15.2.12 The results of the model output for the with development scenario indicate that the junction will operate slightly over PRC in the AM peak hour (-2.0%) and PM peak hour (-9.2%). However, it is noted that the lack of capacity is a result of only a few lanes of the junction, and the majority of the junction is shown to have residual capacity.

Junction 4 – Mill Hill Circus

- 15.2.13 A summary of the results of the with development scenarios for the Mill Hill Circus junction is presented in **Tables 15-5 – 15-6**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Lawrence Street (Lane 1)	107.2%	31.2	86.4%	7.5
Lawrence Street (Lane 2 + 3)	106.8%	29.5	88.0%	8.2
Watford Way WB (Lane 1)	78.1%	15.8	97.9%	35.0
Watford Way WB (Lane 2 + 3)	81.7%	16.0	99.9%	42.0
The Broadway (Lane 1)	80.4%	8.4	87.2%	8.1
The Broadway (Lane 2 + 3)	55.3%	4.2	83.9%	6.1
Watford Way EB (Lane 1)	108.0%	71.1	96.7%	27.2
Watford Way EB (Lane 2 + 3)	80.9%	16.3	71.1%	11.6
Rbt Circulation 2 (Lane 1)	43.4%	2.0	56.9%	2.8
Rbt Circulation 2 (Lane 2)	59.9%	4.6	60.5%	3.5
Rbt Circulation 2 (Lane 3)	14.6%	0.9	33.7%	1.8
Rbt Circulation 4 (Lane 1)	39.5%	4.2	49.0%	3.7
Rbt Circulation 4 (Lane 2)	63.9%	6.5	63.4%	5.5
Rbt Circulation 4 (Lane 3)	56.7%	5.7	46.9%	3.7
AM Cycle Time - 71s PM Cycle Time – 64s	PRC -20.0%	Total Delay 133.89 (pcuHR)	PRC -10.9%	Total Delay 107.02 (pcuHR)

Table 15-5: Mill Hill Circus 2021 with Development

- 15.2.14 The results of the model output for the with development scenario indicate that the Mill Hill Circus junction will operate over capacity with a recorded negative PRC in the AM peak hour (-20.0%) and PM peak hour (-10.9%).

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Lawrence Street (Lane 1)	112.4%	36.9	96.0%	11.1
Lawrence Street (Lane 2 + 3)	113.0%	37.1	98.7%	13.8
Watford Way WB (Lane 1)	80.9%	17.0	103.4%	59.4
Watford Way WB (Lane 2 + 3)	84.4%	17.5	105.3%	78.5
The Broadway (Lane 1)	81.9%	8.9	92.4%	9.9
The Broadway (Lane 2 + 3)	57.6%	4.5	94.2%	9.6
Watford Way EB (Lane 1)	114.6%	105.7	105.2%	58.5
Watford Way EB (Lane 2 + 3)	81.4%	16.5	71.5%	11.6
Rbt Circulation 2 (Lane 1)	41.9%	2.1	59.2%	2.8
Rbt Circulation 2 (Lane 2)	59.3%	4.8	64.4%	3.6
Rbt Circulation 2 (Lane 3)	16.5%	0.9	35.0%	1.7
Rbt Circulation 4 (Lane 1)	40.1%	4.3	55.2%	4.0
Rbt Circulation 4 (Lane 2)	66.7%	6.8	69.4%	5.9
Rbt Circulation 4 (Lane 3)	59.0%	6.0	52.1%	4.0
AM Cycle Time - 71s PM Cycle Time – 64s	PRC -27.3%	Total Delay 184.82 (pcuHR)	PRC -17.0%	Total Delay 213.23 (pcuHR)

Table 15-6: Mill Hill Circus 2026 with Development

- 15.2.15 The results of the model output for the with development scenario indicate that the Mill Hill Circus junction will operate over capacity with a recorded negative PRC in the AM peak hour (-27.3%) and PM peak hour (-17.0%).

Junction 5 - Bunns Lane / Grahame Park Way Mini Roundabout

- 15.2.16 The proposed layout for the mini roundabout between Bunns Lane and Grahame Park Way was considered when assessing the with development scenarios. A summary of the modelling results is presented in **Table 15-7**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Opening Year 2021 + Development				
Bunns Lane (North West)	0.780	3.4	0.790	3.7
Bunns Lane (East)	0.970	15.4	0.720	2.4
Grahame Park Way	0.790	3.5	0.690	2.2
Future Year 2026 + Development				
Bunns Lane (North West)	0.810	4.1	0.840	5.0
Bunns Lane (East)	1.010	25.5	0.760	3.1
Grahame Park Way	0.820	4.3	0.750	2.8

Table 15-7: Bunns Lane / Grahame Park Way 2021 and 2026 with Development

- 15.2.17 **Table 15-7** indicates that the junction will operate above practical capacity in the AM peak hour in the worst case, 2026. The junction will operate at practical capacity in the PM peak hour, 2026.

Junction 6 – The Broadway / Bunns Lane / Hale Lane Mini Roundabout

- 15.2.18 A summary of the modelling results for the with development scenario is presented in **Table 15-8**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Opening Year 2021 + Development				
Hale Lane	1.130	43.7	1.180	56.9
The Broadway	1.080	30.4	1.120	42.1
Bunns Lane	1.020	13.3	1.070	20.1
Future Year 2026 + Development				
Hale Lane	1.200	61.0	1.280	86.5
The Broadway	1.130	42.4	1.200	64.6
Bunns Lane	1.060	17.8	1.120	28.5

Table 15-8: The Broadway / Bunns Lane / Hale Lane 2021 and 2026 with Development

- 15.2.19 **Tables 15-8** indicates that the junction is predicted to operate above capacity. It was identified that the junction operates above capacity in 2016 in **Section 6**. As the result of additional traffic the junction will continue to perform less efficiently in the with development scenarios, suffering from increased queuing and delays.

Junction 7 – Bunns Lane / Pursley Road / Page Street Mini Roundabouts

- 15.2.20 A summary of the modelling results for with development scenarios is presented in **Table 15-9**.

Junction	Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
		RFC	Queue (Veh)	RFC	Queue (Veh)
Opening Year 2021 + Development					
Bunns Lane – Page Street Mini Roundabout	Page Street (North)	1.290	38.6	0.970	7.2
	Page Street (South)	0.930	8.0	0.930	7.9
	Bunns Lane	1.390	135.3	1.160	80.4
Page Street – Purley Road Mini Roundabout	Pursley Road	1.380	199.8	1.280	128.8
	Page Street (South)	1.410	118.0	1.400	106.8
	Page Street (North)	0.920	7.9	0.920	7.9
Future Year 2026 + Development					
Bunns Lane – Page Street Mini Roundabout	Page Street (North)	1.340	47.9	1.040	10.5
	Page Street (South)	0.930	8.0	0.930	7.9
	Bunns Lane	1.450	165.3	1.240	132.3
Page Street – Purley Road Mini Roundabout	Pursley Road	1.440	240.7	1.350	173.9
	Page Street (South)	1.490	139.8	1.480	136.1
	Page Street (North)	0.920	7.9	0.920	7.9

Table 15-9: Bunns Lane / Pursley Road / Page Street 2021 and 2026 with Development

- 15.2.21 **Table 15-9** indicates that the junction is predicted to operate above capacity. It was identified that the junction operates above capacity in 2016 in **Section 6**. As the result of additional traffic the junction will continue to perform less efficiently in the with development scenarios, suffering from increased queuing and delays.

15.3 FOOTWAY CAPACITY ASSESSMENT

- 15.3.1 The existing PCL has been calculated to be A+ in the area of the proposed development. A revised assessment of PCL has been undertaken based on the additional demand expected to be placed by the development, as identified in **Tables 14-9** and **14-10**.
- 15.3.2 The pedestrian movements identified are inclusive of all movements that could occur as a result of main mode bus trips, underground trips, and linked bus to underground trips. As such, the assessment is robust.
- 15.3.3 **Table 15-10** summarises the revised PCL assessment for the AM peak hour inclusive of the additional pedestrian movements generated by the development.

Footway	Base Peds / hr	Development Demand	Future Peds / hr	Clear Footway Width	Crowding (ppmm)	PCL
Bunns Lane East (N)	103	29	132	1.6	1.4	A+
Bunns Lane East (S)	91	21	112	2.2	0.8	A+
Bunns Lane West (N)	103	0	103	1.6	1.1	A+
Bunns Lane West (S)	91	175	266	2.2	2.0	A+
Flower Lane (E)	49	63	112	3	0.6	A+
Flower Lane (W)	12	45	57	2.3	0.4	A+

Table 15-10: AM Peak Hour + Development PCL

- 15.3.4 **Table 15-11** summarises the revised PCL assessment for the PM peak hour inclusive of the additional pedestrian movements generated by the development.

Footway	Base Peds / hr	Development Demand	Future Peds / hr	Clear Footway Width	Crowding (ppmm)	PCL
Bunns Lane East (N)	25	16	41	1.6	0.4	A+
Bunns Lane East (S)	40	20	60	2.2	0.5	A+
Bunns Lane West (N)	25	0	25	1.6	0.3	A+
Bunns Lane West (S)	40	151	191	2.2	1.5	A+
Flower Lane (E)	39	60	99	3	0.6	A+
Flower Lane (W)	12	34	46	2.3	0.3	A+

Table 15-11: PM Peak Hour + Development PCL

- 15.3.5 **Tables 15-10 and 15-11** show that with the increase in pedestrian movements the PCL remains A+, which indicates that the environment will remain very comfortable with plenty space for people to walk, and restricted movements remaining below 3%.
- 15.3.6 The analysis indicates that the existing footway network can accommodate future demand generated by the proposed development leaving significant residual capacity on the footway network.

15.4 SUMMARY

- 15.4.1 The with development highway capacity assessment has indicated that by 2026 all junctions in the assessment area will have reached a level of practical capacity and experience accumulation of queued vehicles and increased delays. However, it is noted that the Future Base 2026 models indicated that this would occur regardless of any proposed development. Assessment of the impact of the development relative to conditions that would otherwise prevail is contained in **Section 16**.
- 15.4.2 Full results of the 'with development' modelling outputs are contained within **Appendix Ad**.
- 15.4.3 Footway capacity assessment showed that the existing level of comfort will remain very comfortable. The proposed development is expected to have non-material impact on pedestrian environment in the area of the development.

16 JUNCTION IMPACT ASSESSMENT

16.1.1 This Section of the TA summarises the impact of the proposed development in terms of change in junction capacity on the local highway network, relative to the conditions that would otherwise prevail.

16.1.2 Given that the greatest level of traffic that will be on the network within the scope of the assessment occurs in 2026, comparisons have been drawn for this year only.

16.2 JUNCTION IMPACT ASSESSMENT

Junction 1 - The Broadway / Flower Lane Junction

16.2.1 A summary of the impact of the development by change in RFC and queuing results is presented in **Table 16-1**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Flower Lane (Left Turn)	0.02	0.1	-0.03	-0.2
Flower Lane (Right Turn)	0	0.1	-0.01	-0.2
The Broadway (Straight)	0	0	0	0
The Broadway (Right Turn)	0	0	0	0

Table 16-1: The Broadway / Flower Lane 2026 Development Impact

16.2.2 The comparison between the with development scenario and conditions that would otherwise prevail in 2026 indicate that the development will have a non-material impact on the capacity and operation of the junction of The Broadway and Flower Lane, with only minor increases to queuing occurring on Flower Lane of less than a vehicle.

Junction 2 - Bunns Lane / Flower Lane Junction

16.2.3 A summary of the impact of the development by change in RFC and queuing results is presented in **Table 16-2**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Flower Lane (Left Turn)	0.02	0.4	-0.02	-0.1
Flower Lane (Right Turn)	0.01	0.2	0	0.1
Bunns Lane (Straight)	0	0	0	-0.1
Bunns Lane (Right Turn)	0	0	0	0

Table 16-2: Bunns Lane / Flower Lane 2026 Development Impact

- 16.2.4 The comparison between the with development scenario and conditions that would otherwise prevail in 2026 indicate that the development will have a negligible impact on the operation of the junction of Bunns Lane and Flower Lane, with only minor additional queuing and increase in RFC recorded.

Junction 3 - Fiveways Corner

- 16.2.5 A summary of the impact of the development by change in DoS and queuing results is presented **Table 16-3**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Junction 1 – Watford Way / Page Street / Hall Lane				
Watford Way EB (Lane 1+2)	2.80%	2.3	3.10%	1.3
Watford Way EB (Lane 3)	-0.70%	-0.1	0.00%	0
Watford Way EB (Lane 4)	-0.50%	-0.1	-0.10%	0
Page Street SB	-0.60%	-0.3	0.00%	0.2
Watford Way NB (Lane 1)	-0.30%	0	0.00%	0
Watford Way NB (Lane 2)	-0.80%	-0.1	0.10%	0
Watford Way NB (Lane 3+4)	0.00%	0	0.00%	0
Hall Lane NB	0.00%	0	0.00%	0
Junction 2 – Internal Signals				
Watford Way EB (Lane 1)	1.10%	0	1.10%	0.1
Watford Way EB (Lane 2)	-0.60%	0	0.20%	0
Watford Way EB (Lane 3)	-0.40%	0	0.20%	0.2
Watford Way NB (Lane 1)	-0.30%	0	0.00%	-0.1
Watford Way NB (Lane 2)	-0.80%	0	0.00%	0
Watford Way NB (Lane 3+4)	-0.20%	0	-0.20%	-0.2
Junction 3 – Watford Way / Great North Way				
Great North Way EB (Lane 1)	0.70%	0	0.30%	0.3
Great North Way EB (Lane 2)	0.80%	0	1.00%	0.1
Great North Way WB (Lane 1+2)	-0.20%	-0.3	-0.80%	-0.6
Great North Way WB (Lane 3)	-1.70%	-0.2	-1.00%	-0.7
Watford Way EB (Lane 1)	-0.40%	-0.1	-0.50%	-0.1
Watford Way EB (Lane 2)	-0.30%	-0.1	-0.60%	-0.2
Watford Way EB (Lane 3+4)	-2.40%	-0.2	7.60%	0.5
Watford Way NB (Lane 1)	-0.80%	-0.4	-0.60%	-1.1

Watford Way NB (Lane 2)	-1.40%	-0.6	-0.80%	-1.4
Watford Way NB (Lane 3)	-0.70%	-0.2	-0.90%	-1.1

Table 16-3: Fiveways Corner 2026 Development Impact

- 16.2.6 The comparison between the with development scenario and conditions that would otherwise prevail in 2026 indicate that the development predominantly has a positive impact on the operation of the junction, albeit the magnitude of impact, either positive or negative, is negligible.

Junction 4 - Mill Hill Circus

- 16.2.7 A summary of the impact of the development by change in DoS and queuing results is presented in **Table 16-4**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Degree of Sat (DoS)	MMQueue (pcu)	Degree of Sat (DoS)	MMQueue (pcu)
Lawrence Street (Lane 1)	5.40%	5.2	3.20%	1.6
Lawrence Street (Lane 2 + 3)	5.60%	6.2	4.00%	2.7
Watford Way WB (Lane 1)	-19.80%	-19.8	-0.50%	-1.6
Watford Way WB (Lane 2 + 3)	-16.80%	-22.9	-0.60%	-1.8
The Broadway (Lane 1)	20.50%	2.5	5.40%	1.5
The Broadway (Lane 2 + 3)	15.60%	0.9	9.20%	3.1
Watford Way EB (Lane 1)	1.40%	7.3	5.60%	23.4
Watford Way EB (Lane 2 + 3)	-0.10%	0	1.70%	0.6
Rbt Circulation 2 (Lane 1)	11.60%	0.1	3.50%	-0.2
Rbt Circulation 2 (Lane 2)	18.30%	1.1	7.60%	0.1
Rbt Circulation 2 (Lane 3)	6.60%	0.2	2.10%	0
Rbt Circulation 4 (Lane 1)	-0.40%	0.1	2.00%	0.1
Rbt Circulation 4 (Lane 2)	6.10%	0.9	0.90%	0.1
Rbt Circulation 4 (Lane 3)	3.40%	0.4	8.40%	0.7

Table 16-4: Mill Hill Circus 2026 Development Impact

- 16.2.8 The comparison between the with development scenario and conditions that would otherwise prevail in 2026 indicate that the development will have a minor adverse impact on the Mill Hill Circus junction. This is understood to be due to the fact that all development traffic departing the site will use the junction.

Junction 5 - Bunns Lane / Grahame Park Way Mini Roundabout

- 16.2.9 A summary of the impact of the development by change in RFC and queuing results is presented in **Table 16-5**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Bunns Lane (North West)	0	-0.1	0	-0.1
Bunns Lane (East)	0	0.5	0	0.1
Grahame Park Way	-0.01	0	0.01	0.1

Table 16-5: Bunns Lane / Grahame Park Way 2026 Development Impact

- 16.2.10 The comparison between the with development scenario and conditions that would otherwise prevail in 2026 indicate that the development will have a negligible impact on the operation of the junction of Bunns Lane and Grahame Park Way, with only minor additional queuing and increase in RFC recorded.

Junction 6 – The Broadway / Bunns Lane / Hale Lane Mini Roundabout

- 16.2.11 A summary of the impact of the development by change in RFC and queuing results is presented in **Table 16-6**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	RFC	Queue (Veh)	RFC	Queue (Veh)
Hale Lane	0	-0.8	0	-1.4
The Broadway	0	0.3	-0.01	-1.8
Bunns Lane	0	0	0	0.1

Table 16-6: The Broadway / Bunns Lane / Hale Lane 2026 Development Impact

- 16.2.12 The comparison between the with development scenario and conditions that would otherwise prevail in 2026 indicate that the development has a positive impact on the operation of the junction.

Junction 7 – Bunns Lane / Pursley Road / Page Street Mini Roundabouts

- 16.2.13 A summary of the impact of the development by change in RFC and queuing results is presented in **Table 16-7**.

Junction	Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
		RFC	Queue (Veh)	RFC	Queue (Veh)
Bunns Lane – Page Street Mini Roundabout	Page Street (North)	0.01	5.2	0.02	0.8
	Page Street (South)	0	0	0	0
	Bunns Lane	0.02	11.5	0	8
Page Street – Purley Road Mini Roundabout	Pursley Road	0	-0.4	0	2.6
	Page Street (South)	-0.01	-1.7	0	-1.9
	Page Street (North)	0.01	0	0	0

Table 16-7: Bunns Lane / Pursley Road / Page Street 2026 Development Impact

- 16.2.14 The comparison between the with development scenario and conditions that would otherwise prevail in 2026 indicate that the development will have a minor adverse impact. It is noted that significant additional queuing is predicted on the Bunns Lane approach of the northern mini roundabout. However, given that the overall RFC of the approach is over 1.00 queuing results are not considered to be representative.
- 16.2.15 Although the results indicate that the development impact on the junction is minor in capacity terms. It is recognised that this junction is the most sensitive to traffic changes in the area and would likely be impacted to extent that is perceivable to other road users.

16.3 SUMMARY

- 16.3.1 The comparison between the with development and without scenarios on the operation of junctions in the local highway network has demonstrated that the developments impact would be minor.
- 16.3.2 Although the development impact is minor at worst; the existing context of lack of capacity on the junctions of Grahame Park Way / Bunns Lane, Mill Hill Circus, and in particular the junction of Bunns Lane / Pursley Road / Page Street will be sensitive to any increase in traffic.

17 SITE ACCESSIBILITY IMPACT ASSESSMENT

17.1.1 This Section of the TA assesses the impacts of the development associated with its accessibility by sustainable modes, to key services and public transport; and the impacts of the developments demand placed on public transport.

17.2 IMPACT ON ACCESS TO KEY SERVICES

17.2.1 The proposed development will not only increase accessibility to key services to the local community through provision of some of the non-residential uses proposed; but the provision of a link between Bunns Lane and the site also significantly increases the ability of site users to access services north of the site on foot, as well as the wider community permeate through the site to these services.

17.3 IMPACT ON RAIL AND LONDON UNDERGROUND IMPACT

Rail Impact

17.3.1 All trips by rail are expected to take place from Mill Hill Broadway Station being that it is the most accessible station in relation to the site. For the purposes of assessing the impact of additional rail trips from the development it is considered that arrivals occur via northbound services (i.e. coming from London), and departures do so on southbound services (towards London).

17.3.2 In the AM peak hour, a total of 38 departures and 7 arrivals by rail are anticipated. Given that these do not occur concurrently (i.e. departures board as arrivals alight), the greatest demand is placed by those departing. By assignment to the six southbound services that are available during the AM peak hour it is anticipated that the development will generate an additional demand for approximately six persons per train.

17.3.3 In the PM peak hour, a total of 26 arrivals and 8 departures by rail are anticipated. The greatest demand is placed by those arriving. By assignment to the five northbound services that are available during the PM peak hour it is anticipated that the development will generate an additional demand for approximately five persons per train.

17.3.4 The impact of the development on the existing rail services is non-material given the negligible increase in demand per train in the peak hours identified.

London Underground Impact

17.3.5 The cumulative demand of additional London Underground trips has been identified in **Tables 14-2** and **14-3**. The impact of the additional trips has been considered in the context of the existing level of service, and average demand placed by the development throughout the peak hours.

17.3.6 **Table 17-1** summarises the additional cumulative demand within the AM peak hour that will be generated by the development at each station as an average of additional persons per train.

Station	Direction	AM Peak Development Trips	AM Peak Service Frequency	Additional Persons per Train
Burnt Oak	NB	0	21	0.00
	SB	3	19	0.15
Mill Hill East	NB (i.e. terminating)	0	5	0.00
	SB	3	5	0.56
Colindale	NB	0	19	0.00
	SB	6	21	0.27
Hendon Central	NB	0	19	0.00
	SB	11	21	0.53

Table 17-1: AM Peak Hour London Underground Impact

17.3.7

Table 17-2 summarises the additional cumulative demand within the PM peak hour that will be generated by the development at each station as an average of additional persons per train.

Station	Direction	PM Peak Development Trips	PM Peak Service Frequency	Additional Persons per Train
Burnt Oak	NB	4	20	0.19
	SB	0	15	0.01
Mill Hill East	NB (i.e. terminating)	4	4	0.95
	SB	0	5	0.04
Colindale	NB	8	21	0.36
	SB	0	20	0.02
Hendon Central	NB	15	21	0.72
	SB	1	20	0.07

Table 17-2: PM Peak Hour London Underground Impact

17.3.8

Tables 17-1 and **17-2** demonstrate the greatest increase in demand (15 passengers) occurs in the PM peak hour at Hendon Central due to the cumulative effect of northbound trips. The greatest impact per train also occurs at Hendon Central, but only an additional 0.72 passengers per train is expected on average.

17.3.9 The impact of the development on the existing rail services is non-material given the negligible increase in demand per train in the peak hours identified.

17.4 IMPACT ON BUS IMPACT

17.4.1 The additional demand generated by the development on bus routes has been identified in **Tables 14-6** and **14-7**. The demand identified is inclusive of London Underground trips that have been identified as using the bus network to access services at Burnt Oak, Hendon Central, and Mill Hill East.

17.4.2 Through pre-application discussions with TfL it was determined that existing bus patronage data would not be supplied. The effects of additional bus patronage generated by the development has therefore been assessed based on a comparison to existing capacity (unladen). The existing capacity is based on the minimum frequency of services expected based on published timetable information, and as such forms a robust assessment.

17.4.3 The identification of capacity within the existing bus services has been calculated based on both seated, and both seated and standing capacity of:

- ⊙ Seated Only = 64 passengers
- ⊙ Seated and Standing = 87 passengers

17.4.4 **Table 17-3** summarises the proportional change in bus patronage on various routes in the AM peak hour relative to the capacity within the hour.

Service No.	Direction	Buses / Hr	Capacity		Development Demand	% Capacity		Additional passengers per bus
			Seated	Max		Seated	Max	
113	SB	7	448	609	21	4.60%	3.38%	2.94
	NB	5	320	435	4	1.25%	0.92%	0.80
221	EB	5	320	435	25	7.75%	5.70%	4.96
	WB	5	320	435	22	6.88%	5.06%	4.40
302	WB	6	384	522	5	1.41%	1.03%	0.90
	EB	7	448	609	0	0.00%	0.00%	0.00
303	WB	4	256	348	2	0.78%	0.57%	0.50
	EB	4	256	348	2	0.78%	0.57%	0.50
114	WB	5	320	435	5	1.69%	1.24%	1.08
	EB	5	320	435	0	0.00%	0.00%	0.00
186	WB	5	320	435	2	0.63%	0.46%	0.40
	EB	5	320	435	2	0.63%	0.46%	0.40

Table 17-3: AM Peak Hour Bus Demand Impact

17.4.5 **Table 17-4** summarises the change in bus patronage on various routes in the PM peak hour.

Service No.	Direction	Buses / Hr	Capacity		Development Demand	% Capacity		Additional passengers per bus
			Seated	Max		Seated	Max	
113	SB	5	320	435	6	1.88%	1.38%	1.20
	NB	5	320	435	16	4.88%	3.59%	3.12
221	EB	5	320	435	8	2.56%	1.89%	1.64
	WB	5	320	435	17	5.25%	3.86%	3.36
302	WB	6	384	522	2	0.55%	0.40%	0.35
	EB	7	448	609	2	0.42%	0.31%	0.27
303	WB	4	256	348	2	0.78%	0.57%	0.50
	EB	4	256	348	0	0.00%	0.00%	0.00
114	WB	5	320	435	2	0.66%	0.48%	0.42
	EB	5	320	435	2	0.59%	0.44%	0.38
186	WB	5	320	435	2	0.63%	0.46%	0.40
	EB	5	320	435	0	0.00%	0.00%	0.00

Table 17-4: PM Peak Hour Bus Demand Impact

17.4.6 The anticipated demand for additional bus passengers will predominantly take place on bus routes 113 and 221. These are the both the closest accessible services to the development, with the 113 providing access to Hendon Central and the 221 to Mill Hill East underground stations.

17.4.7 The assessment indicates that bus route 221 experiences the greatest increase of 7.75% of seated capacity in the AM peak hour, however this is only five additional passengers per bus.

17.5 HEALTHY STREETS AUDIT

17.5.1 To assess the impact of the proposed development on Bunns Lane from a sustainable travel perspective, a Healthy Streets Audit has been undertaken. The audit is based on the guidance provided in TfL's 'Guide to the Healthy Streets Indicators' and the 'Healthy Streets Check for Designers' checklist tool.

17.5.2 The Healthy Streets approach is a set of policies and strategies to encourage more walking, cycling and public transport, and less car use. When undertaking an audit the context of a street should be considered in terms of its place and movement functions. The area assessed as part of the audit is indicated on **Figure 17-1**.

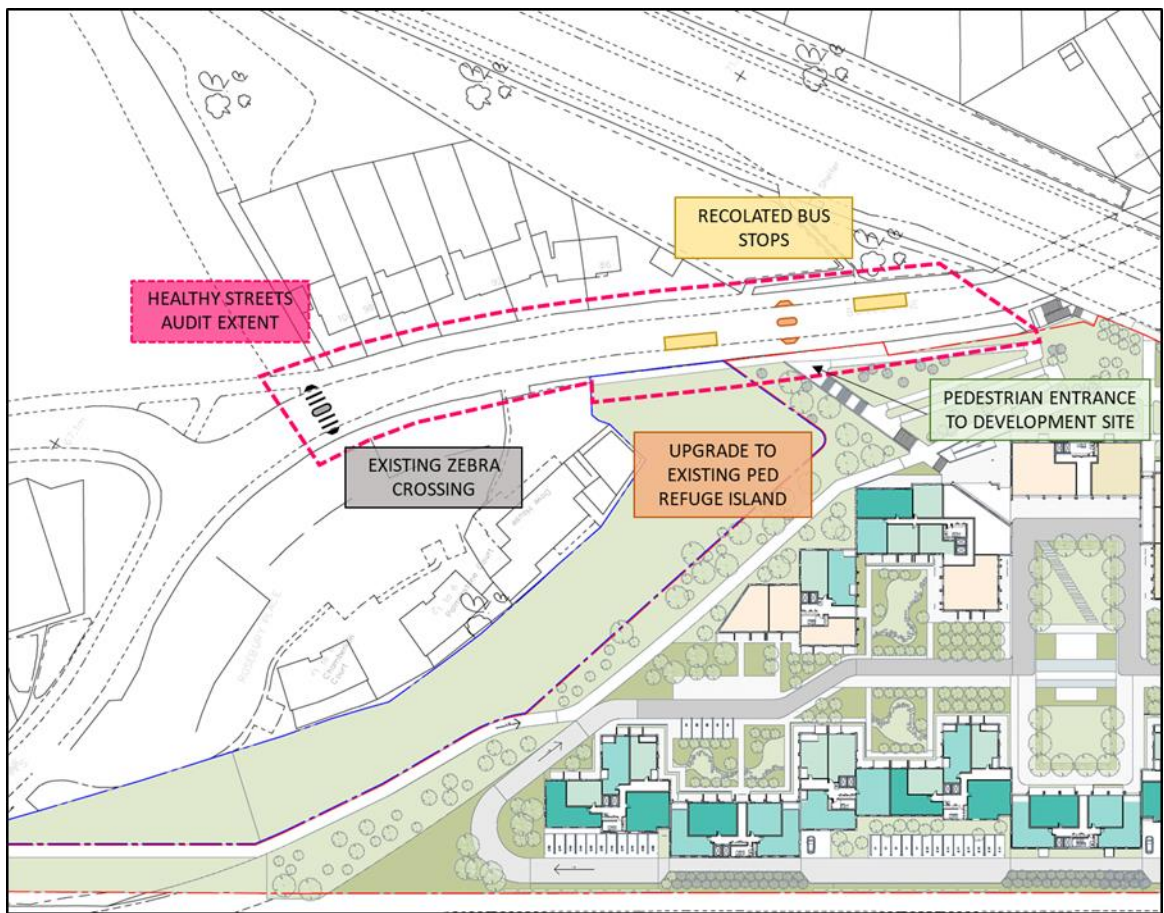


Figure 17-1: Healthy Streets Audit Extent

- 17.5.3 The Healthy Streets audit is provided within **Appendix Ah** and identifies that the infrastructure and landscaping improvements associated with the Proposed Development increases the scores on the majority of the Healthy Streets parameters when compared to the existing layout.
- 17.5.4 The outcome of the audit is shown in the **Figure 17-2** and Table **17-5**.

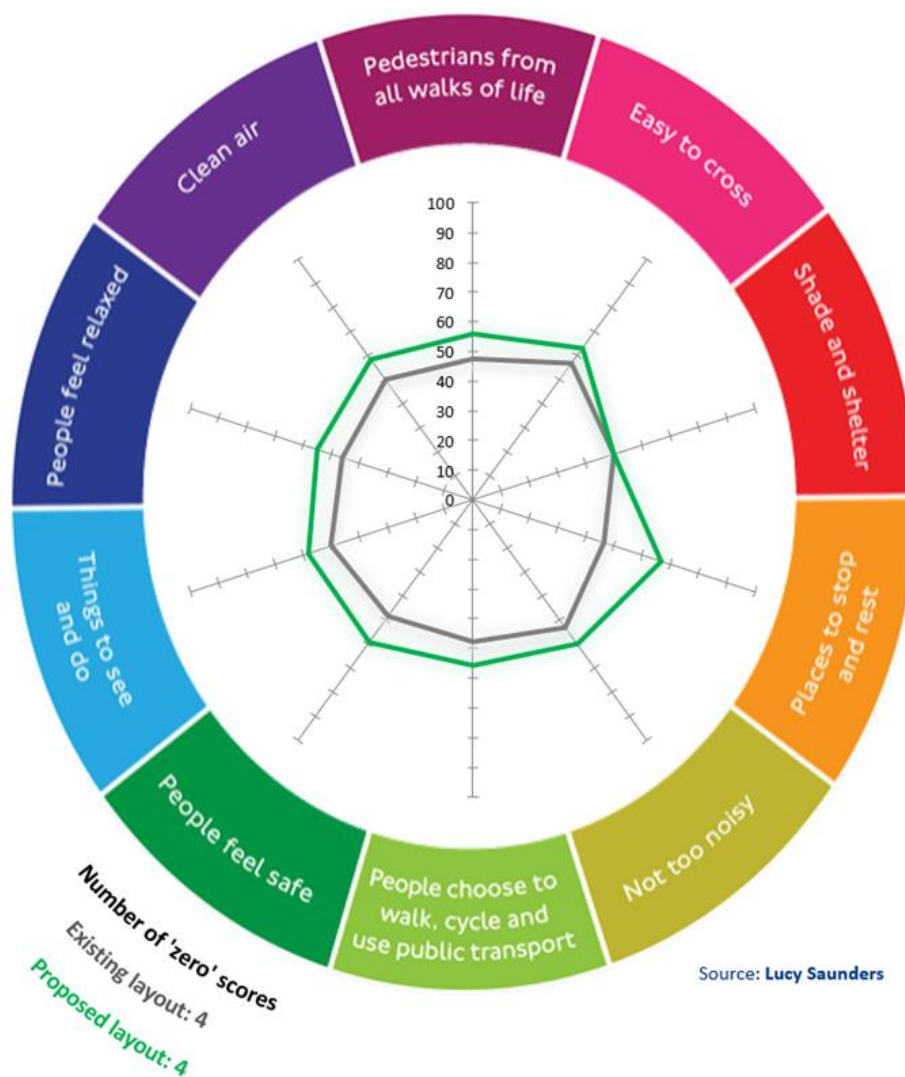


Figure 17-2: Healthy Streets Audit Summary Diagram

CRITERIA	EXISTING LAYOUT	PROPOSED LAYOUT
Pedestrians from all walks of life	48	56
Easy to cross	57	63
Shade and shelter	50	50
Places to stop and rest	47	67
Not too noisy	53	60
People choose to walk, cycle and use public transport	48	56
People feel safe	48	59
Things to see and do	50	58
People feel relaxed	46	55
Clean Air	50	58
Overall Healthy Streets Check score	49	57

Table 17-5: Healthy Streets Check Scores

- 17.5.5 The proposed development promotes the Healthy Streets approach and increases all aspects of the Healthy Streets criteria except for 'Shade and Shelter' due to the replacement of trees outside the development and no change to shelter at the Flower Lane end of Bunns Lane. The increase in passive surveillance provided by the new development, as well as the introduction of new planting and landscaping, increases the 'Places to Stop and Rest' criteria which displays the largest increase.
- 17.5.6 The increase in passive surveillance, amenity lighting, and subsequent feeling of safety, as well as the relocation of the bus stops closer to the site, are the biggest changes to the street environment post-development. These aspects increase the scores for 'Pedestrians from all walks of life', 'People feel safe', 'People chose to walk, cycle and use public transport', and 'People feel relaxed'. These improvements will increase the overall aesthetics and feeling of safety for this section of Bunns Lane, not to mention increase the accessibility for those using public transport.
- 17.5.7 The Proposed layout scores lowest on 'People feel relaxed', even with the increased score. This criterion is influenced by almost all of the 31 scoring categories and therefore the higher traffic volumes, speeds, and proportion of heavy vehicles on Bunns Road all contribute to the slightly lower score for this criterion. However, as mentioned the landscaping improvements and opening up of the space in front of the development site will help to increase this score from existing.
- 17.5.8 The assessed area also scored four zero scores, all of which are existing safety concerns, that won't be exasperated by the proposed development and are outside the control of the development scope of works. Three zero scores are associated with the nature of Bunns Lane being a main traffic route, with larger volumes of traffic, proportion of heavy vehicles, and vehicle speeds. The fourth zero score is associated with the lane widths of between 3.2 – 3.9m on Bunns Lane, which are less attractive to cyclists as there is space for a vehicle to pass a cyclist within the lane but without leaving 1.0m clear space. However, the Proposed Development will introduce a safer cycling connection to help cyclists avoid Bunns Lane and encourage more cycling through the area.

17.6 SUMMARY

- 17.6.1 During the AM peak hour, the development will generate an additional demand for six persons per train at Mill Hill Broadway, and in the PM peak demand for five persons. The impact of the development on the existing rail services is non-material given the negligible increase in demand per train.
- 17.6.2 The greatest impact per train also occurs at Hendon Central, but only an additional 0.72 passengers per train is expected on average. The impact of the development on the existing rail services is non-material given the negligible increase in demand.
- 17.6.3 The development will generate highest additional levels of demand on bus route 221 experiences the greatest increase of 7.75% of capacity in the AM peak hour, however this is only five additional passengers per bus.

18 PARKING IMPACT ASSESSMENT

18.1.1 This section of the TA seeks to assess the proposed provision of parking as part of the development in relation to the demand that will be generated.

18.2 RESIDENTIAL PARKING IMPACT

18.2.1 Given the specific setting of the site, its own scale (i.e. distance from north to south side), it is not considered practical that any resident who might not have access to, or wish to rent a car parking space would seek to own a car and keep it off site in the surrounding area. Potential tenants would be made aware of the availability of car parking at the development prior to signing the tenancy agreement, and if parking was an important consideration for them and was not available, it is assumed this would form a material consideration as to whether they rent the property or not.

18.2.2 Based on the assessment of likely parking demand, and given the site specific context, it is not anticipated that any overspill parking would occur as a result of the development. As such, it has not been deemed necessary to carry out any further assessment on the baseline parking conditions in the wider network identified in **Section 4**. It is however noted that significant residual capacity was identified to exist.

18.3 NON-RESIDENTIAL PARKING IMPACT

18.3.1 It is proposed to provide 9 parking spaces for use of non-residents in a car parking area at the southern end of the site. Based on the daily profile of hourly arrival and departure trip rates for the non-residential uses proposed, a parking accumulation exercise has been carried out to assess whether the level of parking proposed is sufficient.

18.3.2 It is recognised that the trip generation exercise undertaken for the non-residential uses required adjustment to account for linked and pass-by trips. It is considered reasonable to apply the agreed discounts for linked trips (accounting for resident users), whilst pass-by trips might already exist on the wider highway network, they will generate demand for parking spaces when at the development. These trips have therefore been included within the parking assessment along with any new vehicle trip demand identified.

18.3.3 **Table 18-1** summarises the anticipated vehicle arrivals, departures, and accumulation of parking relative to capacity in the non-residential car parking area. Where activity does not occur prior to 06:00, it is not included.

Time Period	Arrivals	Departures	Max Parking Capacity	Cumulative Occupancy	% Occupancy	Residual Parking Capacity
06:00-07:00	0	0	9	0	0%	9
07:00-08:00	1	1		0	0%	9
08:00-09:00	3	1		2	22%	7
09:00-10:00	5	3		4	44%	5
10:00-11:00	5	6		3	33%	6
11:00-12:00	5	5		3	33%	6
12:00-13:00	2	4		1	11%	8
13:00-14:00	4	3		2	22%	7
14:00-15:00	5	4		3	33%	6
15:00-16:00	3	4		2	22%	7
16:00-17:00	4	5		1	11%	8
17:00-18:00	3	3		1	11%	8
18:00-19:00	3	4		0	0%	9
19:00-20:00	2	1		1	11%	8
20:00-21:00	2	1		2	22%	7
21:00-22:00	1	1		2	22%	7
22:00-23:00	0	1	1	11%	8	
23:00-24:00	0	0	1	11%	8	

Table 18-1: Non-Residential Parking Accumulation Assessment

18.3.4 **Table 18-1** indicates that there will be significant residual capacity of 5 parking spaces during the highest level of occupation (44%) of the proposed parking bays.

18.4 SUMMARY

18.4.1 Based on the assessment of likely residential parking demand, and given the site specific context, it is not anticipated that any overspill parking would occur as a result of the development.

18.4.2 An assessment of parking accumulation associated with the non-residential car park shows that 5 parking spaces will remain available during the highest level of occupation, which only reaches 44% of the proposed parking bays.

19 MITIGATION STRATEGY

19.1.1 This Section of the TA identifies the strategy for mitigation in relation to the transport impacts of the proposed development.

19.2 GRAHAME PARK WAY UNDERPASS IMPROVEMENT

19.2.1 As previously described within **Section 11** of this TA the development will fund an improvement scheme to the railway underpass to Grahame Park Way inclusive of the M1 footbridge. It is understood that both of these assets are owned by third parties (e.g Highways England), and therefore it has been discussed and agreed with LBB that the exact nature and details of the improvements will be determined post determination and secured by planning condition.

19.2.2 Although the details of the improvements are not defined, it is proposed that they will broadly consist of stone and masonry refurbishment, improved landscaping, and additional lighting and surveillance.

19.2.3 The proposed improvement will vastly enhance this potential pedestrian / cycle connection which was identified as having the lowest score within the PERS assessment conducted.

19.3 RELOCATION OF ROUTE 221 BUS STOPS

19.3.1 To further enhance the accessibility of public transport services to the site, and rationalise existing spacing of bus stops on Bunns Lane, it is proposed to relocate existing east and westbound bus stops currently located to the west of the A1's bridge over Bunns Lane.

19.3.2 Bus Stops are currently located to the eastern extents of Bunns Lane, near its junction with Page Street. These are approximately 320m east of the bus stops located to the east of the A1 bridge over Bunns lane. The next pair of bus stops on route 221 are located approximately 600m further north-west on Flower Lane. As a result there is scope to rationalise the spacing of these stops such that the space between all stops is more consistent; approximately 450m.

19.3.3 The proposed relocation would reduce the connection to the bus stops by approximately 165m (2 minute walking time), and offers the opportunity to integrate the bus stop infrastructure directly with the developments connection to Bunns Lane. It is anticipated that the design and treatment of this area will promote the use of the bus service due to both its actual and perceived ease of access.

19.3.4 **Figure 19-1** shows a high level plan associated with the relocation which demonstrates the rationalisation of bus stop spacing and opportunity to create a closer connection to the site.

19.3.5 **Figure 19-5** shows the proposed locations of the 221 bus stops and their relationship with the proposed site access to Bunns Lane. It is recognised that the actual location and design of the bus stop infrastructure will be subject to further liaison and approval.

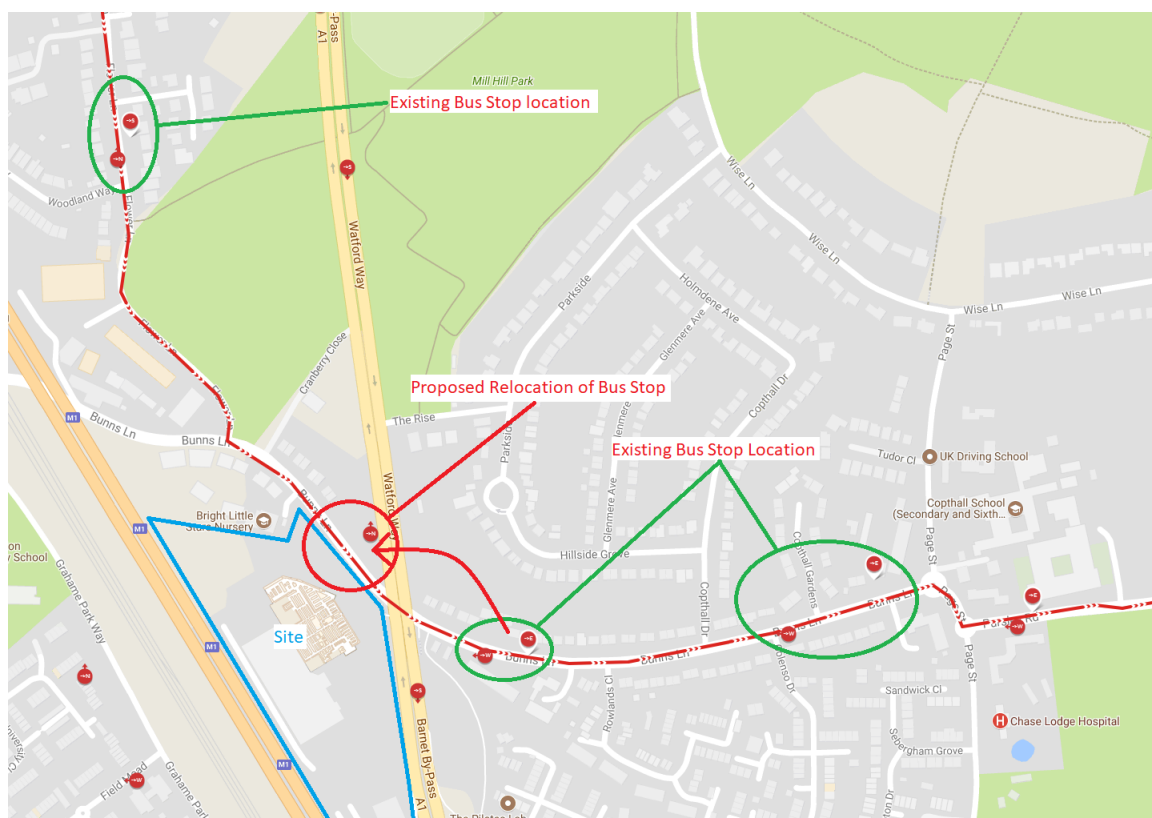


Figure 19-1: Proposed relocation of Bus Stops on Bunns Lane

19.4 INCREASE IN SERVICE FREQUENCY OF ROUTE 221

- 19.4.1 In response to a request from TfL, the development will commit funding of £95k per year for a period of 5 years (a total of £475k) to add a return journey to bus route 221. It is recognised that the increased frequency in conjunction with the relocation and direct connection to Bunns Lane offers an excellent and convenient connection to the public transport network.

19.5 RELOCATION OF ROUTE 113 BUS STOP

- 19.5.1 As a further enhancement to public transport infrastructure and connectivity it is proposed to relocate the existing bus stop of route 113, currently located just north of the A1's bridge over Bunns Lane, to a position immediately adjacent the site.

- 19.5.2 **Figure 19-2** shows a high level plan associated with the proposed relocation identified.

- 19.5.3 The relocation of the bus stop is considered appropriate for the following reasons:

- The current bus stop location does not serve any immediate properties / origin / destination in its immediate vicinity (refer to **Figure 19-3** which indicates the bus stops existing position);
- The existing bus stop is located to connect to a public footpath which leads to Bunns Lane. However the footpath is narrow, constrained by vegetation, and is also an uncomfortable gradient whether traveling down or uphill (refer to **Figure 19-4**). The proposed relocation will tie-in to the proposed access of the site to Bunns Lane which provides both a more direct stepped route as well as a more comfortable ramped route at 1:21;

- ⊙ In conjunction with the relocation linking to an improved route to Bunns Lane, the proposed relocation of route 221 bus stops to this location improves the interconnectivity of the routes. This is a considerable benefit given that the 113 and 221 serve north-south and east west connections respectively;
- ⊙ In conjunction with the proposed core accesses and relocation / concierge / reception and route through to access the A1, the relocation of the 113 bus stop can be accessed from the development in approximately 110m less distance (1.5 minute walk time);
- ⊙ The proposed relocation of the bus stop in conjunction with and proposed developments frontage to the A1 and Concierge / reception will offer natural surveillance of the bus stop and improve the boarding and alighting experience (particularly alighting of an evening where the current bus stop location would not be as attractive); and
- ⊙ The proposed relocation of the 113 bus stop offers the opportunity to integrate the bus stop infrastructure directly into the landscape strategy of the sites boundary with the A1. It is anticipated that the design and treatment of this area will promote the use of the bus service due to both its actual and perceived ease of access.

19.5.4 The proposed location of the bus stop, its integration into the sites landscaping, and connection to Bunns Lane / proposed 221 bus stop locations is shown in **Figure 19-5**.



Figure 19-2: Proposed relocation of 113 Bus Stop on A1



Figure 19-3: Existing 113 Bus Stop



Figure 19-4: Existing connection to Bunns Lane from 113 Bus Stop

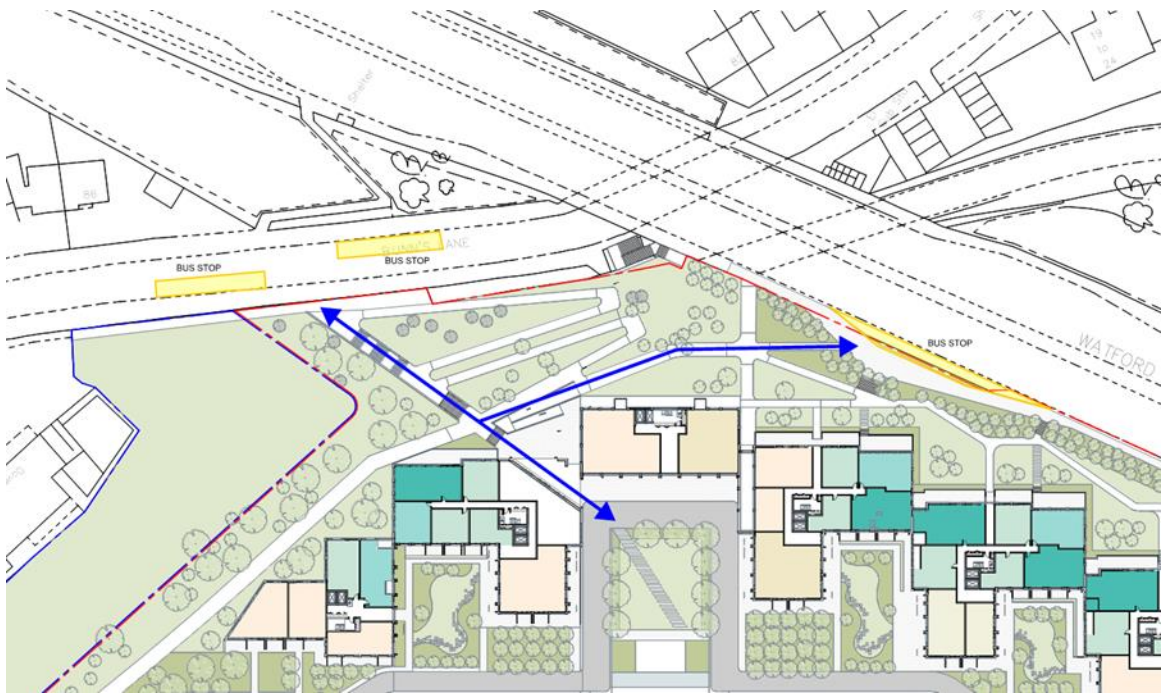


Figure 19-5: Proposed location of Routes 221 and 113 Bus Stops

19.6 PTAL IMPROVEMENTS

- 19.6.1 The impact of the proposed amendments to bus service frequency, stop locations, and in conjunction with the accessible design adopted, has been assessed to determine the improvement from the site being predominantly 1b, with a small are of 1a and 2.
- 19.6.2 A site specific PTAL assessment has been undertake based on the proposed access improvements, bus stop relocations, and increase in frequency of route 221. A total of 25 Points of Interest (POI's) have been established across the site, predominantly at door thresholds into the various building blocks.
- 19.6.3 The various POI's have an individual PTAL calculation based on their walking distances to access public transport services. The full calculations are contained within **Appendix Ag** of this report. The results have enabled a PTAL heat map to be generated as shown in **Figure 19-7**.

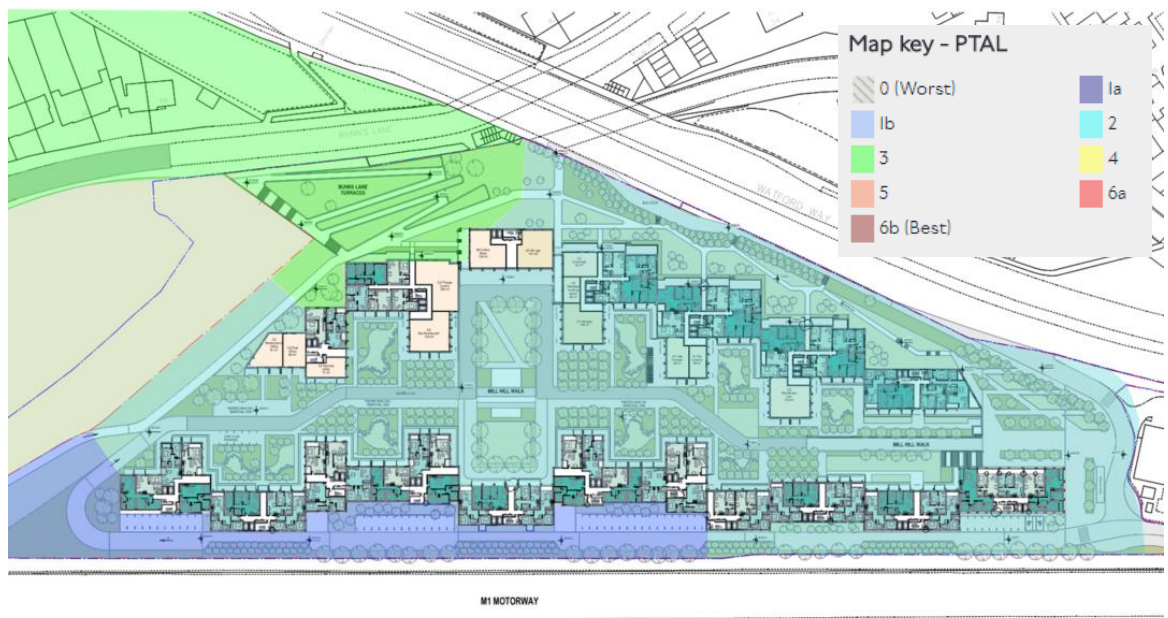


Figure 19-6: Proposed Development PTAL Heat Map

- 19.6.4 **Figure 19-7** demonstrates that in combination, the proposals to improve connectivity to public transport services has significantly increased areas of PTAL 3 and 2 across the site. There is also no longer any part of the site that scores PTAL 1a.
- 19.6.5 **Table 19-1** summarises by block the number of units and persons able to access a certain level of PTAL given that it varies across the site. It demonstrates that residents in all but a single block within the development are within PTAL 2, with that single block, block M, having the greatest level of accessibility (PTAL 3).

Block	1 bed (2 per)	2 bed (3 per)	2 bed (4 per)	3 bed (5 per)	3 bed (6 per)	Total Units	Total Persons	PTAL
A	30	15	4	0	26	75	277	2
B	16	9	18	1	0	44	136	2
C	16	9	18	1	0	44	136	2
D	19	0	21	5	9	54	201	2
E	14	8	16	1	0	39	121	2
F	18	0	19	5	8	50	185	2
G	2	16	9	0	0	27	88	2
H	16	0	17	5	6	44	161	2
I	8	0	19	0	0	27	92	2
J	7	0	17	0	12	36	154	2
K	13	6	13	0	1	33	102	2
L	18	9	20	1	0	48	148	2
M	21	0	17	0	11	49	176	3
N	8	0	16	0	14	38	164	2
O	9	0	22	0	0	31	106	2
P	9	0	11	0	3	23	80	2
Q	12	7	14	1	0	34	106	2
R	6	0	12	0	10	28	120	2

Table 19-1: Proposed Development PTAL Block Summary

19.7 BUNNS LANE / PAGE STREET JUNCTION IMPROVEMENT

- 19.7.1 Through discussion with LBB it is understood that there is a desire to improve the existing junction on Bunns Lane and Page Street, which is understood to be at capacity during peak periods.
- 19.7.2 Although it has been demonstrated that the development has a negligible traffic impact on the junction, it is recognised that in the context of overall accessibility, its improved operation would improve reliability of bus routes on Bunns Lane.
- 19.7.3 As such, the development will contribute a fair and meaningful sum towards an improvement scheme that will be designed and approved by LBB.

- 19.7.4 At the time of writing it is understood that LBB have previously commissioned a study to determine an appropriate improvement scheme, and that a preferred option has been identified. However, the study relied on baseline traffic data which is now considered invalid due to time lapsed.
- 19.7.5 It is proposed that LBB will issue information on the preferred improvement option to enable an updated traffic model inclusive of new baseline traffic flows and proposed development traffic to confirm its suitability and to determine an appropriate contribution associated with the development.
- 19.7.6 As the information is not currently available it is proposed that this modelling information be recommended as a planning condition.

19.8 TRAVEL PLAN / MANAGEMENT MEASURES

- 19.8.1 As part of this application, a TP has been prepared which sets out a range of preliminary management strategies and measures to support and encourage sustainable travel.
- 19.8.2 The overall aim/objective of any TP should be to minimise the impact of travel on the local and wider environment and to promote sustainable travel choices, such as walking, cycling and public transport.
- 19.8.3 It is proposed to develop the TP to ensure residents, as well as operators of the commercial units, are provided with up-to-date travel information and have the scope to develop initiatives to encourage monitoring and use of sustainable travel modes.
- 19.8.4 Upon planning consent being granted for the development, the TP is proposed to be developed further, firstly by appointing a TP co-ordinator who will then manage the rollout and implementation of measures within the TP. The content of the document will be agreed with LBB prior to occupation of the residential units to ensure it has the maximum potential to encourage use of non-car modes of transport.

19.9 CAR PARK MANAGEMENT PLAN

- 19.9.1 To manage the use of site wide parking, a CPMP will be implemented by the site management/concierge. The CPMP has been prepared as part of the planning application documents.
- 19.9.2 The CPMP sets out how parking will be managed on-site to ensure its safe and efficient use.

19.10 CAR CLUB

- 19.10.1 The development will provide car club access on-site. It has not been determined whether this would be operated by the developer, or whether an external car club provider might be utilised. However, a viability assessment has indicated that the proposed five car provision is viable at the development (see **Appendix Y**). Convenient access to a car club facility will encourage lower levels of car ownership.

19.11 CONTROLLED PARKING ZONE CONSULTATION

- 19.11.1 Demand for car ownership has been assessed within **Section 12** and **Appendix V** of this TA. It is recognised that whilst useful, the car ownership information is from 2011 and only really indicates historic ownership trends without reflecting upon current and future trends which are expected to have decreased and continue to decrease given the themes of emerging planning policy that have been developed to meet challenging targets associated with tackling pollution and wider health issues.

- 19.11.2 Within the 2011 Census data for car ownership there is an indication that the parking demand is likely to be in excess of the proposed number of residential parking spaces. Whilst a small minority of people who may wish to own a car and not have access to parking could seek to park in the wider area, the practicalities of doing so will make it unattractive to live at the proposed development, and therefore the development will predominantly attract people who are not reliant on ownership of a vehicle, and who will make use of proposals to improve public transport, pedestrian and cycle links, supplemented by subsidised access to shared vehicles via a proposed car club.
- 19.11.3 Although overspill parking is not anticipated due to the site's specific context, a number of local residents have expressed concerns regarding the matter through the extensive consultation process undertaken on the proposal. In order to provide comfort to residents that their parking amenity will be protected, it is proposed that by legal agreement residents and visitors of the development will be prevented from any rights to obtain parking permits for any future implementation of a Controlled Parking Zone.
- 19.11.4 Furthermore, it is proposed that the developer will fund two Controlled Parking Zone consultations, one prior to occupation of the development, and the second between 12-18 months post occupation of the development to determine whether residents would like such measures implemented.

19.12 DELIVERY AND SERVICING PLAN

- 19.12.1 A DSP has been produced to support the planning application as a standalone document in order to manage refuse, delivery and service vehicle arrangements and overall accessibility. While it is recognised this will be a live document that will need to be adapted over the life of the development the DSP sets out a range of management strategies and measures to ensure the site can be readily serviced in an efficient and safe manner, without inconveniencing others.
- 19.12.2 The DSP and proposed development layout ensures that:
- ⊙ Refuse and delivery vehicles can enter, circulate, and permeate the site in a forward gear;
 - ⊙ Refuse stores are located within each block for the disposal of waste, the bins from which will be wheeled to consolidated collections points on the day of collection by the site management/concierge. This will reduce the time required for the vehicle to be on site;
 - ⊙ Delivery vehicles will be able to undertake loading and unloading at one of several areas within the inner circus of the development, ensuring sufficient clearance for passing vehicles while loading/unloading takes place; and
 - ⊙ Site management/concierge will have overall responsibility for the day to day management of deliveries, servicing, and refuse. They will be on hand to provide any necessary assistance during refuse collection/deliveries, will keep a record of delivery/servicing demand and any variants to the schedule associated with the commercial unit and any incidents which may occur. They will also play an important role in assisting with ad-hoc residential couriers/parcel deliveries and collections to ensure the time spent in on-site is minimised.

19.13 CONSTRUCTION TRAFFIC MANAGEMENT PLAN

- 19.13.1 At this stage, full details of the construction arrangements are unknown as the principal contractor is yet to be appointed. However, a CTMP has been prepared as part of this application that outlines the anticipated demolition and construction works and the means by which construction vehicles will access the site.

- 19.13.2 The CTMP provides preliminary details in respect of the volume, type, and timing of construction vehicle movements and outlines the way in which vehicle movements will be managed to minimise the impact to highway network.
- 19.13.3 In terms of the demolition and construction phases, it is envisaged that this can be managed with use of a construction set-down point and parking/loading area from within the site without impact to the surrounding businesses/residents or the local highway.

19.14 CONSTRUCTION LOGISTICS PLAN

- 19.14.1 Ahead of demolition and construction, a contractor will be appointed who will ensure that a full CLP is prepared to satisfy planning conditions to secure its production prior to commencement of any works. This will be prepared in accordance with TfL Construction Logistics Plan Guidance.
- 19.14.2 The document will also address the mode of travel, and parking arrangements, of construction staff, including measures to encourage car sharing to reduce traffic and parking impacts. Additional measures will be included to encourage construction staff to travel by public transport, walk or cycle, where practical.
- 19.14.3 The full CTMP will provide the necessary vehicle swept path drawings to confirm the safe site access/egress and manoeuvrability within the site for demolition and construction by various vehicle types including any abnormal loads.

19.15 SUMMARY

- 19.15.1 As part of this application, a Travel Plan has been prepared which sets out a range of preliminary management strategies and measures to support and encourage sustainable travel. It is proposed to provide a shuttle bus service as mitigation to improve the accessibility of the site to public transport.
- 19.15.2 To manage the use of site wide parking, a CPMP will be implemented by the site management/concierge.
- 19.15.3 A DSP has been produced to support the planning application as a standalone document in order to manage refuse, delivery and service vehicle arrangements and overall accessibility.
- 19.15.4 A CTMP has been prepared as part of this application that outlines the anticipated demolition and construction works and the means by which construction vehicles will access the site.

20 CONCLUSIONS

20.1.1 The following points summarise the conclusions of this TA:

- ⊙ Existing vehicular access and egress is taken from the northbound carriageway of the A1;
- ⊙ There are significant levels of existing residual capacity for parking in the area surrounding the site;
- ⊙ The site is currently constrained from making best use of its opportunities to access pedestrian, cycle, rail and tube routes within the local area by the segregation at the northern end of the site adjacent Bunns Lane;
- ⊙ Bunns Lane and Flower Lane have significant footway capacity and are currently very comfortable walking routes due to the low level of existing demand;
- ⊙ The pedestrian environment assessment is generally of average condition. Existing steep gradients, lack of legibility and general aesthetics contribute to the average conditions;
- ⊙ The existing pedestrian link between the southern end of the site and Grahame Park Way via the bridge over the M1 has the poorest pedestrian environmental conditions relative to the area, and is therefore proposed to be improved as part of the development;
- ⊙ The junctions of Bunns Lane / Hale Lane / The Broadway, Grahame Park Way / Bunns Lane, Bunns Lane / Page Street / Pursley Road, and Mill Hill Circus currently operate above a practical level of capacity on at least one approach in one of either the AM or PM peak hours;
- ⊙ All junctions in the assessment area will have reached a level of practical capacity and experience queuing and delays as a result of background traffic growth and committed development in 2026;
- ⊙ A new pedestrian link proposed between the site and Bunns Lane will remove the existing barrier in the northern part of the site and improving connections to the bus route 221 which will be further enhanced by a contribution to add a return journey to the service and relocate bus stops to a more convenient and rationalise location;
- ⊙ Based on the assessment of likely residential parking demand, and given the site specific context / management, it is not anticipated that any overspill parking onto the local highway network would occur as a result of the development;
- ⊙ Site wide cycle parking is proposed in accordance with the draft New London Plan parking standards;
- ⊙ The vehicle movements generated by the development represent an additional 15 movements in the AM peak hour, and a reduction of 51 movements in the PM peak hour by comparison to the permitted use of the existing site;

- ⦿ The greatest additional demand to a bus route is anticipated to occur on the westbound service of route 221 in the AM peak hour when an additional demand for 28 passengers occurs, and it is therefore proposed to add a return journey to the service and assist in journey time reliability by contribution to an improvement scheme at Bunns Lane junction with Page Street;
- ⦿ The proposed development will have non-material impact on footway capacity;
- ⦿ The impact of the development in 2026 on local junction capacity is minor; and
- ⦿ The Transport Assessment has included a thorough review of the existing conditions and assessed the associated impacts. It has identified that the overall impact of the development is negligible, and that the development should be considered to be acceptable in highway and transport terms.

Appendix A

TSN & CORRESPONDENCE

Transport Assessment Scoping Note (Rev A)

Introduction

- 1.1 This note has been produced in order to assist in the scoping of the Transport Assessment (TA) that would be required should a planning application be submitted for the redevelopment of the existing Pentavia Retail Park, London Borough of Barnet (LBB).
- 1.2 A previous version was produced prior to a pre-application discussion with LBB Highway Officers and TfL such that they could be undertaken meaningfully, and that an agreement in relation to the scope of the TA can be defined.
- 1.3 Further to the issue of the previous version of this Technical Note, feedback has been received from both TfL and LBB. TfL's response is contained within **Appendix A**. Following meetings with LBB Transport & Regeneration Services on 6th May, 9th June, a site walk-around 22nd June, meetings on 27th July and 3rd August 2016 the TA and additional information is included within this revision to assist in scoping the TA as requested.
- 1.4 The site is bound by the A1 (Watford Way) to the east and the M1 to the west. The A1 Watford Way forms part of the Transport for London Road Network (TLRN). The sites location is indicated below in **Figure 1.1**.

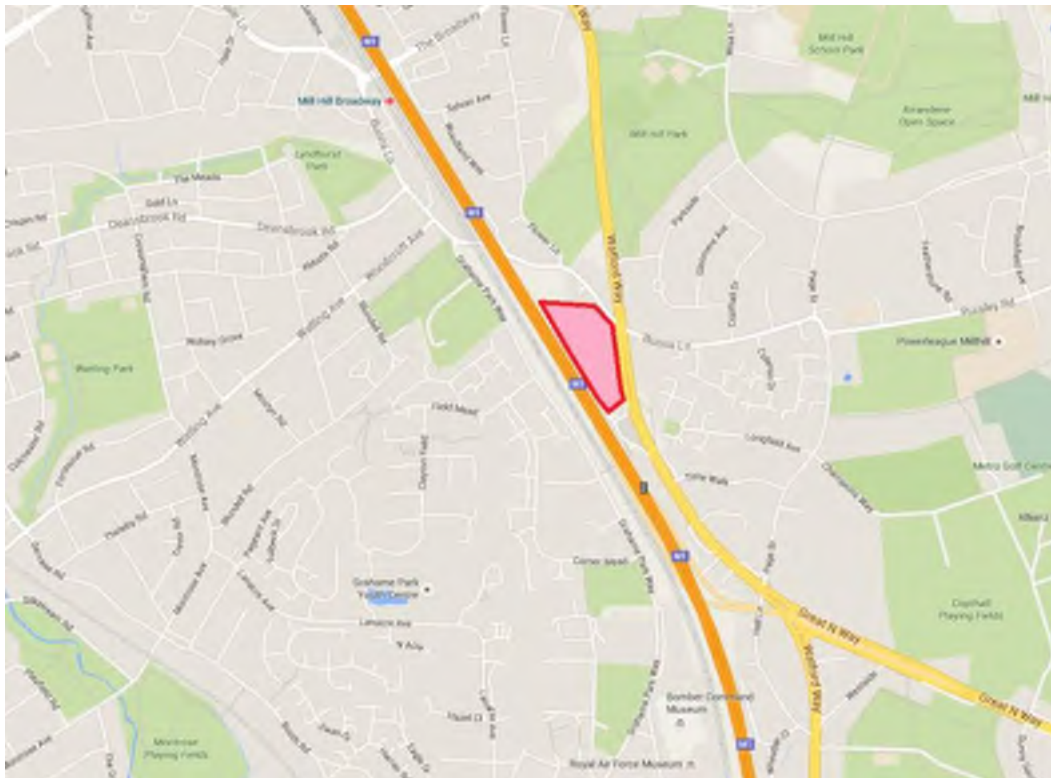


Figure 1.1: Site Location

- 1.5 The site has previously been in use as a retail park providing a mix of non-food retail and A3 food & drink uses. Over the last few years many of the units have been vacant, leaving the site largely unused.

- 1.6 It is anticipated that planning permission will be sought for the development of approximately 689 residential units, and some commercial and leisure uses such as a convenience store, café and fitness centre. These uses are intended to serve the needs of new residents in the area and are not intended to attract trips away from other town centre locations located within LBB.
- 1.7 The site is bound by the M1 motorway to the west and the A1 to the east, from which vehicular access is currently taken. Vehicle access and egress is currently constrained, and can only be gained from and to the northbound carriageway of the A1.
- 1.8 This note is submitted to obtain feedback from Highway Officers in relation to the transport and highway issues that should be addressed as part of a planning application should it be pursued.

Existing Site Accessibility

Site Location

- 1.8 The application site is bounded by the A1 (Watford Way) to the east and the M1 to the west. The A1 Watford Way forms part of the Transport for London Road Network (TLRN). The site is closely located to Bunns Lane to the north, but is currently segregated from the site by an area of vegetation.

Vehicular Access

- 1.9 Vehicular access/egress to the site is available from the northbound carriageway of the A1. Access and egress is via on and off-slip roads connecting to three arm roundabout from where access to the existing Pentavia Park is achieved.
- 1.10 Access to the site for drivers travelling southbound on the A1 requires drivers to undertake a U-turn manoeuvre at Fiveways Corner; a signal controlled intersection located 1.8km further south of the site.
- 1.11 Drivers wishing egress the site and travel south are required to undertake a U-turn at Mill Hill Circus; a 4-arm roundabout with partial signalisation located 2.5km north of the site.

Pedestrian and Cycle Access

- 1.12 Pedestrian access to the site is possible from the western side of the A1 (Watford Way) via an existing footway. Connectivity to the west of the site is achieved via a pedestrian bridge over the M1 and via a subway under the railway line at the southern end of the site.
- 1.13 There is an off-road cycle route which extends south to Hendon and on to Brent Cross. Grahame Park Way that runs parallel to M1 is also signed for cyclists. This route can be accessed by cyclists via the provision of the subway and footbridge, but cyclist are required to dismount as cycling is not permitted.

Public Transport

- 1.14 The closest bus stop to the site is on the northbound carriageway of the A1 adjacent the existing petrol station at the southern end of the site.

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- 1.15 Access to southbound bus stops can be accessed via two routes. Pedestrians can head north on the western footway of the A1 and take steps down onto Bunns Lane, walk under the A1 and up steps on the eastern side to gain access to the footpath adjacent southbound traffic. Alternatively, pedestrians can walk south on the western side of the A1 to access an underpass which links to Tithe Walk to the east, and bus stop just south of this point. The bus stops are served by bus route 113 which provides services between Edgware and Marble Arch (5 – 8 buses per hour).
- 1.16 A bus route 221 operates frequent service (10-15 buses per hour) between Edgware and Turnpike Lane and provide direct service from the Site to Mill Hill Station. Bus stops are located on Bunns Lane and are accessed via the steps on the A1.
- 1.17 More bus services are available within the residential streets to the west of the M1, (303,302, 251, 114, and 186) and are accessible via the existing subway / footbridge.
- 1.18 The nearest railway station is Mill Hill Broadway which is served by First Capital Connect running Thameslink services. The typical daytime service from the station is four trains per hour to central London, Wimbledon and Sutton, of which two terminate at St Albans and two at Luton.
- 1.19 PTAL for the site has been reviewed using WEBCAT and showed that the site has PTAL between 1a and 3 depending on the location. The variation of PTAL across the site can be seen from the WEBCAT extract in **Figure 1.2** below.

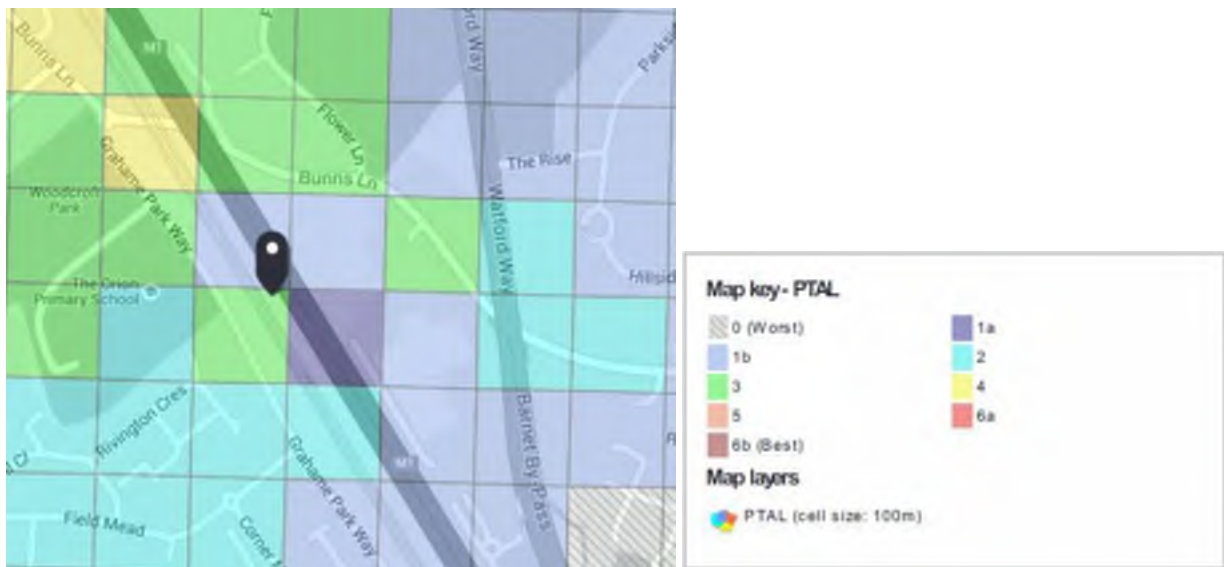


Figure 1.2: WEBCAT PTAL Output

- 1.20 Given that the WEBCAT Output does not provide significant detail in terms of PTAL and is based on a grid system, a site specific PTAL assessment has been carried out in accordance with the TfL Methodology. **Figure 1.3** overleaf indicates the results of the site specific PTAL assessment undertaken.

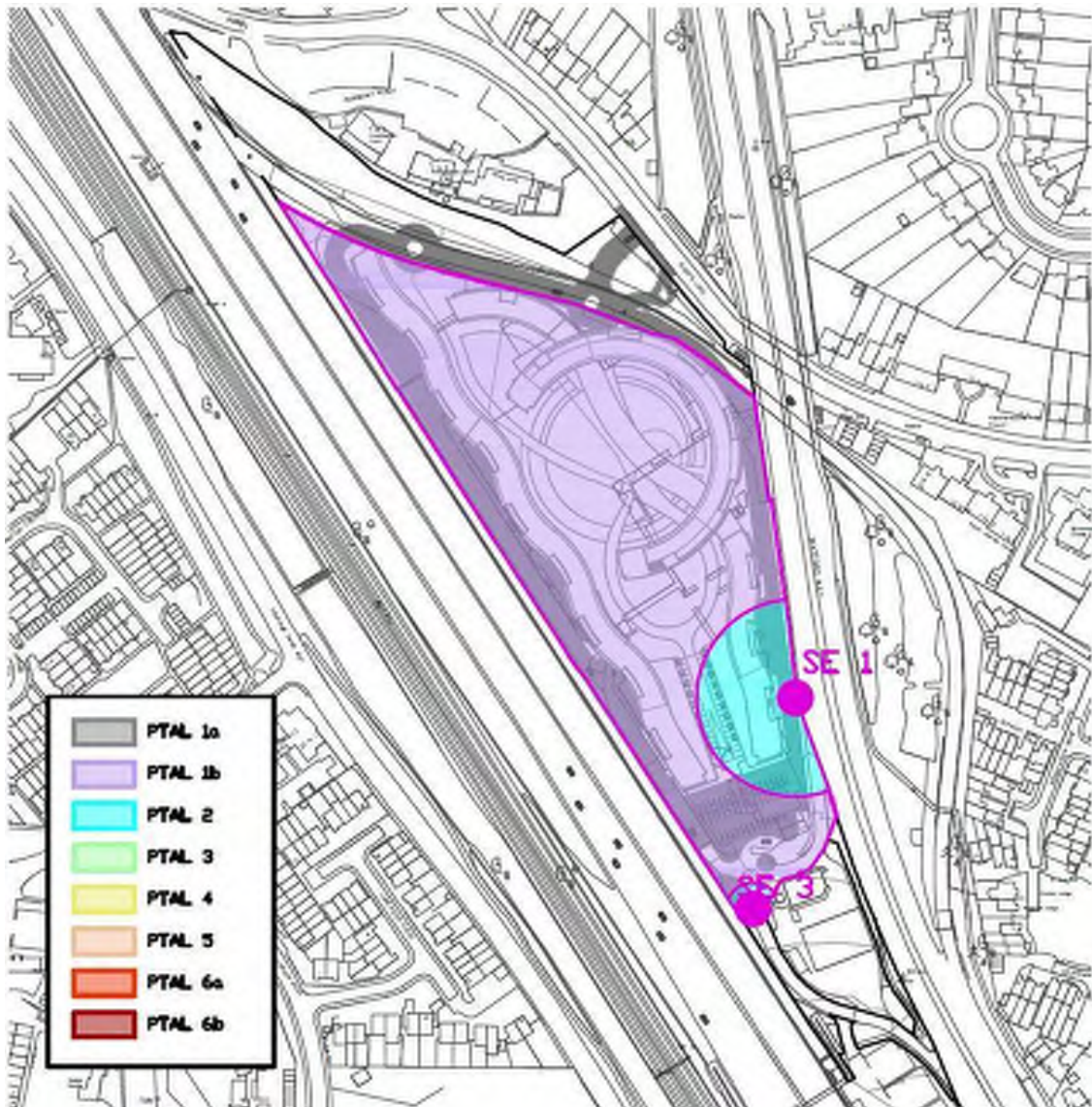


Figure 1.3: Existing PTAL (TfL methodology)

- 1.21 The site specific PTAL assessment shows that the majority of the site scores PTAL 1b with a small portion of the site scoring PTAL 2 near a break in the site boundary which provides access to the footpath on the A1.
- 1.22 It is noted that the discrepancy between the WEBCAT Output and the site specific PTAL is considered to be as a result of the assessment of actual walking routes rather than by 'crow fly' distances. Most notably, the lack of a link between Bunns Lane and the site removes any area of the site scoring PTAL 3.

Existing Network Observations

- 1.23 A site walk-around was undertaken on 22nd June 2016 with Mervyn Bartlett (LBB), Lloyd Bush (Robert West) and Kade Motley (CPC Project Services), to observe the existing network conditions surrounding the site.
- 1.24 The Broadway was observed to be heavily trafficked, with periods of stationary traffic occurring because of demand for crossing movements at pedestrian crossings. Otherwise, and despite the heavy traffic, the general flow of traffic was maintained.
- 1.25 The junction of Mill Hill Circus was observed to be heavily trafficked, with queues forming on all approach arms. The main flow of traffic was observed to be the north-south and south-north movements across the junction on the A1. Despite the large volumes of traffic, we did not observe any instances where exit blocking occurred on the internal circulation, with internal queues clearing in time to allow traffic to enter the roundabout. A post meeting note was received from Mervyn Bartlett which stated: "after we parted I had another look at the A1 junction and there was a queue on the southbound approach which didn't clear. I'm not sure how far it extended, but it had gone by the time I got on the 251 a bit later"
- 1.26 Flower Lane was observed to be lightly trafficked, and it was agreed that there was some surprise at the lack of traffic on Flower Lane given its connection between The Broadway and Bunns Lane. It was also noted that both a vehicular and walking route to the station can be achieved via Woodland Way / Station Road.
- 1.27 A limited amount of turning movements were observed at the junction of Flower Lane / Bunns Lane with most flow taking place on Bunns Lane. The traffic was slow moving on Bunns lane and thus gaps were offered and accepted by turning traffic.
- 1.28 Traffic volumes on Bunns Lane were consistent and traffic slow moving throughout our observation. It was noted that traffic headed westbound came to a halt for a period of 10-20 seconds when we first stood at the junction of Flower Lane, however this cleared quite quickly and was later determined to be a result of a bus stopping at the stop west of the A1 overpass.
- 1.29 Parking on Bunns Lane was observed to take place on the footway, some in marked bays, others outside of marked bays. Traffic west of the A1 overpass appeared to be more free flowing than observed near Flower Lane.
- 1.30 At the junction of Bunns lane / Pursely Road / Page Street, the northern min-roundabout appeared to operate satisfactorily with limited delay to vehicles, the predominant flow appeared to be from Bunns Lane to Page Street and vice versa. However, the southern mini-roundabout with Pursely Road appeared to be close to capacity.
- 1.31 It was observed that there were significant queues forming on approach from Pursely Road and from Page Street. The approach from Pursley Road contained several right turners which induced delay to those approaching from Page Street.
- 1.32 The Fiveway Corner junction on the A1, south of the site, was observed to operate within capacity and with limited queuing.

- 1.33 Junctions with Bunns Lane north of its junction with Grahame Park Way were observed to operate without significant queuing or delay. However, it should be noted that these junctions were observed after 09:00, in a period where traffic volumes may have been lower than in the peak hour.

Proposed Development

Schedule of Accommodation

- 2.1 The proposed development is anticipated to provide approximately 689 residential units in a mix of one, two, and three bedroom units.
- 2.2 It is anticipated that the proposed development will also comprise other non-residential uses, including both retail and leisure. It is anticipated that the retail uses will include a local supermarket a cafe, and other individual units. Leisure uses are anticipated to be a Fitness Centre and a Health Centre.

Vehicular Access

- 2.3 It is proposed that a new vehicular access and egress will be provided via Bunns Lane at the northern end of the site. The proposed layout is presented in **Appendix B**. It is anticipated that the access would be formed as a priority junction which will be designed to provide sufficient visibility, kerb radii and pedestrian facilities to cater for all users.
- 2.4 It is recognised that the new access could potential be used as a rat-run between the A1 and Bunn's Lane by general traffic. To prevent this, the route between the Bunn's lane and the existing access (via the A1) will be restricted to residents only and access control measures for residents will be present to prevent general traffic from being able to utilise the connection.
- 2.5 The details of the method of control have not been determined as the discussions occurring are currently at scoping stage. It is anticipated that a gate or barrier type entry system would be installed, and that a control point at both the southern and northern extents of the residential parking areas would prevent the potential for rat-running. By installing two points of control, the prevention of rat running will be maintained should a single gate / barrier become out of service.
- 2.6 The access from the A1 will remain in its current configuration and users of the non-residential uses proposed would only gain access / egress from this location.
- 2.7 It is acknowledged that LBB (Re) Transport & Regeneration Service's has expressed concern regarding providing residential access and egress via a new Bunns Lane Link due to existing background traffic congestion. However, it is intended to assess the future operation and design of the proposed link as part of the TA such that any potential detrimental impact can be identified, quantified, and where possible mitigated. The development team further note that the proposed Bunns Lane Link is considered important in providing an appropriate and well balanced highway solution for the following reasons:
 - i. Provision of residential access and egress via the northbound carriageway of the A1 only would encourage circulatory movements to occur at the junctions of the A1 / The Broadway, and the A1 / Great N Way / Page Street;
 - ii. Circulatory movements have the potential to induce additional delay to all other traffic on the junction;

- iii. Significant additional delay at nodes of the A1 will impact the adjacent local road network (notably; The Broadway and along Bunns Lane);
- iv. Circulatory movements increase air and noise pollution both at specific receptors and in totality dues to increased journey distances;
- v. Residential traffic travelling to The Broadway or into Edgware are likely to use the A1 and not Bunns Lane for expedience due to the proximity of the A1 / The Broadway junction. Therefore residential traffic turning left on Bunns Lane would likely be limited to local journeys travelling west. Without the proposed Bunns Lane Link these vehicles would still route via Bunns Lane eventually, instead travelling southbound having induced unnecessary delay to the A1 / The Broadway junction, and performing a right turn movements across traffic to head west. The right turn movements will induce greater delay to traffic on Bunns Lane than left turn movements were traffic travelling northbound (as they would were the link present).

2.8 To further understand the implications on traffic distribution as a result of allowing a link to Bunns Lane for residential traffic being provided an assessment has been undertaken based on key entry / exit points in the wider highway network, and the vehicle routeing to and from them. **Figure 2.1** below indicate the site location and entry / exit points of the network chosen for the purposes of this assessment. They are:

1. A1 North of The Broadway (North)
2. Hale Lane (North)
3. Lyndhurst Ave / Woodcroft Ave / Grahame Park Way (West)
4. Pursley Road (East)
5. A1 / Watford Way (South)

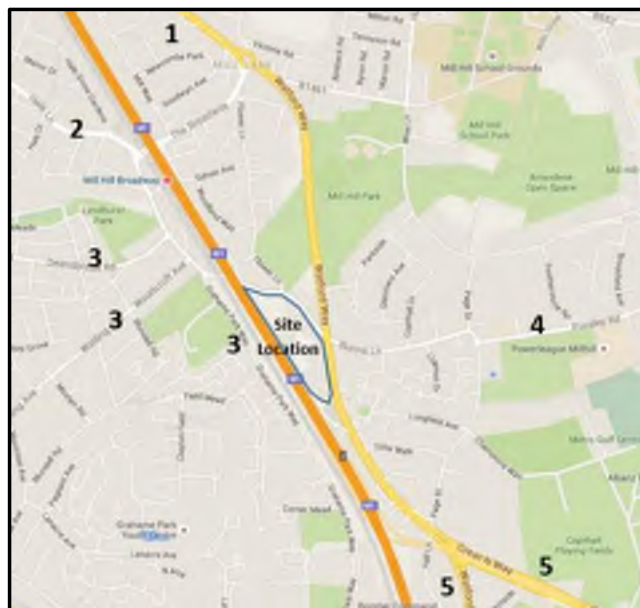


Figure 2.1: Origin/Destination (O/D) points in the wider network

2.9 **Figure 2.2** below shows that residents travelling from the site to O/D 1 will not make a different route choice in scenarios with and without the provision of a Bunns Lane link.



Figure 2.2: O/D 1 Departure Route Comparison

2.10 **Figure 2.3** shows that residents arriving without the provisions of a Bunns Lane link will travel past the site to circulate at the junction of the A1 / Watford Way, travelling 3.1km from entry to the assessment area. With the Bunns Lane link will exit the A1 at The Broadway and enter the site either via Flower Lane, or Bunns Lane, travelling only 1.3km or 1.8km from entry to the assessment area.



Figure 2.3: O/D 1 Arrival Route Comparison

2.11 **Figure 2.4** shows that residents travelling from the site to O/D 2 will not make a different route choice in scenarios with and without the provision of a Bunns Lane link. It is considered that preference will be given to use Bunns Lane, although some residents may prefer to use the A1 as a more expedient route. For the scenario without Bunns Lane Link, a route via A1 is expected to be used.



Figure 2.4: O/D 2 Departure Route Comparison

2.12 **Figure 2.5** shows that residents arriving without the provisions of a Bunns Lane link will take an onerous route via A1 / The Broadway and circulate at the junction of the A1 / Watford Way, travelling 3.7km. With the Bunns Lane link residents will travel south on Bunns Lane, travelling only 1.2km.

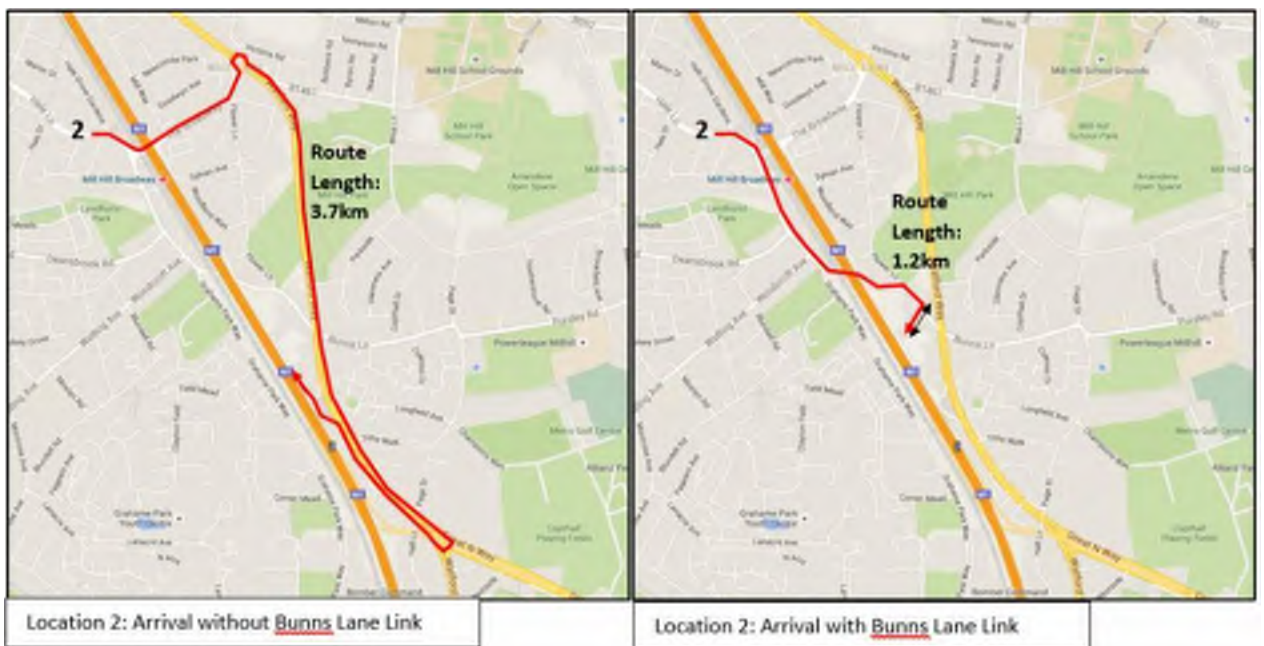


Figure 2.5: O/D 2 Arrival Route Comparison

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2.13 **Figure 2.6** shows that residents travelling from the site to O/D 3 will have a significantly shorter route, avoiding the Mill Hill Circus junction and The Broadway, and will make a left turn from Bunns Lane rather than a right turn that would otherwise induce more delay to traffic.

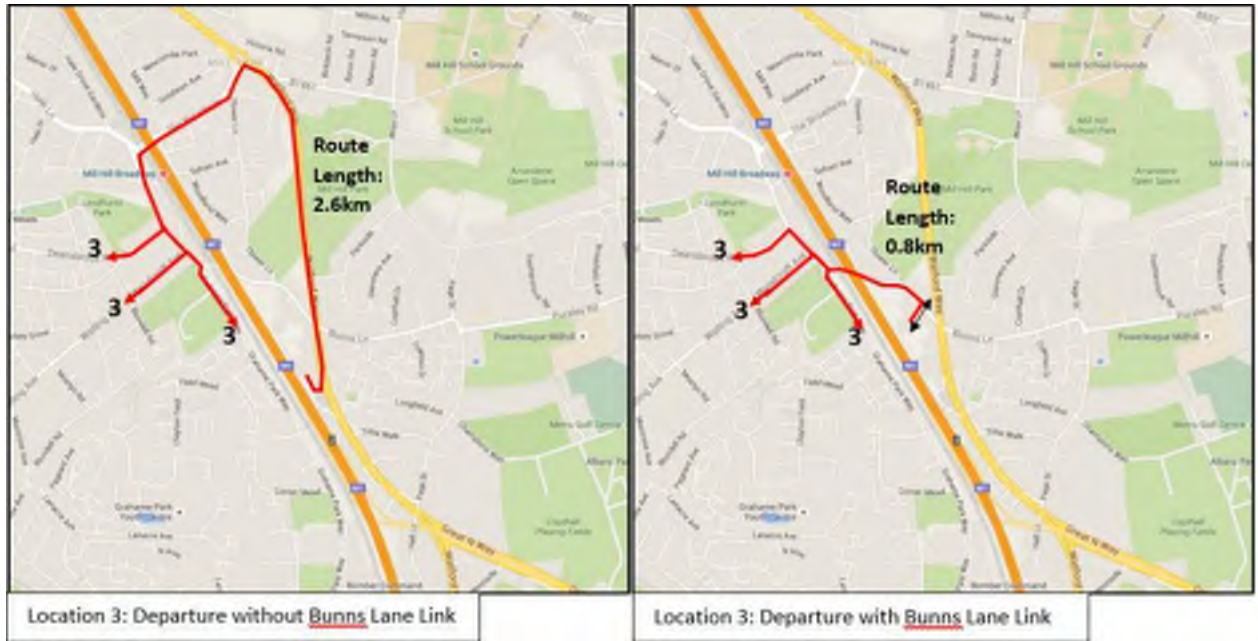


Figure 2.6: O/D 3 Departure Route Comparison

2.14 **Figure 2.7** shows that residents will take a significantly shorter route when returning from O/D 3, and will avoid junctions at Mill Hill Circus, Page Street / Pursley Road, and Fiveways at the A1 where a circulatory movement would otherwise be required.

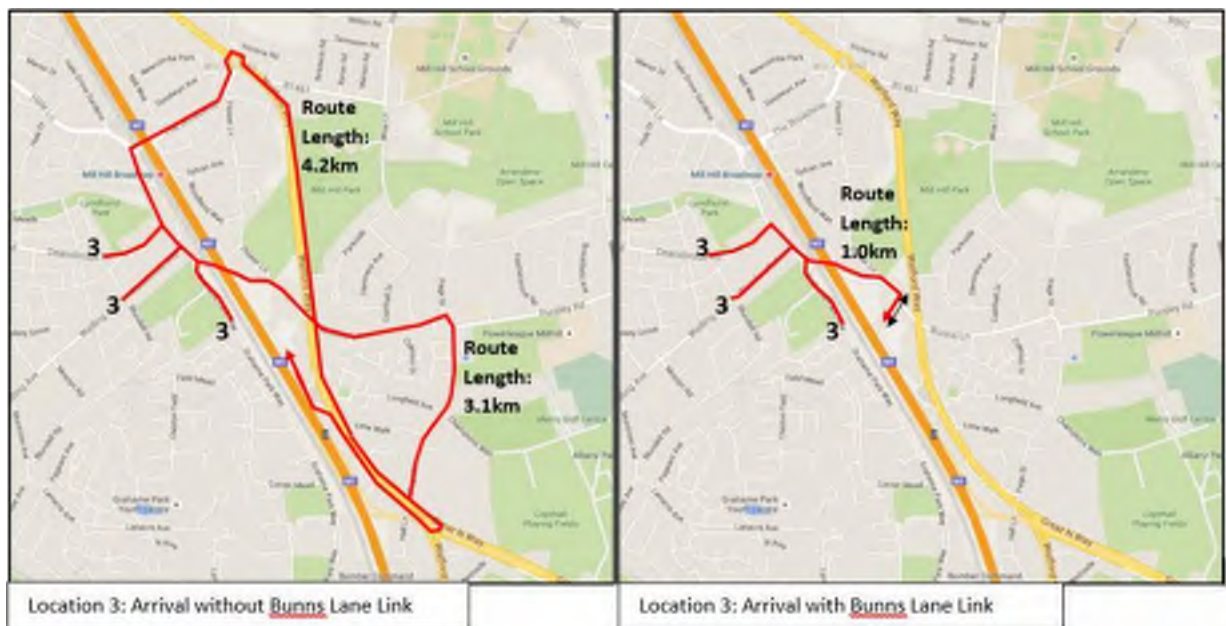


Figure 2.7: O/D 3 Arrival Route Comparison

2.15 **Figure 2.8** shows that residents travelling from the site to O/D 4 will have a reduced journey of approximately 2km, and movements would be removed from the junctions of Mill Hill Circus and along Bunns Lane.

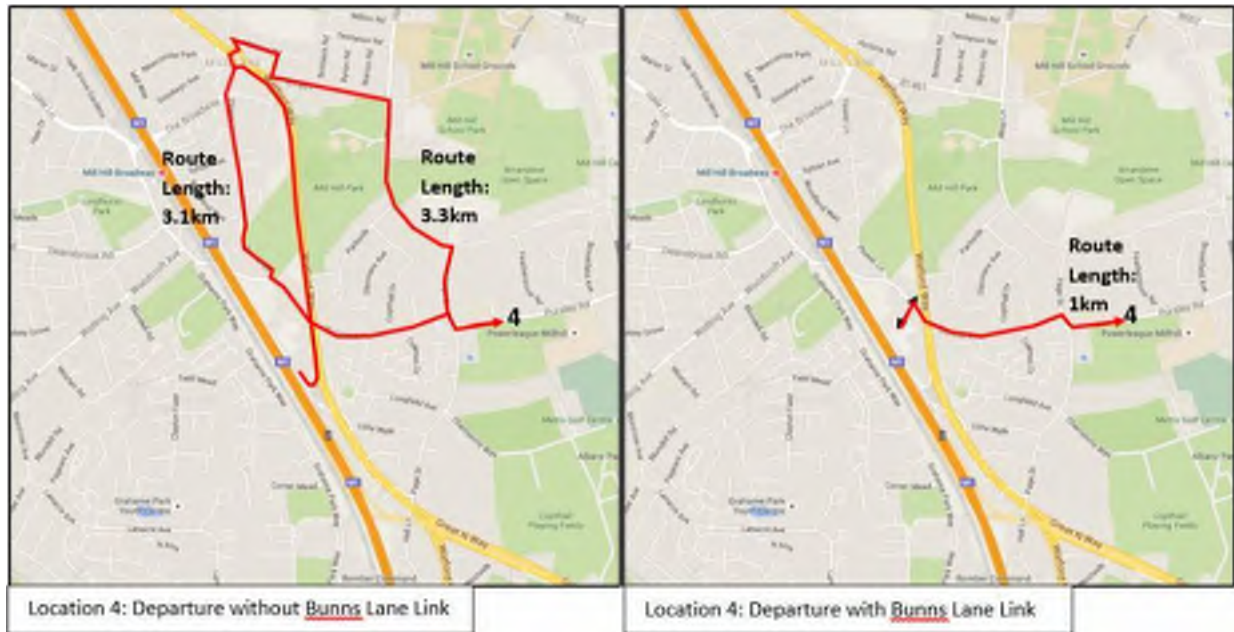


Figure 2.8: O/D 4 Departure Route Comparison

2.16 **Figure 2.9** shows that residents arriving from O/D 4 would not be required to perform a circulatory movement at the fiveways junction of the A1, and that their route distance would be reduced by approximately 1km.

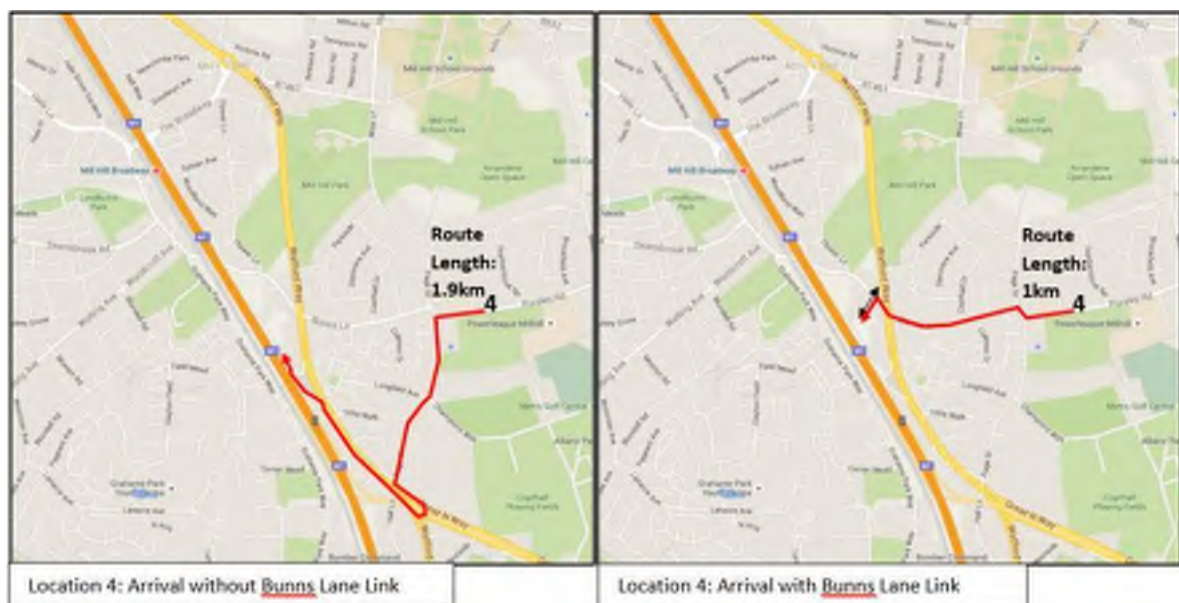


Figure 2.9: O/D 4 Arrival Route Comparison

2.17 **Figure 2.10** shows that residents travelling from the site to O/D 5 will have their journey distance reduced by approximately 2km, and would not be required to circulate at the Mill Hill Circus junction as they would otherwise without the provision of the link to Bunns Lane.

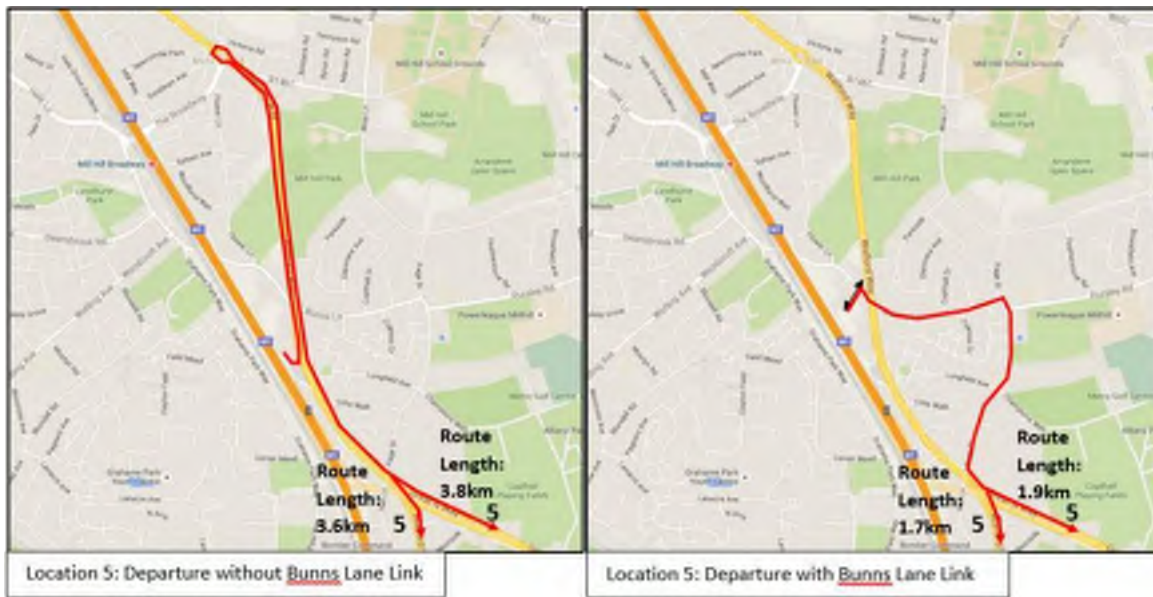


Figure 2.10: O/D 5 Departure Route Comparison

2.18 **Figure 2.11** shows that residents arriving from O/D 5 will make the same route choice regardless of the provision of a link to Bunns Lane.



Figure 2.11: O/D 5 Arrival Route Comparison

Improving Access to Transport Services

2.19 It is proposed to dedicated shuttle services to and from desirable connections to public transport. It is proposed that these would operate a number of services in the AM and PM peak periods to provide convenient connections, particularly for those who do not have access to a car.

- 2.20 The shuttle buses would circulate the site using the internal peripheral access road and can be called to stop by residents along the route. As such, the service would provide the equivalent of a bus service stopping within the immediate vicinity of egress points of the buildings. It is anticipated that the provision of such a convenient service would further assist in reducing other private vehicle trips in the AM and PM peak periods.
- 2.21 It is also proposed that the development will seek to implement access to car club vehicles on site. It is not yet clear whether this would be delivered via an external car club provider, or whether the development would operate a club exclusive to the residents. It is anticipated that car club vehicles would be used by residents who do not own a vehicle or require one on a regular basis but that would benefit from the flexible access a car club offers.
- 2.22 The provision of a link to Bunns Lane has already been discussed above, albeit in the context of vehicular traffic. The pedestrian link also introduces improved access to bus services on Bunns Lane itself, and access to the A1 via the existing steps on Bunns Lane.
- 2.23 It is further anticipated that a pedestrian link to the A1 from the site will be provided on its eastern boundary. This is anticipated to provide access to bus services on the A1 for all residents, particularly those located on the eastern extents of the site.

PTAL Improvements

- 2.24 The proposed implementation of the measures described previously whilst not definitive at the time of writing have been considered within a preliminary assessment to determine their benefit. Refinement to the assessment methodology and proposal will be undertaken by collection of journey time survey data in the peaks. The methodology of which is described by the note contained in **Appendix C**.
- 2.25 The proposed routeing and frequency of any dedicated shuttle bus service is yet to be determined, and will be developed through the production of the Transport Assessment. However, for the purposes of this preliminary assessment two bus routes have been considered, with one to operate between the site and Mill Hill Broadway Rail Station; and the second between the site and Burnt Oak Tube Station.
- 2.26 The frequency of the service has been calculated based on the distance to the stations, time required for alighting and boarding at four locations and an assumed average speed of 20km/h. Shuttle buses are proposed to stop at three locations within the development site and one at the destination.
- 2.27 **Table 2.2** overleaf indicates how the frequency of service has currently been calculated based on two mini-buses.

	Mill Hill Broadway	Burnt Oak Station
Distance to the station (km)	2.6	5.3
Ave speed (km/h)	20	20
Number of stops per route (no.)	4	4
Time for two-way journey (min)	7.8	15.9
Total time for boarding/alighting (min)	2	2
Total time for two-way journey (min)	9.8	17.9
Maximum number of bus services per hour (No.)	6.1	3.4
Travel time to the station (min, inc. stops)	6	10

Table 2.2: Frequency of Shuttle Bus Estimate

- 2.28 Based on **Table 2.2** above, the development will be able to operate six services to Mill Hill Broadway and three shuttle bus services to the Burnt Oak Station per hour with a use of two buses.
- 2.29 The shuttle buses would circulate the site using the internal peripheral access road and can be called to stop by residents along the route. As such, the service would provide the equivalent of a bus service stopping within the immediate vicinity of egress points of the buildings.
- 2.30 A PTAL for the site, accounting for the operation of shuttle buses, has been calculated in accordance with the TfL methodology, based on a 50m walk to access the service for robustness. The provision of shuttle buses results in an improved accessibility level. Areas of the site currently classified as PTAL 1b, become PTAL 2, and the area in the vicinity of Bunns Lane increases to PTAL 3. **Figure 2.12** overleaf shows the PTAL across the site for this calculation.

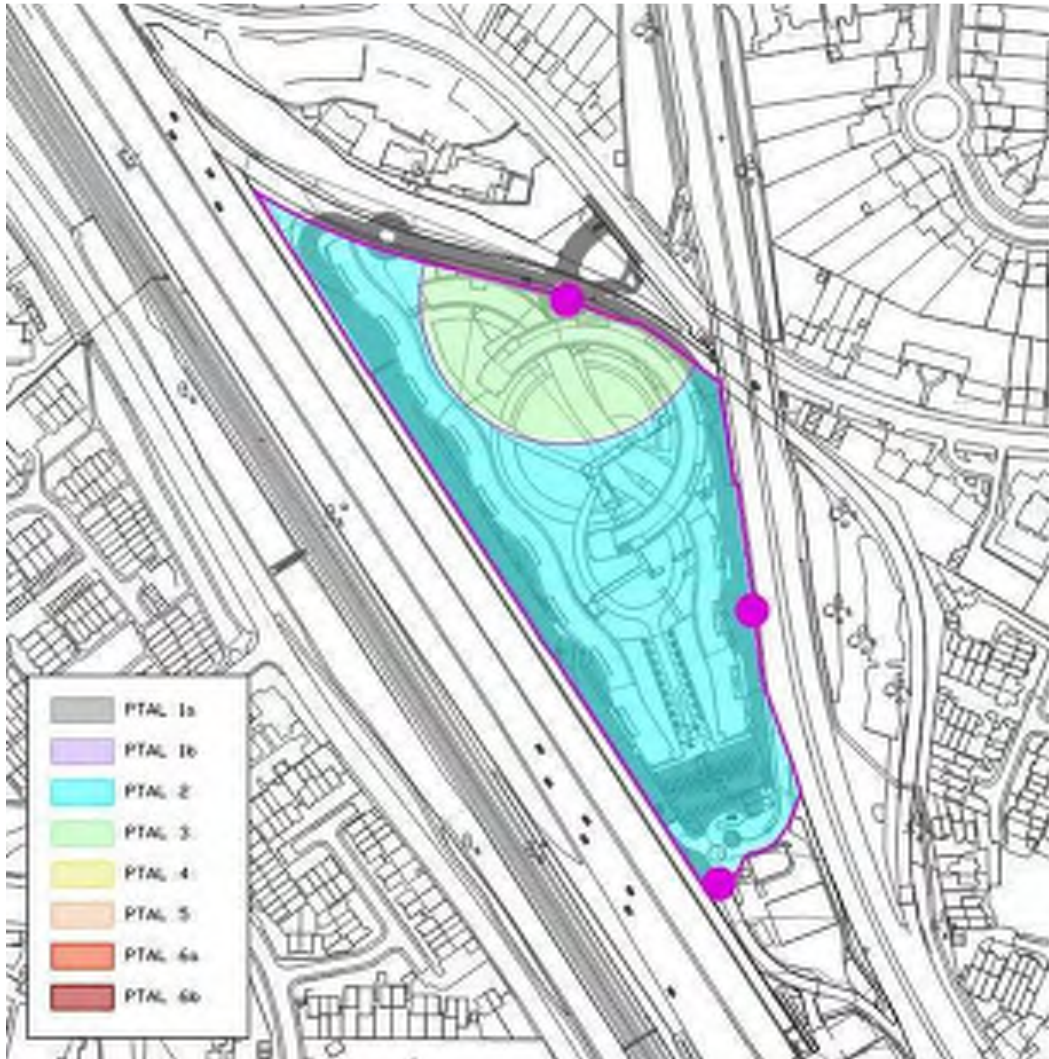


Figure 2.12: Future PTAL (TfL methodology)

- 2.31 **Figure 2.12** presents the theoretical PTAL for the development derived using the TfL methodology. The methodology strictly identify the distances to public transport points that should be included in the calculation, based on the ability to access those services within defined walking times. These are 640m for bus services based on an 8 minute walking time, and 980m based on a 12 minute walking time.
- 2.32 The proposed development is situated on the boundary of the above criteria. Mill Hill Broadway Station is that it is located approximately 960m from the northern part of the site by provision of the Bunns Lane link, and as such only contributes to the PTAL score of a small portion of the site in this location. Burns Oak Station is located outside of the PTAL parameters and therefore is not considered.
- 2.33 It is therefore recognised that the PTAL methodology is a tool to better understand accessibility to services, but is limited in interpretation of actual accessibility of sites that are located on the periphery of the parameters set i.e. someone located 981m away from a rail station does not contribute to a PTAL score, yet if they were located 1m closer they would. In reality, the small difference in distance (even greater than 1m) will not fundamentally change the perception of accessibility or choice to use the service as definitively as the PTAL methodology concludes.

2.34 It is further considered that an 8 minute walk to a bus stop, and 12 minute walk to a rail station is not unreasonable, and that in reality commuters regularly walk greater distances / for longer. Given that that the PTAL methodology does account for variation in distance / access time by weighting within the calculation, it has been deemed reasonable to consider what the PTAL score would be by extending the parameters of the calculation to include for a 15 minute walk to either bus stops or rail stations.



Figure 2.13: Future PTAL with shuttle buses (extended walking distances)

2.35 **Figure 2.13** above shows that by consideration of a slightly longer walking time / distance, the site scores PTAL 3 for the majority of the site, and PTAL 4 for the northern part of the site closest to Bunns Lane, linking to Mill Hill Rail Station.

2.36 Furthermore and given that the calculation and parameters of the TfL PTAL methodology are based on time taken to access a service, it is noted that the methodology does not consider a score against additional services that can be accessed by other services. For example it does not consider a rail station that can be accessed by a bus service with a combined access time that would be less than the equivalent walking time to that station. Clearly, the speed and ease of access to a major transport interchange increases the practical accessibility of a site to public transport, yet is not a factor of PTAL.

2.37 Therefore, in consideration of the proposed shuttle bus which will provide a direct service to rail and tube stations an assessment has been undertaken to include the rail and tube stations within the PTAL based on the fact they can be accessed within the time parameters of the TfL methodology. In this instance the direct trips by shuttle bus are considered to be equivalent to walking trips to these stations. Thus, the time required for the journey to the station by shuttle bus was assumed to be equivalent to 'time' that would take if the trip was taken by foot. The 'time' has then been recalculated to 'walking distance' and included within the revised PTAL calculation. The distances applied as a result of this manual manipulation are summarised in **Table 2.3**.

	Mill Hill Broadway	Burnt Oak Station
Time for two-way journey for the bus (min)	7.8	15.9
Time for one-way journey for the bus (min)	3.9	7.95
Total time for boarding/alighting (min)	2	2
Total travel time to the Stations (min)	6	10
Travel time converted to 'walking distance' based on the walking speed of 80m per minute (m)	480	800

Table 2.3: Travel time and travel distance Estimate

- 2.38 It should be noted that shuttle bus services also improve accessibility to other public bus services available from the station locations such as bus no. 240 which has also been included in PTAL calculation where applicable.
- 2.39 The revised PTAL calculated in accordance with the methodology described above indicates a score of PTAL 4 for the whole of the site as shown in **Figure 2.14** overleaf.

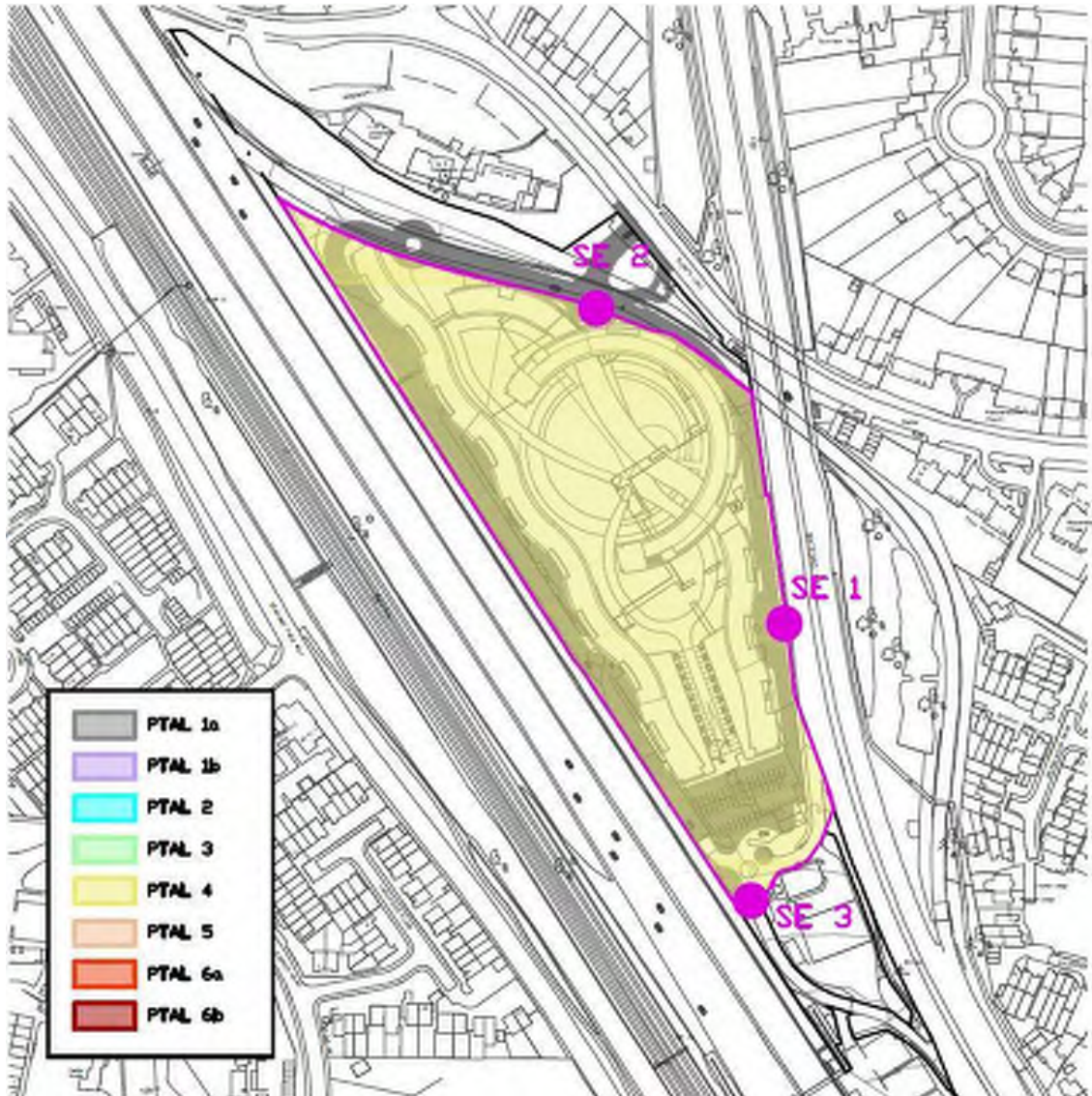


Figure 2.14: Future PTAL with shuttle buses (Linked PT methodology)

Residential Car Parking

- 2.40 It is recognised that LBB adopt their own parking standards in relation to residential development as set out in policy DM17. This parking policy results in a greater amount of car parking when applied to residential development by comparison to London Plan standards.
- 2.41 The proposal previously shared with LBB proposed that residential car parking in accordance with London Plan standards, applying a provision of 0.5 spaces per unit for one and two bedroom units and resulting in a parking ratio of approximately 0.65 parking spaces unit. It is considered crucial for the success of the development that green space is provided and that the landscaping does not become a car dominated environment.

- 2.42 It is recognised that in accordance Development Management Policy DM17 –Travel Impact and Parking Standards developments are required to consult local authority in regards to residential development where the maximum standards will be “1 to less than 1 space per unit for development consisting mainly flats”.
- 2.43 Having consulted with LBB Transport and Regeneration Services in our meeting 6th May 2016, it was expressed that further evidence would be required in order to consider any proposal that did not accord with the maximum standards of DM17.
- 2.44 The PTAL exercise and the measures proposed to improve accessibility of the site provide evidence that the site will be more accessible in the future, and for residents will be similar to a site scoring PTAL 3/4.
- 2.45 It should also be noted that increasing the level of car parking on the site is anticipated to increase the potential for car based travel. LBB have also expressed concerns about the potential of vehicle trips impacting on the highway network.
- 2.46 It should be considered that the proposed development is not formed of estate roads and houses, where if development of such were permitted for a scheme with low parking ratio, it would be reasonable to expect car ownership to remain high and residents to line the streets with parked cars. The proposed development has contained parking areas, and any parking in non-designated bays will result in the removal of the vehicle. This will be monitored by the management of the development, a representative of whom will be on site 24hrs a day.
- 2.47 Given the specific setting of the site and its size, it is not considered practical that any resident who might not have access to a car parking space would seek to own a car and keep it off site in the surrounding area. It will be people who have no desire for, or cannot afford car ownership, who will rent at the development without parking allocation.
- 2.48 The nature of the development has been further considered in the context of residential parking. It is now proposed that the development will be 100% Private Rental Sector (PRS) units. The scheme is tailored to meet the needs of young professionals and postgraduates at entry level, however there will also be some demand from young couples, both with and without children.
- 2.49 The nature of the occupiers of PRS units is expected to influence their aspirations and ability for car ownership. As such it is anticipated that the provision of parking in relation to the units should be viewed in this context.
- 2.50 For those requiring occasional access, the development is seeking to provide car club access on-site. It has not been determined whether this would be operated by the developer, or whether an external car club provider might be utilised, however, ZipCar have been approached and provided a viability assessment which indicates they would be able to place up to five cars on the site. A copy of the viability assessment is contained in **Appendix D** of this note.
- 2.51 Despite the above justification it is recognised that LBB have requested that more parking be provided. It is understood that a more accessible development managed to secure a parking ratio of 0.7 spaces per unit, and that anything close to or below this would be resisted.

- 2.52 To provide more parking it is proposed to install up to 12 car stackers capable of containing nine cars each. The stackers will provide approximately 615 residential parking spaces at a ratio of 0.89 spaces per unit. The WOHR Combilift 551 is currently being considered and is an independent parking solution; i.e. each parking space can be accessed and egressed independently of any other space. A Spec sheet for the stacking system is contained within **Appendix E**.
- 2.53 It is understood that LBB would support the principle of stacking systems given that car parking is a high priority, and have requested that any proposal be supplemented with sufficient information to give confidence in the reliability of the system and details relating to proposals in the event of failure of the system. The relevant details will be provided within the TA.

Non-residential Car Parking

- 2.54 Due to the nature of the non-residential uses, the proximity to the new residential dwellings proposed, and the fact that access and egress to them will be via the A1 northbound carriageway only, they are intended to be predominantly used by residents of the development and will not generate significant new trips.
- 2.55 Due to the containment of trips associated with the non-residential uses and resultant lack of new trips being generated, it is considered that the application of maximum London Plan parking standards would represent an overprovision given the site specific context. It is therefore proposed to provide 55 parking spaces for the non-residential uses on the site.
- 2.56 The 55 spaces will be controlled by either limited waiting, or Pay & Display type control to ensure that residents of the development do not use them for long term parking. These parking bays will also be available for visitors of residents.
- 2.57 The daily trip generation identified for the non-residential part of the development has allowed an arrival and departure profile and parking accumulation profile to be produced. It showed the provided parking provision is sufficient for the predicted parking demand. The parking demand was calculated based on the total trips generated by non-residential use, and did not account for the linked trips generated by residents, as it is understood that a proportion of residents could use commercial car park to stop for shopping and continue to the residential car park afterwards. It is recognised that Pay & Display type restrictions will assist in reducing occurrences of this behaviour.
- 2.58 The utilisation of the car park showed that the highest occupation is expected between 20:00-21:00 and 14:00-15:00 and was identified to be 100% and 94% respectively. The car park occupancy for the remaining hours throughout the day is expected to be below 85%. Although, it has been identified that the car park is expected to become fully occupied at one time during the day, it should be recognised that the parking occupancy was estimated based on hourly trips, which could result in showing greater parking occupancy than the actual occupancy expected. This is due to the fact the commercial units are small scale and thus are likely to generate short-time visits i.e. less than one hour in duration, which could not be identified in the profile derived from hourly flows. Nevertheless, the assessment presents a robust case and shows that the demand can be fully accommodated within the provided commercial car park. Full assessment will be provided in the TA.

Cycle Parking

- 2.59 Cycle parking will be provided for both the residential and commercial elements of the proposed development in accordance with London Plan standards.
- 2.60 The relevant standards will be applied in accordance with the extracts from the London Plan.

Land use		Long-stay	Short-stay
C3-C4	dwellings (all)	1 space per studio and 1 bedroom unit 2 spaces per all other dwellings	1 space per 40 units

Figure 2.15: Residential Cycle Parking Standards

Land use		Long-stay	Short-stay
A1	food retail	from a threshold of 100 sqm: 1 space per 175 sqm	from a threshold of 100 sqm: first 750 sqm: 1 space per 40 sqm thereafter: 1 space per 300 sqm
	non-food retail	from a threshold of 100 sqm: first 1000 sqm: 1 space per 250 sqm thereafter: 1 space per 1000 sqm	from a threshold of 100 sqm: first 1000 sqm: 1 space per 125 sqm thereafter: 1 space per 1000 sqm
A2-A5	financial / professional services	from a threshold of 100 sqm: 1 space per 175 sqm	from a threshold of 100 sqm: 1 space per 40 sqm
	cafes & restaurants		
	drinking establishments		
	take-aways		
D1	nurseries/schools (primary and secondary)	1 space per 8 staff + 1 space per 8 students	1 space per 100 students
	universities and colleges	1 space per 4 staff + 1 space per 20 FTE students	1 space per 7 FTE students
	health centre, including dentists	1 space per 5 staff	1 space per 3 staff
	other (e.g. library, church, etc.)	1 space per 8 staff	1 space per 100 sqm
D2	other (e.g. cinema, bingo, etc.)	1 space per 8 staff	1 per 30 seats
	sports (e.g. sports hall, swimming, gymnasium, etc.)	1 space per 8 staff	1 space per 100 sqm

Figure 2.16: Non-residential Cycle Parking Standards

Vehicle Trip Generation

- 3.1 The predominant use of the proposed development is residential, and it is therefore anticipated that it will generate its peak level of vehicle trips during the weekday morning and evening peaks when the highway network is at its most sensitive to changes in traffic.
- 3.2 It is noted that some retail uses are proposed as part of the development, for which peak vehicle trip generation is unlikely to occur within the weekday network peaks, however, the extant use of the site shares the properties of retail trip profiles which is likely to generate greater trips over the weekend and outside of the peaks.
- 3.3 It has not been deemed necessary to assess weekend related trips, as it is considered that the most critical period of assessment in highway terms will occur during the morning and evening weekday peaks.

Residential Use

- 3.4 The number of total persons and vehicle trips generated by the proposed residential development will be based on survey information collected for comparable sites available within the TRAVL and TRICS databases. Following discussion and issue of all TRAVL sites to LBB for comment. The following seven sites have been indicated to be acceptable by LBB:
 - o TRAVL Site 388
 - o TRAVL Site 391
 - o TRAVL Site 398
 - o TRAVL Site 400
 - o TRAVL Site 418
 - o TRICS Site EN-03-K-03
 - o TRICS Site HO-03-C-02

- 3.5 The resultant vehicle trip rates and associated trip generation is presented in **Table 3.1** below:

Peak Periods	Arrivals	Departures	Total
	Trip Rate (per unit)		
Morning Peak (08:00-09:00)	0.059	0.177	0.236
Evening Peak (17:00-18:00)	0.139	0.083	0.222

Table 3.1: Vehicle Trip Generation (Residential Use)

- 3.6 The data presented in Table 3.1 but was presented to LBB for agreement. However, upon receipt of the information LBB have stated they believe the trip rates to be too low and have subsequently provided other development trip rates used by development in Barnet as a comparison.
- 3.7 The information provided by LBB is contained within **Table 3.2** below:

Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	AM Trip Rate (per unit)			PM Trip Rate (per unit)		
Peel Centre - Colindale	0.04	0.16	0.2	0.12	0.06	0.18
Pentavia	0.059	0.177	0.236	0.139	0.083	0.222
Sweets Way - Whetstone	0.06	0.23	0.29	0.13	0.09	0.22
Grahame Park (1B)	0.100	0.229	0.329	0.183	0.123	0.306
CAAP	0.097	0.229	0.326	0.185	0.123	0.308
NIMR – Mill Hill	0.166	0.533	0.699	0.380	0.210	0.590

Table 3.2: Residential Trip Rate Information Supplied by LBB

- 3.8 **Table 3.2** indicates that the proposed development (listed as Pentavia) is at the lower end of other trip rates agreed by LBB, but is not considered to be disproportionately low. Further details on the above sites have been provided at the meeting on 3rd August 2016 and these are summarised in **Table 3.3**.

Peak Periods	No of residential dwellings	Parking Ratio	PTAL
Peel Centre - Colindale	2900	1:0.7	1b - 4
Sweets Way – Whetstone (B/04309/14)	361	1:1.23	3
Grahame Park (1B) H/03551/14	411	1:1.7 and 1:1.9	2-3
NIMR – Mill Hill	462	1: 1.07	1b

Table 3.3: Information on other Developments within LBB

- 3.9 Following the discussion, it has been agreed that none of the above sites is considered as comparable to the proposed Mill Hill Development, due to higher car park ratio, and the above developments being private dwellings and /or due to locations such as Peel Centre being located by the Colindale Underground Station.
- 3.10 It was suggested that trip rates extracted from the CAAP model are considered to be most comparable and the rates derived for the proposed development should be closer to CAAP trip rates. Thus it was agreed that further TRICS/TRAVL site search will be undertaken to derive the trip rates that are more comparable to the Mill Hill area.
- 3.11 The site selection was revised following liaison with LBB to produce a trip rate that are in line with rates comparable to the CAAP model and thus the following sites were included in the trip generation assessment:

- TRAVL Site 388
- TRAVL Site 391
- TRAVL Site 398
- TRAVL Site 400
- TRAVL Site 468
- TRICS Site EN-03-K-03
- TRICS Site EN-03-C-01

3.12 The TRAVL Site 418 was excluded from the original site selection as the arrival trip rates in the morning peak and departure trip rate in the afternoon peak was recorded as 0.000, which affects the average trip rates across all selected sites. The TRICS Site HO-03-C-02 was also removed as the site presented significantly lower trips rates than other sites and the average daily trip rates for other sites were approximately twice higher than those from the TRICS Site HO-03-C-02.

3.13 Further search through the database identified two sites that were included in the trip generation calculation and these were TRAVL Site 468 and TRICS Site EN-03-C-01. The TRICS Site EN-03-C-01 is a small residential development containing 16 dwellings, 16 parking spaces, is located in PLAL 2 and data were collected in 2016. Although the site is a much smaller scale, it shows desirable arrival and departure trend, provides very recent data and thus was included in the analysis. The second site that was added to the original site selection is TRAVL Site 468, that is located in Richmond Upon the Thames within PTAL 2, has 400 dwellings and 512 parking spaces. Despite the high car parking ratio, the peak hour trip rates were considered to be comparable to the desire CAAP trip rates, and thus was included in the trip generation analysis. The resultant vehicle trip rates and associated trip generation is presented in **Table 3.4** below:

Use	Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
		Trip Rate (per unit)			Trip Generation		
CAAP Model	Morning Peak (08:00-09:00)	0.097	0.229	0.326	67	158	225
	Evening Peak (17:00-18:00)	0.185	0.123	0.306	127	85	211
Proposed Residential Development	Morning Peak (08:00-09:00)	0.066	0.207	0.274	45	143	189
	Evening Peak (17:00-18:00)	0.173	0.092	0.264	119	63	182

Table 3.4: Updated Vehicle Trip Generation (Residential Use)

- 3.14 The revised trip rates presented in **Table 3.4** should be considered as comparable to the CAAP model trip rates. Although there is some minor discrepancy in rates, the morning peak departures and the evening peak arrivals, which are the predominant movements for residential developments, show very comparable rates. It is noted that trip rates derived are slightly lower than these from CAAP model, should be seen as representative for the proposed development due to the proposed lower car parking ratio and residential dwellings being dedicated for private rental sector.
- 3.15 Although, this is not a standard approach in site selection, this was required for to produce a daily profile of arrival and departures and allow to estimate multimodal trip generation for the proposal.

Non-Residential Use

- 3.16 Survey information was also collected to estimate the vehicle trips associated with the proposed non-residential developments. These include restaurant, café, fitness and health centre, supermarket, dry cleaner and hair dresser uses. The data was based on comparable sites available within the TRAVL and TRICS databases and the selected sites were approved by LBB. The following sites have been indicated to be acceptable by LBB:

Restaurant (Proposed GFA of 500sqm)

- TRAVL Site 257
- TRAVL Site 1048
- TRICS Site BN-06-C-01
- TRICS Site HD-06-C-01

Café (Proposed GFA of 86.94sqm)

- TRAVL Site 1053

Fitness Centre (Proposed GFA of 290sqm)

- TRAVL Site 646
- TRAVL Site 648
- TRAVL Site 1061

Health Centre (Proposed GFA of 290sqm)

- TRAVL Site 69
- TRAVL Site 104

Supermarket (Proposed GFA of 730sqm)

- TRAVL Site 278
- TRAVL Site 287
- TRAVL Site 708

Other Retail (Dry Cleaner & Hair Dresser) (Proposed GFA of 137sqm)

- TRAVL Site 1074
- TRAVL Site 1084

3.17 It is noted that due to the lack of comparable sites for the dry cleaner and hair dresser uses, TRAVL sites classified as 'A1 Other Uses' were utilised. For this assessment, an Argos and Superdrug sites were used and it is likely that the trip rates associated with these developments are higher than the ones expected for the dry cleaner and hair dresser uses. Hence, a robust assessment has been produced. The resultant vehicle trip rates and associated trip generation for each proposed non-residential development is presented in **Table 3.5**.

Restaurant						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	0.000	0.118	0.118	0	1	1
Evening Peak (17:00-18:00)	2.400	1.089	3.489	12	5	17
Café						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	15.238	17.143	32.381	13	15	28
Evening Peak (17:00-18:00)	1.905	0.000	1.905	2	0	2
Fitness Centre						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	0.700	0.383	1.084	2	1	3
Evening Peak (17:00-18:00)	1.240	1.119	2.359	4	3	7
Health Centre						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	2.410	0.964	3.373	7	3	10
Evening Peak (17:00-18:00)	4.139	3.657	8.245	12	11	24
Supermarket						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		

Morning Peak (08:00-09:00)	2.007	1.267	3.274	15	9	24
Evening Peak (17:00-18:00)	4.798	5.242	10.040	35	38	73
Other Retail (Dry Cleaner & Hair Dresser)						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	0.185	0.000	0.185	0	0	0
Evening Peak (17:00-18:00)	0.750	1.125	1.875	1	2	3

Table 3.5: Vehicle Trip Generation for Proposed Non-Residential Uses

Total Non-Residential Development			
Peak Periods	Arrivals	Departures	Total
	Trip Generation		
Morning Peak (08:00-09:00)	37	29	66
Evening Peak (17:00-18:00)	64	58	122

Table 3.6: Total Vehicle Trip Generation for Proposed Non-Residential Uses

- 3.18 The data presented in **Table 3.5** show that the main vehicle movements during the morning peak are associated with the café and the supermarket. Low or no vehicle movements associated with the other proposed development are expected during the morning peak as they tend to have a flatter profile throughout the day.
- 3.19 More vehicle movements associated with the health centre, the restaurant and the fitness centre are expected in the afternoon peak. High trip rates associated with the supermarket are also predicted. Low trip volumes associated with café are expected in the afternoon. Low trip levels associated with the dry cleaner and hair dresser are expected during both peak times as movements are primarily estimated to occur in the middle of the day.

Identification of New Network Vehicle Trips

- 3.20 It is recognised that the vehicle trip generation exercise undertaken through extraction of data from TRICS/TRAVL does not take into account the level of trips which are shared between various uses on the site, those which will be contained as a result of the close proximity of residential dwellings, and those which will result from vehicles already on the network and only passing the site.

- 3.21 It is recognised that the residential use acts as a generator of vehicle trips, and trips are not attracted to it as a result of other uses. However, it is anticipated that a high proportion of trips associated with other retail and leisure uses proposed will be generated from the residential use, and as such will be contained within the site. For the purposes of the initial assessment these have been deemed to be linked trips that can be discounted from the generation of trips associated with non-residential uses.
- 3.22 It is also assumed that there will be some further linked trips between the proposed retail and leisure uses on site, which will reduce the number of vehicle trips identified in **Tables 3.6**.
- 3.23 All non-residential uses proposed at the site will only be accessible by car via the existing A1 slip road, and as such, due to the limited route choice, it is anticipated that a limited number of vehicle trips identified via the TRICS/TRAVL assessment will be new to the wider network. These vehicle trips will be new movements on the slip roads and internally within the development, but for the purposes of identifying new trips on the wider network they are discounted as pass-by trips in this initial assessment.
- 3.24 **Table 3.7** below sets out the anticipated proportions of vehicle trips discounted in order to identify new trips to the network. The assumptions made were discussed with at the meeting on 3rd August 2016 and were considered to be reasonable. By application of the deductions summarised within **Table 3.7**, and combination of the resultant vehicle trips, total new network vehicle trips anticipated has been summarised in **Table 3.8**.

Land Use	% Pass-by Trips	% Linked Trips	% New Network Trips	Total
Café	20%	70%	10%	100%
Restaurant	20%	70%	10%	100%
Local Supermarket	20%	55%	25%	100%
Retail	10%	65%	25%	100%
Fitness Centre	10%	65%	25%	100%
Health Centre	20%	65%	15%	100%
Residential	0%	0%	100%	100%

Table 3.7: Deduction of linked and pass-by vehicle trips

AM Peak	% Pass-by	% Linked	% New Network Trips	Total
Café	6	20	3	28
Restaurant	0	1	0	1
Local Supermarket	5	13	6	24
Retail	0	0	0	0
Fitness Centre	0	2	1	3
Health Centre	2	7	2	10
Residential	0	0	198	198
PM Peak	% Pass-by	% Linked	% New Network Trips	Total
Café	0	1	0	2
Restaurant	3	12	2	17
Local Supermarket	15	40	18	73
Retail	0	0	0	0
Fitness Centre	1	4	2	7
Health Centre	5	15	3	23
Residential	0	0	191	191

Table 3.8 Vehicle Trip Generation for Non-Residential Use (New Trips Only)

Extant Use

- 3.25 The site has been previously in use as a retail park providing a mix of non-food retail and A3 food & drink uses, with parking for approximately 360 car parking spaces.
- 3.26 Over the last few years many of the units have vacated the site leaving it largely unused. However, it is recognised that the site has extant permission to operate in accordance with its current use, and as such could generate vehicle trips which would currently not be recorded on the highway network.
- 3.27 In order to calculate the likely number of vehicle trips that could be generated by the extant use, the TRICS and TRAVL databases have been interrogated for comparable sites. The sites that have been selected for the combined assessment of non-food retail and restaurant use are summarised below.
- 3.28 The trip generation data associated with the previous restaurant and retail park uses was obtained from the TRAVL and TRICS databases. The following sites have been indicated to be acceptable by LBB:

Restaurant (Existing GFA of 691sqm)

- TRAVL Site 257
- TRAVL Site 1048
- TRICS Site BN-06-C-01
- TRICS Site HD-06-C-01

Retail Park (Existing GFA of 8244sqm)

- TRAVL Site 266

- 3.29 The resultant vehicle trip rates and associated trip generation for the extant development is presented in **Table 3.9**. It is noted that the GFA values for both uses were estimated from the existing topography drawings.

Restaurant						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	0.000	0.118	0.118	0	1	1
Evening Peak (17:00-18:00)	2.400	1.089	3.489	17	8	24
Retail Park						
Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate			Trip Generation		
Morning Peak (08:00-09:00)	0.534	0.133	0.667	44	11	55
Evening Peak (17:00-18:00)	0.601	0.690	1.290	50	57	106

Table 3.9: Vehicle Trip Generation for Extant Use

Total Trip Generation for the Extant Use			
Peak Periods	Arrivals	Departures	Total
	Trip Generation		
Morning Peak (08:00-09:00)	44	12	56
Evening Peak (17:00-18:00)	67	65	130

Table 3.10: Total Vehicle Trip Generation for Extant Use

3.30 The data presented in **Table 3.10** indicates that the retail park produced high vehicle flows during both peak hours when it was still in use. It is noted that the restaurant did not generate morning flows as vehicles commenced arriving primarily from the afternoon.

Total New Trips

3.31 **Table 3.11** summarises the total net trips generated by the opposed development and includes both trips generated by the residential part of the development and new trips generated by the non-residential units, but also subtract the traffic flows generated by the extant use.

Peak Periods	Arrivals	Departures	Total
Extant Use			
Morning Peak (08:00-09:00)	44	12	56
Evening Peak (17:00-18:00)	67	65	130
Residential Trips			
Morning Peak (08:00-09:00)	45	143	189
Evening Peak (17:00-18:00)	119	63	182
Non-Residential Trips (New Trips Only)			
Morning Peak (08:00-09:00)	7	5	12
Evening Peak (17:00-18:00)	13	13	26
Net Impact from the Development			
Morning Peak (08:00-09:00)	8	136	145
Evening Peak (17:00-18:00)	65	11	78

Table 3.11: Total Vehicle Trip for the Development

Vehicle Trip Distribution

- 4.1 Following the discussion with LBB it has been agreed that two separate scenarios for residential vehicle trips distribution are required to be presented to understand the impacts of a scenario where the proposed Bunns Lane Link is not provided. LBB have specifically requested this to be tested, and the principles of vehicle route choice described in Section 2.0 have informed the way in which traffic has been assigned to the network.
- 4.2 The trip assignment exercise has also taken into consideration the operation of the existing road network, and identify locations where route choice might be affected by the existing congestion, such as using Flower Lane as an alternative route to Bunns Lane. Queue length data are provided in **Appendix D**.
- 4.3 Vehicle trip distribution for non-residential trips was distributed in accordance with the proposal that access and egress for non-residential uses will be restricted to the A1, and that non-residential and residential uses share different travel patterns, and as such separate distributions have been produced.

Residential Vehicle Trip Distribution

- 4.4 The residential vehicle trip distribution has been based on 2011 Census of population. Statistics on the distances travelled to work (WP702EW) has been extracted for population living within London Borough of Barnet and is summarised in **Table 4.1**.

Distance travelled to work	%	Bunns Lane	A1
Less than 2km	15.7%	15.7%	
2km to less than 5km	18.9%	12.3%	6.6%
5km to less than 10km	21.2%	5.3% 10.6%	15.9% 10.6%
10km to less than 20km	15.4%	7.7%	7.7%
20km to less than 30km	4.6%	2.3%	2.3%
30km and over	6.1%	3.0%	3.1%
No fixed place	18.1%	9.1%	9.0%
Total	100%	60.7%	39.3%

Table 4.1: 2011 Census of Population: Distance Travelled to work

- 4.5 Based on the proportion of vehicle trips over varying distance, consideration has been given to the highway network and connectivity in vicinity of the site to determine appropriate vehicle routing. Due to the proximity of junctions to the north of the site on the A1, it is anticipated that the A1 would be utilised even for trips within the shorter distances. Also, due to the fact that connectivity southbound on the A1 is most likely to be gained via roads accessed from Bunns Lane and other local roads, a proportion of trips that travel to longer distances will originate their trip from the new junction.

- 4.6 It has been originally anticipated that a slightly larger proportion of vehicle trips that have origin or destination located between 5 and 10km from the site would head northbound, away from central London, due to the higher provision of public transport services serving the south (Central London). Following the discussion with LBB, it was agreed to apply an equal split between northbound and southbound trips. Although, it was considered reasonable to assume that majority of trips heading central London would be made by public transport, the limited attractions points to the north, when compared to the south, is expected to result in more equal weighing between the destinations. Thus, it was agreed that this would be revised in the trip distribution.
- 4.7 The following assumptions have been made in assignment of residential trips:
- i. All car trips that have origin and/or destination within 2km distance from the site (here 15.7% of all trips) are expected to gain access via Bunns Lane. Traffic flows at the junction with Bunns Lane were distributed with the proportions derived from 2011 Census of population (WU03EW - Location of usual residence and place of work by method of travel to work - MSOA level), which showed that 52.6% is expected to travel to the west and 47.4% to the east.
 - ii. As summarised in Table above 18.9% of residential car trips are expected to travel distances between 2 and 5km. Based on the 2011 Census data (WU03EW), the likely destinations of travel were identified and showed that 35% is likely to travel to the north and will use A1, 46% is expected to travel to east via Bunns Lane and the remaining 19% is predicted to travel to the west via Bunns Lane.
 - iii. The remaining 54.8% of car trips were predicted to travel distances longer than 10km. It has been assumed that these trips will aim to access A1, and thus 50% of trips are expected to use A1 and travel to the north and the remaining 50% is expected to travel south on A1 that is expected to be accessed via Bunns Lane and Page Street.
- 4.8 The assignment of traffic is based on the vehicle routing summarised in section 2.0 for the various origin and destination points in the wider network.
- 4.9 The vehicle trip distribution has been presented to James David from LBB at the meeting on 3rd August 2016 and the following was agreed to be revised, when compared with the original distribution issued previously:
- i. Vehicle trips that have destinations and origins located in a radius between 5 and 10km from the site are split equally between those using the access to A and travel to the north and those using access to Bunns Lane and traveling east via the junction with Page Street to access A1 for southbound trip;

- ii. Traffic flows generated by the development that arrive at the double-mini-roundabout (Page Street /Purley Rad) are to be distributed in accordance with the existing traffic turning proportions at the junction. Both AM and PM traffic flows showed similar trends and the average between the peak times was applied;
 - iii. Traffic flows generated by the development that arrive form Bunns Lane at the junction with Grahame Park Way will be distributed as per existing traffic turning proportions. Both AM and PM traffic flows showed similar trends and the average between the peak times was applied;
 - iv. In the scenario “without the Bunns Lane Link” it was agreed that traffic flows that arrive at Grahame Park Way will travel via A1 (northbound), The Brodway and turn left to Flower Lane and right to Bunns Lane, before arrive at the junction with Grahame Park Way. The previous route assignment was continuously via Bunns Lane. This was revised to address the concern of the existing congestion on Bunns Lane, and road user being more likely to select a route via Flowe Lane.
- 4.10 The vehicle trip distribution was revised in accordance to the suggestions made by LBB and is appended in **Appendix F**.

Non-Residential Vehicle Trip Distribution

- 4.11 It has been assumed that new non-residential vehicle trips generated in association with the proposed retail and leisure uses will occur predominantly from the local area. For the purposes of identifying a suitable distribution it is assumed that vehicle trips are broadly attracted evenly from areas to the north, east, south and west of the site, and seek to take the most coherent route to the site. It is noted that these vehicle trips are restricted to access and egress from the A1 only.
- 4.12 Traffic flows diagrams illustrating the distribution applied to traffic flows generated by the non-residential uses of the development are presented in **Appendix G**.

Traffic Impact Assessment

Traffic Modelling

- 5.1 Feedback has been received from both LBB and TfL which has informed the scope of the junction assessment and survey work to be undertaken within the TA. The junctions that will be assessed are:
- i. A1 / Page Street / Hall Lane / Great N Way
 - ii. A1 / The Broadway (Mill Hill Circus)
 - iii. Bunns Lane / Grahame Park Way
 - iv. Bunns Lane / Page Street / Pursley Road
 - v. Bunns Lane / Hale Lane / The Broadway
 - vi. Flower Lane / The Broadway
 - vii. Bunns Lane / Flower Lane; and
 - viii. Bunns Lane proposed access.
- 5.2 The junctions (i) and (ii) will be assessed using LinSig. Junctions (iii) – (vii) will be assessed using ARCADY, and junction (viii) using PICADY. It is noted that junction (viii) is proposed, and as such will not be subject to any Base Year testing.
- 5.3 The scenarios that we intend to include within the TA are (AM = 0800-0900; PM = 1700-1800):
- i. AM Base Year (2016 surveyed flows);
 - ii. PM Base Year (2016 surveyed flows);
 - iii. AM Opening Year Base inc. Committed Development;
 - iv. PM Opening Year Base inc. Committed Development;
 - v. AM Opening Year Base inc. Committed Development + Development;
 - vi. PM Opening Year Base inc. Committed Development + Development;
 - vii. AM Future Year Base inc. Committed Development;
 - viii. PM Future Year Base inc. Committed Development;
 - ix. AM Future Year Base inc. Committed Development + Development;
 - x. AM scenario which tests (v) without the proposed Bunns Lane site access;
 - xi. PM Future Year Base inc. Committed Development + Development; and
 - xii. PM scenario which tests (vi) without the proposed Bunns Lane site access.
- 5.4 The future scenario accounts for the change due to the extant use, include the committed development s/CAP growth rates and proposed net development trips.
- 5.5 Traffic Growth for both the opening and future years' scenarios are to be extracted from the Colindale Area Action Plan (CAAP) Model, the opening year will be 2021, and the future year 2026. CAAP growth rates are to be supplied by LBB.
- 5.6 Requirement to include the traffic impact from the committed development within the assessment to be confirmed by LBB. It is understood that Mill Hill East / Millbrook Park development might be required to be included providing that it is not considered within the CAAP Model.

- 5.7 It is understood that there are committed infrastructure improvements to the junction of Bunns Lane and Grahame Park Way which will provide additional capacity. Robert West have been supplied with a copy of the proposal and will include for the changes within all scenarios from (iii) onwards for the junction. A copy of the proposal is contained within **Appendix H**.

Traffic Surveys

- 5.8 To assess the above mentioned junctions, Robert West have agreed a survey scope (contained below) with LBB. The surveys described here have been undertaken and Robert West has now received the data.
- 5.9 For the two junctions that will be modelled in LinSig the following data has been captured:
- i. Average observed cycle time;
 - ii. Average green time per stage / phase;
 - iii. Manual Classified Counts (from video survey);
 - iv. Degree of Saturation Calculation per Lane (10 observations per period per lane);
 - v. Saturation Flow Calculation (recorded with observations of (ii)); and
 - vi. Queue Length Surveys.
- 5.10 For the remaining six existing junctions, all of which will be modelled using ARCADY, the following data has been captured:
- i. Manual Classified Counts (from video survey); and
 - ii. Queue Length Surveys.
- 5.11 Surveys have been undertaken by video for a single neutral weekday between the 07:00 – 19:00, with analysis of the counts between 07:30 – 09:30 in the AM and 17:00 – 19:00 in the PM.
- 5.12 Traffic movements have been recorded on-site using high-level video cameras. The cameras were checked regularly by technical staff to maintain quality assurance. An experienced team of enumerators have undertaken the analysis manually as a desk based exercise using specialised control video players.
- 5.13 The MCC data is classified into pedal cycles, powered two-wheelers, cars, LGV, OGV1, OGV2 and PSV.
- 5.14 The Sat ad DoS flow data has been collected using the high-level video cameras. When conducting the analysis, if exit blocking occurred then the number of seconds that the movement was blocked for during the green period is recorded (the 'lost green time') and has been reported.

- 5.15 Saturation flow and DoS has been calculated at the same time by recording the number of vehicles initially crossing the green period (all that is in the queue) and then recording the number that crossed the stop-line thereafter. Where the required approach is for a 'fully saturated' measurement (a minimum of 12 seconds continuous flow of traffic across a stop line from the start of the green phase) the following information has been collected;
- i. Saturation flow and Degree of Saturation at each stopline
 - ii. Time at the start of each green signal
 - iii. Time at full demand (if different to the start of the green signal)
 - iv. Number of PCU's crossing during full demand
 - v. Time at end of full demand
 - vi. Number of PCU's crossing during low demand
 - vii. Time at the end of the green period
- 5.16 Where the approach (lane) is not fully saturated (the saturated discharge finishes during the green phase), the time that the last vehicle that was in the queue crosses the stop line has been recorded.
- 5.17 Time periods where vehicles are being slowed or stopped from exiting the junctions because of downstream queues blocking the exit have also been recorded.
- 5.18 To understand the potential change in background traffic levels over a longer period, and to ensure that our turning counts are representative, further ATC surveys were undertaken for a period of two weeks, inclusive of the day in which video surveys were undertaken. The ATC's capture both bi-directional speed and classified traffic volumes.
- 5.19 ATC surveys have been undertaken at the following locations:
- i. Bunns Lane (at proposed access);
 - ii. Page Street (north of Five Ways);
 - iii. The Broadway; and
 - iv. Bunns Lane (south of Hale Lane).
- 5.20 ATC data is collected as bi-directional for speed (5 mph bins) and class in 15 minute intervals. The ATC used the ARX classification scheme, recommended by Metro-count.
- 5.21 The summary of the baseline traffic flows, speed and queues are presented in **Appendices I, J, K and L**.

Additional Survey Requirements

- 5.22 Earlier discussions with LBB recommended to undertake further surveys to support the TA. Surveys for the following have been requested:
- i. Parking Beat Survey in the surrounding streets
 - ii. Journey Time Surveys to support the proposal and assessment of shuttle bus provision; and
- 5.23 Parking beat survey was considered to support the proposal with low car parking provision on site. However, due to the increase of the parking ratio of the site from 0.65 to 0.89, confirmation is needed to understand if parking beat survey is required.
- 5.24 Journey Time Surveys have been requested to assist in informing the distribution of vehicle trips for both the with, and without Bunns Lane Link, rather than the distance / knowledge based assignment described in this note. However, these surveys are not considered to be appropriate, and are unlikely to give any more accurate or robust data than the distance / knowledge based assignment presented.
- 5.25 Surveys would not be able to be undertaken during a period where local schools are in full operation. It is anticipated that this will have an impact on journey times between points on the network, particularly in the AM peak. The use of such data to inform the distribution of traffic would therefore not be representative of typical conditions, and the resultant distribution also be misrepresentative.
- 5.26 Given the above, the journey time data is not considered to be any more reliable than the current method of assignment, which couple's local knowledge, observed network conditions and distance traveled. The significant cost associated with both the installation of ANPR cameras (both generated by supplier and LBB), and cost of analysis cannot be justified for data which will offer limited value and not materially impact the conclusions of the TA. Thus, it has been agreed that the trip distribution will be inform by the baseline traffic data collection such as the queue length, speed and based on the congestion observed from the site visit.
- 5.27 A scope and methodology for the surveys described in (i) and (ii) has been prepared for agreement with LBB and is contained within **Appendix C**, should this be required.

Other Assessments

Left-in and Right-out Bunns Lane Access

- 6.1 Following the consultation with LBB, it has been suggested that Left-in and Right-out restrictions to the proposed junction with Bunns Lane should be considered and justification on the implications of this restriction in movements is required to be summarised within this scoping note. This approach has been requested to be investigated due to current congestion at the junction with Grahame Park Way.
- 6.2 Our preliminary assessment identified that the development will result in a net impact of 16 vehicles in AM peak and 18 vehicles in PM peak at the junction of Bunns Lane and Grahame Park Way. The baseline traffic flows assessment showed that the junction has an inflow of 2180 and 1959 vehicles per hour in AM and PM peak periods respectively. This shows that the development impact at the junction is less than 1% when compared with the existing flows. Full detail will be provided in the TA.
- 6.3 It should be noted that the majority of traffic that will form an impact at this junction will be short-distance trips i.e. up to 2km, where options to use alternative routes are limited. Restriction on the access to the development is unlikely to prevent the additional impact at the junction, as short distance trips will still aim to reach the same destinations. It is therefore likely that residents may try to use residential streets off Bunns Lane (Rowlands Close, Copathall Drive, Colenso Drive etc.) to reverse, or will continue to the junction with Page Street where U-turn can be performed at the mini-roundabout and return to the junction with Grahame Park Way.
- 6.4 Trips that have destinations within 2 to 5km are more likely to use alternative routes, one of them being via A1, The Broadway and Hall Lane or Bunns Lane, depending on the destinations. It is expected that proportion of the originally estimated trips will still remain on this road network and continue through the junction, and additionally will create the impact at Mill Hill Circus and the junction of The Broadway with Hall Lane and Bunns Lane. It is also recognised that some of these traffic may travel towards the junction with Page Street, Fiveway Corner junction, A41 and cross M1 using underpass on Aerodrome Road. This will again, prevent impact the junction of Bunns Lane with Grahame Way Park, but will create an impact on other junctions in the area, and result in extended trip, when compared with the originally assigned route.
- 6.5 Based on the above, it can be concluded that the impact generated at the junction is low, and is lower than the daily variation in traffic flows on the network. Furthermore, restricting the turning movements at the junction, is expected to result only in a proportional reduction of predicted additional traffic at the junction, as the predicted trips are short-distance and will still aim to use the same route to access the destinations. Traffic that will use alternative routes will result in undertaking longer routes and will result in forming additional traffic impact at other junctions in the area.

Pedestrian Capacity Assessment

- 6.6 Assessment of pedestrian congestion along existing footways in the area surrounding the site. Pedestrian Comfort Level (PCL) will be calculated for Bunns Lane in Accordance with TfL methodology.

PERS Audit

- 6.7 Pedestrian Environment Review System (PERS) Audit will be undertaken for the area as presented on the **Figure 6.1** and will be included within the TA.



Figure 6.1: PERS Audit Area

Accident Analysis

- 6.8 As part of the assessment, an accident analysis will be undertaken using data obtained from TfL for the most recent three-year period available. The study area for the accident analysis has been extended to include the wider area inclusive of all junctions that are being assessed within the TA.

Public Transport Capacity Assessment

- 6.9 The public transport impact assessment will be addressed as a number of additional public transport users expected in the area as a result of the proposed development. This will be derived from the multimodal trip generation for the development and assigned on the public transport service available in the area to present the number of additional public transport passengers per single service. Bus service assessment will take into consideration the operation of the proposed shuttle bus service.

TfL's Transport Assessment checklist

- 6.10 TfL's Transport Assessment checklist has been reviewed and included in **Appendix M**. All items listed as essential on the checklist will be included within the TA unless otherwise noted.

Conclusion

- 7.1 This revised scoping note has been produced to summarised the aspects that has already been agreed the discussions with LBB and TfL that had been carried out up to date and seek to agree the outstanding aspects, which are listed below:
- i. Confirmation that the residential trip generation revised in accordance to the discussion on 3rd August is acceptable;
 - ii. Confirmation that the trip distribution revised in accordance to the discussion on 27th July and 3rd August is acceptable;
 - iii. Confirmation whether the committed developments; Mill Hill East / Millbrook Park development are required to be assessed or whether these are included within the Growth Factors derived from CAAP Model;
 - iv. Confirmation on whether overnight parking beat survey in the surrounding streets is required and whether the proposed survey area and the methodology included in **Appendix C** is acceptable; and
 - v. Confirmation on whether the Journey Time Surveys to support the proposal and assessment of shuttle bus provision is required and whether the proposed extent of the survey and the methodology included in **Appendix C** is sufficient.
- 7.2 Confirmation on the above is required to inform the TA for submission, and thus the feedback would be much appreciated.

Milena Lipska

From: Matheou Tom <TomMatheou@tfl.gov.uk>
Sent: 19 May 2016 16:15
To: Lloyd Bush
Cc: 'Samantha Wells'; Jonathan Aubrey; Lee Goldberg (Meadow Res)
Subject: RE: Mill Hill Development - Pentavia Park

Lloyd,

For advice on how to model please see TfL's traffic modelling guidance (<http://content.tfl.gov.uk/traffic-modelling-guidelines.pdf>). This should give you all the advice that you need on what is expected.

The need for the safety audit is required as the development will increase vehicular car and pedestrian movements around the site. Whilst it is understood that the current car park can accommodate 350 vehicles TfL do not expect the previous use generated high traffic flows. Moreover, this particular junction has sightline concerns for acceleration lane. Given this, a safety audit is required to understand if any mitigation would be required.

Regards,

Tom

From: Lloyd Bush [mailto:lloydbush@robertwest.co.uk]
Sent: 19 May 2016 16:02
To: Matheou Tom
Cc: 'Samantha Wells'; Jonathan Aubrey; Lee Goldberg (Meadow Res)
Subject: RE: Mill Hill Development - Pentavia Park

Tom,

Further to the below, it is understood from previous correspondence that we would be required to model the impact of the development on the current operation of Mill Hill Circus and A1 / Page Street (I assume this is your reference to fiveways corner). In terms of the modelling assessment for these junctions can you confirm your requirements for validation / calibration, as if we are to follow the MAP process I am aware that the surveying costs for Sat flow, DoS, and queuing can be quite significant.

In regard of providing a safety audit in relation to the site access onto the A1, can you confirm why this would be necessary. There are no proposals to alter the geometry of the existing slip road, and this has historic use with the site as a retail park with circa 350 parking spaces and associated traffic generation. I do not believe the development to be introducing any additional demand or alterations to layout, and therefore do not believe it necessary for a safety audit to be provided.

Kind Regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR

Direct Dial 020 7939 9975

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From: Matheou Tom [mailto:TomMatheou@tfl.gov.uk]
Sent: 19 May 2016 15:20

To: Lloyd Bush
Cc: 'Samantha Wells'; Jonathan Aubrey
Subject: RE: Mill Hill Development - Pentavia Park

Lloyd,

I have just been in communication with RSM trying to understand a bit more about the Mill Hill Circus roundabout scheme and they have requested as part of the TA that you model the predicted Traffic into the site and a road safety audit of the exit onto the A41 Watford way.(In Fig1:- shown in Blue) Depending on the Traffic Impact Assessment results the demographic of the customer base radius will have an impact of extra traffic using Mill Hill Circus and Fiveways Corner. This needs to be taken into consideration to mitigate for congestion along this part of the TLRN.

In regards to the bellow email about Mill Hill Circus roundabout I can't at this stage know whether the scheme will have any fundamental changes to junctions.



Kind regards,

Tom

From: Lloyd Bush [<mailto:lloydbush@robertwest.co.uk>]
Sent: 19 May 2016 08:52
To: Matheou Tom
Cc: 'Samantha Wells'; Jonathan Aubrey
Subject: RE: Mill Hill Development - Pentavia Park

Tom,

Many thanks for the swift reply. On that basis, I suspect the view would be that any changes wouldn't form a material consideration for an application on our site currently given that the proposed changes are not committed? However, it would be useful to understand if the proposed changes would purely improve the operation of the junction or whether there would be any fundamental changes to how traffic might be distributed in the area (i.e. any current turns being banned etc.

Kind Regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR
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From: Matheou Tom [<mailto:TomMatheou@tfl.gov.uk>]
Sent: 18 May 2016 16:24
To: Lloyd Bush
Cc: 'Samantha Wells'; Jonathan Aubrey
Subject: RE: Mill Hill Development - Pentavia Park

Lloyd,

TfL do have a possible scheme in the pipeline, however it is dependant on LB Barnet agreeing a deed of dedication for a piece of green space land off Mill Hill Circus for use as TLRN highway. As this is currently being investigated there is no timeline that I can give you at the moment however the soonest date would be October.

Thanks

Tom

From: Lloyd Bush [<mailto:lloydbush@robertwest.co.uk>]
Sent: 18 May 2016 14:13
To: Matheou Tom
Cc: 'Samantha Wells'; Jonathan Aubrey
Subject: RE: Mill Hill Development - Pentavia Park

Tom,

My client has been informed that there are plans to improve Mill Hill Circus Roundabout, will you be able to confirm if there are any planned improvements to this junction? If so are you able to provide me with a programme of when construction work is proposed to start and when it is due for completion?

Kind Regards

Lloyd

From: Matheou Tom [<mailto:TomMatheou@tfl.gov.uk>]

Sent: 22 April 2016 14:42

To: Lloyd Bush <lloydbush@robertwest.co.uk>; 'Samantha Wells' <Samantha.Wells@london.gov.uk>; Jonathan Aubrey <Jonathan.Aubrey@london.gov.uk>

Cc: 'Ben Ford' <ben.ford@quod.com>; 'Sophia Waugh' <sophia.waugh@quod.com>; John Mitri <john.mitri@cpcprojectservices.com>; 'Lee Goldberg (Meadow Res)' <lgoldberg@meadowres.com>; Peter Lumb (Meadow Res) <plumb@meadowres.com>

Subject: RE: Mill Hill Development - Pentavia Park

Lloyd,

Apologies for missing that off. TfL would like to see modelling for the junctions at:

- A1/ Page street;
- Bunns Lane access;
- Bunns Lane/ Graham Park Way;
- A1/The Broadway (to Mill Hill Circus);
- and Page Street / Pursley Road (due to the sensitivity of the junction with two mini roundabouts and school traffic in the area).

TfL would also expect the TA to provide justification for retaining the access from the A1.

Kind regards,

Tom

Tom Matheou | Assistant Planner
TfL Planning, Transport for London

E: TomMatheou@tfl.gov.uk

T: 020 3054 3649

A: 10th Floor, Windsor House, 42-50 Victoria Street, London SW1H 0TL

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From: Lloyd Bush [<mailto:lloydbush@robertwest.co.uk>]

Sent: 22 April 2016 12:14

To: Matheou Tom; 'Samantha Wells'; Jonathan Aubrey

Cc: 'Ben Ford'; 'Sophia Waugh'; John Mitri; 'Lee Goldberg (Meadow Res)'; Peter Lumb (Meadow Res)

Subject: RE: Mill Hill Development - Pentavia Park

Tom,

Thank you for your reply to the Transport Scoping Note, all of which is in accordance with our understanding.

One query which was raised within the note but not specifically commented upon within your response relates to the scope of junction modelling. Can you confirm you would not require modelling to be undertaken on the junctions of:

- A1 / Page Street; and
- A1 / The Broadway.

This is with specific reference to para 6.8 of the note.

Clarification on this point would be greatly appreciated.

Kind Regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR

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From: Matheou Tom [<mailto:TomMatheou@tfl.gov.uk>]

Sent: 21 April 2016 10:58

To: 'Samantha Wells' <Samantha.Wells@london.gov.uk>; Lloyd Bush <lloydbush@robertwest.co.uk>; Jonathan Aubrey <Jonathan.Aubrey@london.gov.uk>

Cc: 'Ben Ford' <ben.ford@quod.com>; 'Sophia Waugh' <sophia.waugh@quod.com>; John Mitri <john.mitri@cpcprojectservices.com>; 'Lee Goldberg (Meadow Res)' <lgoldberg@meadowres.com>; Peter Lumb (Meadow Res) <plumb@meadowres.com>

Subject: RE: Mill Hill Development - Pentavia Park

Lloyd,

Thank you for providing the scoping Transport Assessment. TfL has prepared its own Transport Assessment best practice guidance to assist developers in scoping out the environmental and transport impacts, each scheme should be assessed on its own merits through pre-application advice, but the guidance is a good starting point and should be referred to in the EIA scoping report, details can be found here: <http://www.tfl.gov.uk/info-for/urban-planning-and-construction/transport-assessment-guidance>

The scoping TA provided is found to be generally acceptable and follows the principles set out in TfL's best practice guidance

The TA should include a multi-modal impact assessment including baseline and future car, bus, Underground, pedestrian and cycle trips and the overall mode share based on relevant TRICS and TRAVL data. The sites suggested in the TA are acceptable, however, the level of parking proposed for commercial and residential aspects should be reflected in the sites chosen. Therefore TfL recommend discarding sites with higher parking ratios.

Car parking levels should be kept to the minimum required to support the development, a number of circumstances should be taken into consideration, such as traffic conditions, Public Transport Accessibility, quality of walking and cycling routes and air quality and environmental considerations. Given this the proposed 0.65 ratio is welcomed. Electric vehicle charging points will also be required, as will Blue Badge allocation in line with London Plan standards.

Cycle parking levels should reflect London Plan standards with parking provided in keeping with Best Practice Guidance, The London Cycle Design Standards.

The implications of construction traffic on the Transport for London Road Network (TLRN) will need to be agreed with TfL, the TA will need to assess the worst case peak hour impact and include any peaks and troughs throughout the life of the development. The impact of construction vehicles on buses, pedestrians and cyclists must also be considered. A Construction Logistics Plan will be required to supplement the TA.

A Travel Plan will be required for each use, for residential travel plans a 'Full' travel plan including 'Delivery and Servicing' will be required, in accordance with TfL's Travel planning best practice guidance, this should be referred to in the EIA scoping report.

Any site specific mitigation measures relating to TfL infrastructure and services must be secured through the s106 agreement. Planning conditions may be requested if appropriate and TfL may request that it is consulted prior to discharge of a condition.

The Mayor of London introduced his Community Infrastructure Levy (CIL) on 1 April 2012. Most development that receives planning permission after this date will be liable to pay this CIL. Further details can be found at: <http://www.london.gov.uk/publication/mayoral-community-infrastructure-levy>. The rate for Barnet is £35 per square metre.

Please do not hesitate to contact me if you wish to discuss the matters in this email any further,

Kind regards,

Tom

Tom Matheou | Assistant Planner
TfL Planning, Transport for London

E: TomMatheou@tfl.gov.uk

T: 020 3054 3649

A: 10th Floor, Windsor House, 42-50 Victoria Street, London SW1H 0TL

For more information regarding the TfL Borough Planning team, including TfL's Transport Assessment Best Practice Guidance, and pre-application advice please visit <http://www.tfl.gov.uk/info-for/urban-planning-and-construction/>



From: Samantha Wells [<mailto:Samantha.Wells@london.gov.uk>]

Sent: 19 April 2016 16:50

To: 'lloydbush@robertwest.co.uk'; Jonathan Aubrey; Matheou Tom

Cc: 'Ben Ford'; 'Sophia Waugh'; John Mitri; 'Lee Goldberg (Meadow Res)'; Peter Lumb (Meadow Res)

Subject: FW: Mill Hill Development - Pentavia Park

Thanks Lloyd – copying case officer and TfL lead in for action.

Kind regards,

Samantha Wells

Development & Projects

Tel: 020 7983 4266

From: Lloyd Bush [<mailto:lloydbush@robertwest.co.uk>]

Sent: 18 April 2016 10:46

To: Samantha Wells

Cc: 'Ben Ford'; 'Sophia Waugh'; John Mitri; 'Lee Goldberg (Meadow Res)'; Peter Lumb (Meadow Res)

Subject: Mill Hill Development - Pentavia Park

Dear Samantha,

Further to the GLA pre-app meeting held last month I attach a Transport Scoping Note in order to provide a further level of detail. I would be grateful if you could pass this on to the relevant officers at TfL for comment such that we can work towards defined scope for the Transport Assessment.

I am of course happy to discuss the content in due course should there be any queries.

Kind Regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR

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Our ref: 16/2887

Lloyd Bush, Associate
Robert West
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Transport for London
Group Planning

Windsor House
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London SW1H 0TL

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Email only

15th September 2016

Dear Lloyd,

A1 Watford Way, Pentavia Retail Park– TfL's pre-application advice

Thank you for seeking pre-application advice from TfL; the aim of which is to ensure that this development is successful in transport terms and in line with relevant London Plan policies.

This letter concerns the recent pre-application meeting that we held to discuss proposals for a residential-led mixed use development that will cater for up to 695 new residential units as well as additional retail, community and commercial uses. The following comments are made by Transport for London (TfL) officers on a 'without prejudice' basis only. You should not interpret them as indicating any subsequent Mayoral decision on any planning application based on the proposed scheme.

The meeting was held at TfL offices on 1st September 2016, with the following attendees:

Lloyd Bush	Robert West
Peter Lumb	Meadow Residential
Gareth Lewis	TfL Operational Property
Melvyn Dresner	TfL Borough Planning
Mark McHugh	TfL Road Space Management
Daniel Nichols	TfL Buses

We received an apology for non-attendance from Geoff Elwin and Robert O'Rourke from TfL Highway Operations. Melvyn Dresner visited the site on 5th September 2016.

Site and Surrounding Area

The local planning authority is the London Borough of Barnet.

TfL is the highway authority for the A1 Watford Way, which is part of the Transport for London Road Network (TLRN). This is the eastern boundary of the site. The A1 is a bridge structure that oversails Bunns Lane, which is to the north of the site and is local authority highway. Access between Bunns Lane and Watford Way is by separate stairs for the north and southbound carriageways and bus stops. For the northbound carriageway/ bus stop there is also a ramped access from Bunns Lane. There are access points onto and off the north bound carriageway only of the A1 from site, as this road is a dual carriageway.

The western boundary of the site is the M1 motorway. There is a disused slip road connecting the southbound lane of the M1 with the A1 southbound. The area east of the A1 is TfL operational land though not part of the TLRN. TfL expects to continue to use this land to help maintain the highway and wider transport network. The area under the A1 and up to the M1 is responsibility of Highways England, though this may change in the future.

The site is served by two bus routes; 113 and 221 with a frequency of five buses per hour on route 221 and has seven buses per hour on route 113. The nearest rail service are the Thameslink services at Mill Hill Broadway, currently at a distance of c. 850 metres. A direct pedestrian link from the site to Bunns Lane would help achieve the PTAL 3 referred to above. Other rail services are at Mill Hill East for Northern Line (over 2km), Burnt Oak (Northern Line) over 1.5km, Hendon Central also Northern Line (over 3km); note the latter is in fare zone 3.

Most of the site's Public Transport Accessibility Level (PTAL) is 1b, which is poor on a scale with 1a being the lowest and 6b being the highest accessibility. The area closest to Bunns Lane could achieve a PTAL of 3 though if a direct pedestrian access to Bunns Lane was provided. The area of the site closest to the M1 has a PTAL of 1a – the lowest possible.

Transport assessment

TfL advice is that you should prepare the transport assessment (TA) in line with TfL's Transport Assessment Best Practice Guidance available from:

<https://tfl.gov.uk/info-for/urban-planning-and-construction/transport-assessment-guidance>

Base Case

TfL understands that lawful use of the site is as a retail park. Currently however, most of the units are vacant and most of the car park is fenced off. We understand the last large major retail user left in 2015, though currently there is a temporary retail occupier on site.

We would therefore like to understand the impact of development against the observed current use of the site as well as the lawful permitted. We also consider the traffic generated by the permitted uses whereby you take account of retail uses attracting pass-by, diverted and linked trips should be justified. As this is not observed – it should be treated as a forecast and your methodology clearly set out so we can review if its accurate.

Residential Forecast/ Trip generation

The scoping note indicates the trip generation methodology was discussed with Barnet Council, and advise that both TfL and Barnet Council will need agree one set of trip assumptions. TfL would nonetheless expect a multi-modal trip assessment, as stated in my colleague Tom Matheou's email to you on 21st April 2016.

TfL would expect a person trip assessment is provide based on sites with similar characteristics to the proposal site. Data and evidence for mode of travel should also be provided in the TA.

The use of TRAVL data

TfL no longer maintains TRAVL and therefore, data within it maybe too old to be used for your current assessment. We only recommend use of TRAVL where you can show that is the best available source for your proposed land use.

We do however, support TRICS and new London data is being collected on a regular basis by TRICS.

TfL needs to audit your trip generation assumptions as they help us understand the impact on the highway network and bus network. For the latter its useful to understand peak hour bus demand and daily bus demand. Also, you should identify any linked bus trips in addition to bus as the main mode.

TfL is currently working to gain a better understanding of freight movements in London from developments. With online growth you should assess freight movements to the site in addition to any general vehicle trip rates, though we acknowledge that the TRICS data is limited in that respect, so you can propose other sources of data.

Vehicle Trip generation

You provide a comparison between your proposed vehicle trip rates and those accepted by Barnet Council elsewhere (Table 3.2 of your scoping note).

You should note that TfL has not agreed the trip rates in all these cases and you indicated that you are reviewing TRICS/ TRAVL site, and in same case TfL provided input some time ago.

You refer to the Colindale Area Action Plan as a bench mark for this site. TfL would suggest that the Inglis Barrack's site in Mill Hill East (which is under construction and partly occupied) maybe a better comparator as it has a similar level of accessibility to the most accessible part of your site.

TfL will not agree a vehicle trip rate in isolation from the full person trip assessment.

Non-Residential Trip Rates

Similar to the above comments on the use of TRAVL and person trips, the principle of assuming vehicle trip rates can be reduced to take account of pass-by and linked trips is accepted where verified by evidence. The exact percentage used seem reasonable, though TfL is unclear on the evidence for these specific assumptions.

Growth and Committed Development

You propose to use traffic growth assumptions from Colindale Area Action Plan model and local committed development. As a principle, TfL's only concern is being able to check the data sources and check the assumptions are applicable to this site.

Traffic Distribution

Your use of census data and the logic to be applied seems reasonable. However, how people route locally will be influenced by journey desitination (which is not known), available routes (which is known), personal choice (safest, most direct, most legible, linked) and traffic conditions or previous experience of traffic conditions. TfL suggests that variability should be assessed through local sensitivity tests.

Traffic Modelling

Any modelling prepared in the TA should be prepared in accordance with TfL Modelling Guidance. TfL set out a Model Audit Process that needs to be followed for any traffic models that you propose to submit to TfL and where traffic signal changes are proposed.

For the planning process, TfL undertakes checks of models submitted based on this guidance. We need to review your base model validation data before accepting a model is fit for purpose.

TfL has emerging proposals for Five-ways Corner and Mill Hill Circus junction that may be effected by your proposals. TfL will use your TA to assess this impact. We consider this from a multi-modal perspective; road safety, traffic impact and the need to encourage mode shift are all potential impact to consider.

The Design Manual for Roads and Bridges provides advice on assessing slip roads, diverges and merges. This is product of acceleration, deceleration, traffic speed and volume.

Site access

You propose to use existing access points onto and off the A1 for your residential scheme. You propose to create a new vehicle access onto Bunn's Lane. You need to make sure that the existing access points are fit for purpose – taking account of forecast demand, deliveries, freight movement, accident analysis, routing, legibility and vulnerable road users.

TfL considers that a direct pedestrian and cycle access onto Bunn's Lane is necessary for a residential use of the site and should be provided by the developer. We can support the provision of a vehicle access onto Bunn's Lane if the Council agrees the proposal can be provided safely and does not cause a detrimental impact– this is a decision for the highway authority.

TfL is most directly concerned about impact on the Transport for London Road Network (TLRN) and the bus network. In the case of the latter, TfL will work with the Council and would ask them to prioritise any offsite highway works where that aids bus reliability, bus access and accessibility. Any impact on the TLRN will be considered in context of your entire scheme combined with our emerging proposals referred to above. In doing so we may seek a financial contribution or require direct works in kind via s278 agreement.

TfL need safeguards in place to ensure works on site do not undermine the structural integrity of our highway structures (e.g. piling) or reduce our ability to access them for maintenance and inspection (gates, other physical measures). This will require compliance with our Technical Approval process and may require a legal agreement.

Bus

As stated above, you will need to assess bus demand for peak periods and daily. This should be assessed for each land use. Given the relative inaccessibility of the site, you should assume that for access to London Underground services that bus will be used.

Your assessment you assign trips to either routes 221 or 113 and use census data to assess direction of travel on these routes You should assess pedestrian routes to all bus stops that serve the site. Where there is a gap in bus stop provision that should be assessed. The criteria we seeking to confirm is from each 'front door' or building entrance is with within 400 metres of a bus stop. This is TfL's planning standard for a minimum level of service provision for any new home.

For people using route 113 southbound there is not a step free route to the nearest stop.

You should review all stops that serve the site against TfL Bus Stop Accessibility Guidance.

Pedestrian Routes

Figure 6.1 of the TA scoping note shows the extent of the proposed Pedestrian Review System (PERS) audit. You need to consider what interventions along the audited route can be implemented to encourage walking and set those out in the TA, similar should be undertaken for cycle routes.

We note the PERS audit includes Bunns Lane and Woodland Way to Mill Hill Broadway station. It should include the station access under the M1 as well as the access via the car park.

The audit includes part of Flower Lane – it should include the rest of Flower Lane as this links residents to the town centre and other public amenities located there.

TfL suggest the audit could be extended eastwards to include the Page Street junction as this connects to local schools along Pursley Road and provides access to sports facilities/ open space off Pursley Road.

Routes towards Grahame Park should be assessed as these includes footbridges and underpasses that could be improved.

The footway along both sides of the A1, bus stops and pedestrian subway and bridge links should be assessed including up to Five-ways Corner.

Any changes to the frontage of the site onto the TLRN will need to be designed with TfL Streets toolkit in mind:

<https://tfl.gov.uk/corporate/publications-and-reports/streets-toolkit>

Cycling and Cycle Parking

The developer should provide cycle parking in accord with London Plan cycle standards including visitor cycling parking and 5 per cent larger stands.

Local cycle routes will need to be assessed against London Cycle Design Standards Cycle Level of Service, which include the following:

- The A1 from Mill Hill Circus to Greenland Road, south of Five-ways Corner, where there are links to the south and north.
- Along Flower Lane, Bunns Lane, Watling Avenue (towards Burnt Oak) and Grahame Park Way (towards Colindale)

In addition, you should review any local proposals to improve cycle routes and any local routes identified by the Council.

TfL recommends both a pedestrian and cycle wayfinding strategy should be prepared. TfL can provide further advice on this aspect though its important this is discussed with the Council as well as TfL.

Car parking

TfL generally supports a restrained approach to car parking provision. We base this on evidence that lower parking provision reduces car use. The TfL publication, 'Residential Parking Provision In New Developments' is available below.

https://www.london.gov.uk/sites/default/files/gla_migrate_files_destination/TfL%202012%20residential-parking-provision-new-development.pdf

TfL acknowledges however, that the contrary view is available in other publications. We also note the Outer London Commission published advice taking account of TfL and other evidence at:

https://www.london.gov.uk/sites/default/files/gla_migrate_files_destination/OLC%20Fourth%20Report%20Part%201_0.pdf

For other advice and reports on the matter, you should also refer to:

<https://www.london.gov.uk/about-us/organisations-we-work/outer-london-commission-olc/outer-london-commission-fourth-report>

The site is close to the boundary between Mill Hill and Colindale wards. 80% of households in Mill Hill own one or more cars according to 2011 Census. 29% of people use a car to get to work. In Colindale, 60% of people own one or more cars, and 19% of people travel to work by car. The applicant proposes 534 spaces for 695 households, that is 76% of households would have access to a car parking spaces. Given it proposed to be private rented flats including affordable housing, TfL would encourage a lower car parking ratio than proposed. Car club and car sharing can help reduce the need to own a car and help reduce local congestion.

We expect that Blue Badge provision and Electric Vehicle Charging Points would be provided in accord with the London Plan.

You should also note TfL advice on air quality and active travel with regards the need for car parking constraint.

Air Quality and Active Travel

TfL promotes through its Healthy Transport Action Plan active travel, see link here: <https://tfl.gov.uk/corporate/about-tfl/corporate-and-social-responsibility/transport-and-healthcare>

You should show how you are promoting active travel among residents and visitors through the Travel Plan, using onsite and offsite measures.

TfL expects that as part of the assessment of facilities at this site you need to consider air quality, given the location between major roads. We note that the layout of the site creates an area between the buildings including a larger area of public space that should meet noise and air quality standards for public parks with various ground floor uses. Its also welcome your propose to keep on site vehicle traffic outside this area whilst enabling pedestrian links (and a pocket park) to Bunns Lane to be incorporated into your layout.

TfL supports the development of a green estate and tree planting next and within the TLRN. However, any tree or other planting next to TfL highway or within TfL highway boundary would need to discussed and agreed with TfL. For journeys to central London by bus and underground people are likely to want to use the 113 bus stops, so in your design you need to consider walking routes to these stops and routes along the A1.

Travel planning

You are required to provide a residential travel plan, and reference should be made to TfL's travel plan guidance available from:

<https://www.tfl.gov.uk/info-for/urban-planning-and-construction/travel-plans>

TfL recommends that the ATTrBuTE assessment tool which is available at www.attrbute.org.uk, is used when developing the travel plans, to ensure that the content and scope complies with TfL best practice guidance.

We welcome the provision of a car club and other forms of shared transport. We expect the development will promote the use of local bus services, LU and rail services through the Travel Plan, as well as cycling and walking.

Freight

TfL would expect the applicant to provide a draft Construction Logistics Plan (including confirmation that all construction activity including deliveries can be undertaken without stopping, encroaching, oversailing or queuing back on the TLRN) and draft Delivery and Servicing Plan as part of the TA. This should show no overspill effects and promotes of good practice. Guidance on how to produce these documents in line with TfL's best practice can be found at:

<https://tfl.gov.uk/info-for/freight/planning/construction-logistics-plans> and <https://tfl.gov.uk/info-for/freight/planning/delivery-and-servicing-plans>

We expect that management of deliveries and vehicular servicing will be provided on site with a book system and facilities to store material so avoiding a return visit. Routing to the site will need to be considered when confirming the address of the site.

Community Infrastructure Levy

In accordance with London Plan policy 8.3, *Community Infrastructure Levy*, the Mayor commenced CIL charging for developments permitted on or after 1 April 2012. The relevant Mayoral charge is £35 per square metre Gross Internal Area (GIA) and further details can be found at:

<http://www.london.gov.uk/publication/mayoral-community-infrastructure-levy>

Summary

TfL considers that there are considerable challenges associated with promoting a high density residential development on a site that currently has a moderate PTAL, as well as the poor air quality given the close proximity of the A1 and M1 and the severance created by these roads. TfL therefore expects that Barnet Council and the developer will want to see improvements to local transport links to facilitate the development based on robust assessment of impact. The key elements of that assessment are;

1. **Base Case** – the TA should provide details of the current operations of the site and lawful use including observed operation.
2. **Multi-modal assessment** – any forecast within the TA needs to include all modes and any assumptions should be supported by evidence to support validity.
3. **Traffic models** – need to be shown to be fit for purposes and in accord with TfL Modelling Guidance including the provision of validation data.
4. **Site Accesses** – all existing and proposed should shown to work safely for all modes likely to use them.
5. **Bus Demand** – the TA should include valid bus trip estimates to assess by route and by direction. Depending on the outcome TfL may seek a five year subsidy to mitigate the cost of increasing local services.
6. **Pedestrian and Cycle Routes** - TfL would like to see improved pedestrian and cycle links to Bunns Lane and Mill Hill Broadway, we would also like to see assessment (PERS, CLOS) and proposed improvements to pedestrian and cycle routes to other destinations locally including those using the A1.
7. **Cycling and Cycle Parking** – spaces need to be provided in accord with London Plan standards, also the internal cycle routes should link into the wider cycling network.
8. **Car Parking ratio** should be lower than local car ownership levels taking account of car ownership in Mill Hill and Colindale wards and low car use and policy requirement to promote sustainable and active travel.
9. **TLRN**, we need to assess on a basis of robust traffic forecast the likely impact on the TLRN and local highway network. If offsite highway measures are necessary, TfL will support the Council in securing measures or will seek to secure those relevant to the TLRN.
10. **Integration** - It is important that the site integrates with the existing community and nearby growth areas at Grahame Park and Mill Hill East

through contributing to improved bus, cycle and pedestrian links with aid that integration.

11. **Mitigation** – the TA should set out what mitigation it is proposing in terms of demand management, on-site improvements and off-site measures and how they will be secured.

Should you wish to discuss any part of this letter, please contact Melvyn Dresner (melvyn.dresner@tfl.gov.uk - 020 3054 8034)

Yours sincerely,



Lucinda Turner
Acting Director of Borough Planning
Email: Lucindaturner@tfl.gov.uk
Direct line: 020 3054 7133

Copy to;

All at meeting and those unable to attend
Danny Calver Technical Manager Borough Planning
Mervyn Bartlett Barnet Council/ RE
Jude Freeman Barnet Council/ RE

To: Lloyd Bush
Cc: 'Samantha Wells'; Jonathan Aubrey
Subject: RE: Mill Hill Development - Pentavia Park

Lloyd,

I have just been in communication with RSM trying to understand a bit more about the Mill Hill Circus roundabout scheme and they have requested as part of the TA that you model the predicted Traffic into the site and a road safety audit of the exit onto the A41 Watford way.(In Fig1:- shown in Blue) Depending on the Traffic Impact Assessment results the demographic of the customer base radius will have an impact of extra traffic using Mill Hill Circus and Fiveways Corner. This needs to be taken into consideration to mitigate for congestion along this part of the TLRN.

In regards to the bellow email about Mill Hill Circus roundabout I can't at this stage know whether the scheme will have any fundamental changes to junctions.



Kind regards,

Tom

From: Lloyd Bush [<mailto:lloydbush@robertwest.co.uk>]
Sent: 19 May 2016 08:52
To: Matheou Tom
Cc: 'Samantha Wells'; Jonathan Aubrey
Subject: RE: Mill Hill Development - Pentavia Park

Tom,

Many thanks for the swift reply. On that basis, I suspect the view would be that any changes wouldn't form a material consideration for an application on our site currently given that the proposed changes are not committed? However, it would be useful to understand if the proposed changes would purely improve the operation of the junction or whether there would be any fundamental changes to how traffic might be distributed in the area (i.e. any current turns being banned etc.

Kind Regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR
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From: Matheou Tom [<mailto:TomMatheou@tfl.gov.uk>]
Sent: 18 May 2016 16:24
To: Lloyd Bush
Cc: 'Samantha Wells'; Jonathan Aubrey
Subject: RE: Mill Hill Development - Pentavia Park

Lloyd,

TfL do have a possible scheme in the pipeline, however it is dependant on LB Barnet agreeing a deed of dedication for a piece of green space land off Mill Hill Circus for use as TLRN highway. As this is currently being investigated there is no timeline that I can give you at the moment however the soonest date would be October.

Thanks

Tom

From: Lloyd Bush [<mailto:lloydbush@robertwest.co.uk>]
Sent: 18 May 2016 14:13
To: Matheou Tom
Cc: 'Samantha Wells'; Jonathan Aubrey
Subject: RE: Mill Hill Development - Pentavia Park

Tom,

My client has been informed that there are plans to improve Mill Hill Circus Roundabout, will you be able to confirm if there are any planned improvements to this junction? If so are you able to provide me with a programme of when construction work is proposed to start and when it is due for completion?

Kind Regards

Lloyd

From: Matheou Tom [<mailto:TomMatheou@tfl.gov.uk>]

Sent: 22 April 2016 14:42

To: Lloyd Bush <lloydbush@robertwest.co.uk>; 'Samantha Wells' <Samantha.Wells@london.gov.uk>; Jonathan Aubrey <Jonathan.Aubrey@london.gov.uk>

Cc: 'Ben Ford' <ben.ford@quod.com>; 'Sophia Waugh' <sophia.waugh@quod.com>; John Mitri <john.mitri@cpcprojectservices.com>; 'Lee Goldberg (Meadow Res)' <lgoldberg@meadowres.com>; Peter Lumb (Meadow Res) <plumb@meadowres.com>

Subject: RE: Mill Hill Development - Pentavia Park

Lloyd,

Apologies for missing that off. TfL would like to see modelling for the junctions at:

- A1/ Page street;
- Bunns Lane access;
- Bunns Lane/ Graham Park Way;
- A1/The Broadway (to Mill Hill Circus);
- and Page Street / Pursley Road (due to the sensitivity of the junction with two mini roundabouts and school traffic in the area).

TfL would also expect the TA to provide justification for retaining the access from the A1.

Kind regards,

Tom

Tom Matheou | Assistant Planner
TfL Planning, Transport for London

E: TomMatheou@tfl.gov.uk

T: 020 3054 3649

A: 10th Floor, Windsor House, 42-50 Victoria Street, London SW1H 0TL

For more information regarding the TfL Borough Planning team, including TfL's Transport Assessment Best Practice Guidance, and pre-application advice please visit <http://www.tfl.gov.uk/info-for/urban-planning-and-construction/>



From: Lloyd Bush [<mailto:lloydbush@robertwest.co.uk>]

Sent: 22 April 2016 12:14

To: Matheou Tom; 'Samantha Wells'; Jonathan Aubrey

Cc: 'Ben Ford'; 'Sophia Waugh'; John Mitri; 'Lee Goldberg (Meadow Res)'; Peter Lumb (Meadow Res)

Subject: RE: Mill Hill Development - Pentavia Park

Tom,

Thank you for your reply to the Transport Scoping Note, all of which is in accordance with our understanding.

One query which was raised within the note but not specifically commented upon within your response relates to the scope of junction modelling. Can you confirm you would not require modelling to be undertaken on the junctions of:

- A1 / Page Street; and
- A1 / The Broadway.

This is with specific reference to para 6.8 of the note.

Clarification on this point would be greatly appreciated.

Kind Regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR

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From: Matheou Tom [<mailto:TomMatheou@tfl.gov.uk>]

Sent: 21 April 2016 10:58

To: 'Samantha Wells' <Samantha.Wells@london.gov.uk>; Lloyd Bush <lloydbush@robertwest.co.uk>; Jonathan Aubrey <Jonathan.Aubrey@london.gov.uk>

Cc: 'Ben Ford' <ben.ford@quod.com>; 'Sophia Waugh' <sophia.waugh@quod.com>; John Mitri <john.mitri@cpcprojectservices.com>; 'Lee Goldberg (Meadow Res)' <lgoldberg@meadowres.com>; Peter Lumb (Meadow Res) <plumb@meadowres.com>

Subject: RE: Mill Hill Development - Pentavia Park

Lloyd,

Thank you for providing the scoping Transport Assessment. TfL has prepared its own Transport Assessment best practice guidance to assist developers in scoping out the environmental and transport impacts, each scheme should be assessed on its own merits through pre-application advice, but the guidance is a good starting point and should be referred to in the EIA scoping report, details can be found here: <http://www.tfl.gov.uk/info-for/urban-planning-and-construction/transport-assessment-guidance>

The scoping TA provided is found to be generally acceptable and follows the principles set out in TfL's best practice guidance

The TA should include a multi-modal impact assessment including baseline and future car, bus, Underground, pedestrian and cycle trips and the overall mode share based on relevant TRICS and TRAVL data. The sites suggested in the TA are acceptable, however, the level of parking proposed for commercial and residential aspects should be reflected in the sites chosen. Therefore TfL recommend discarding sites with higher parking ratios.

Car parking levels should be kept to the minimum required to support the development, a number of circumstances should be taken into consideration, such as traffic conditions, Public Transport Accessibility, quality of walking and cycling routes and air quality and environmental considerations. Given this the proposed 0.65 ratio is welcomed. Electric vehicle charging points will also be required, as will Blue Badge allocation in line with London Plan standards.

Cycle parking levels should reflect London Plan standards with parking provided in keeping with Best Practice Guidance, The London Cycle Design Standards.

The implications of construction traffic on the Transport for London Road Network (TLRN) will need to be agreed with TfL, the TA will need to assess the worst case peak hour impact and include any peaks and troughs throughout the life of the development. The impact of construction vehicles on buses, pedestrians and cyclists must also be considered. A Construction Logistics Plan will be required to supplement the TA.

A Travel Plan will be required for each use, for residential travel plans a 'Full' travel plan including 'Delivery and Servicing' will be required, in accordance with TfL's Travel planning best practice guidance, this should be referred to in the EIA scoping report.

Any site specific mitigation measures relating to TfL infrastructure and services must be secured through the s106 agreement. Planning conditions may be requested if appropriate and TfL may request that it is consulted prior to discharge of a condition.

The Mayor of London introduced his Community Infrastructure Levy (CIL) on 1 April 2012. Most development that receives planning permission after this date will be liable to pay this CIL. Further details can be found at: <http://www.london.gov.uk/publication/mayoral-community-infrastructure-levy>. The rate for Barnet is £35 per square metre.

Please do not hesitate to contact me if you wish to discuss the matters in this email any further,

Kind regards,

Tom

Tom Matheou | Assistant Planner
TfL Planning, Transport for London

E: TomMatheou@tfl.gov.uk

T: 020 3054 3649

A: 10th Floor, Windsor House, 42-50 Victoria Street, London SW1H 0TL

For more information regarding the TfL Borough Planning team, including TfL's Transport Assessment Best Practice Guidance, and pre-application advice please visit <http://www.tfl.gov.uk/info-for/urban-planning-and-construction/>



From: Samantha Wells [<mailto:Samantha.Wells@london.gov.uk>]

Sent: 19 April 2016 16:50

To: 'lloydbush@robertwest.co.uk'; Jonathan Aubrey; Matheou Tom

Cc: 'Ben Ford'; 'Sophia Waugh'; John Mitri; 'Lee Goldberg (Meadow Res)'; Peter Lumb (Meadow Res)

Subject: FW: Mill Hill Development - Pentavia Park

Thanks Lloyd – copying case officer and TfL lead in for action.

Kind regards,

Samantha Wells

Development & Projects

Tel: 020 7983 4266

From: Lloyd Bush [<mailto:lloydbush@robertwest.co.uk>]

Sent: 18 April 2016 10:46

To: Samantha Wells

Cc: 'Ben Ford'; 'Sophia Waugh'; John Mitri; 'Lee Goldberg (Meadow Res)'; Peter Lumb (Meadow Res)

Subject: Mill Hill Development - Pentavia Park

Dear Samantha,

Further to the GLA pre-app meeting held last month I attach a Transport Scoping Note in order to provide a further level of detail. I would be grateful if you could pass this on to the relevant officers at TfL for comment such that we can work towards defined scope for the Transport Assessment.

I am of course happy to discuss the content in due course should there be any queries.

Kind Regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR

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Lloyd Bush

From: Lloyd Bush
Sent: 08 September 2016 20:42
To: 'Dresner Melvyn (ST)'
Subject: RE: Scoping Note

Melvyn,

Not sure what happened earlier but we appeared to get cut off.

These are the 2016 recorded flows on the links. I should also note that the flows in the tables provided previously were 2026 growthed flows that include committed development and the flows that could be generated by the existing site uses if fully operational under its permission.

Link Name	AM Peak Hour			PM Peak Hour		
	All Vehicles	HGV's	HGV %	All Vehicles	HGV's	HGV %
Page Street	1009	14	1.39%	969	4	0.41%
The Broadway	1037	74	7.14%	1022	46	4.50%
A1 (North of Mill Hill Circus)	3745	199	5.31%	4229	115	2.72%
Lawrence Street	936	28	2.99%	1027	20	1.95%
A1 (South of Mill Hill Circus)	4200	200	4.76%	4568	106	2.32%
A1 (North of Page Street)	3890	193	4.96%	3541	99	2.80%
Hall Lane	63	9	14.29%	73	4	5.48%
A41 Watford Way	2951	146	4.95%	3451	77	2.23%
A1 (South of A41)	2122	68	3.20%	1185	34	2.87%

Kind regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR
Direct Dial 020 7939 9975 General Office 020 7939 9916

From: Lloyd Bush
Sent: 08 September 2016 15:02
To: 'Dresner Melvyn (ST)' <Melvyn.Dresner@TfL.gov.uk>
Subject: RE: Scoping Note

Melvyn,

Thank you for your time last week. Apologies that I haven't sent you any updated information sooner, but as you can imagine we are trying to pull a whole load of things together for the application. No worries if this doesn't get built into your comments as broadly the information is as discussed. The information provided here is subject to change, but I do not envisage anything significant occurring between now and submission.

Development Schedule

Use	Quantum	Details
C3 - Residential	695 Units	1 bedroom – 224 2 bedroom – 374 3 bedroom – 97 65% PRS 35% Affordable rented
C3 Ancillary	1,629 sqm	PRS related use
A1 – Convenience Store	723.31 sqm	-
A1 – Dry Cleaners	80.45 sqm	-
A1 - Hairdressers	32.55 sqm	-
A3 / A4 – Restaurant / Pub	445.66 sqm	-
A3 – Coffee Shop / Café	110.95 sqm	-
D2 – Healthcare / Nursery	284.04 sqm	-

Trip Generation

The trip generation has been undertaken in accordance with the scoping note and has been agreed with LBB. The table below indicates the net development impact (i.e. Development – Extant use).

Mode	AM Peak Period			PM Peak Period			Daily	
	Arr	Dep	Total	Arr	Dep	Total	Arr	Dep
Car	5	124	129	54	3	57	166	131
Underground	46	116	161	65	44	109	586	619
Train	9	24	33	13	9	23	121	127
Bus	21	51	72	27	21	48	257	273
Walking	28	41	69	9	32	41	210	240
Cycling	0	6	6	6	1	7	43	35
Taxi	0	1	1	3	3	5	-3	-13
Coach	0	0	0	0	0	0	0	0
Motorcycle	0	11	11	2	0	3	20	19
HGV	0	0	0	0	0	0	0	0

Proposed Parking

	Residential	Retail	Leisure	Total Development
Disabled Parking Bays				
with Elec Charging	10	1	0	11
with Passive Elec Charging Provision	10	0	0	10
Standard	28	3	0	31
Total	48	4	0	52
Standard Parking Bays				
with Elec Charging	86	6	0	92
with Passive Elec Charging	86	6	0	92
Standard	259	39	0	298
Total	431	51	0	482

All Car Parking				
Total	479	55	0	534
Cycle Parking				
Long Stay (internal)	1166	9	1	1176
Short Stay (external)	19	34	3	56
Total	1185	43	4	1232

It is recognised that the 55 parking spaces proposed falls short of the 57 that would be required by application of the London Plan Standards. However, a high proportion of trips to these uses will be made by the residential development and will not require parking to the same level as a stand commercial use to which the same parking standards might apply. A parking accumulation exercise has been undertaken based on the daily trip generation assessment which has indicated that sufficient space has been provided to cater for demand, and this will be presented within the TA.

Change in flows on TfL's junctions

Trip assignment has been undertaken in accordance with the scoping note and as agreed with LBB. The table below indicates the change in flow on the approaches to TfL's junctions (Mill Hill Circus and Fiveways).

AM Peak Hour

Link Name	Base Flow		Change in Flow		% Change	
	All vehicles	HGV's	All vehicles	HGV's	All Vehicles	HGV's
Page Street	1071	15	35	0	3.3%	0.0%
The Broadway	1084	77	3	0	0.3%	0.0%
A1 (North of Mill Hill Circus)	3893	206	60	0	1.5%	0.0%
Lawrence Street	978	29	4	0	0.4%	0.0%
A1 (South of Mill Hill Circus)	4385	207	36	0	0.8%	0.0%
A1 (North of Page Street)	4138	200	-74	0	-1.8%	0.0%
Hall Lane	65	9	0	0	0.0%	0.0%
A41 Watford Way	3101	151	2	0	0.1%	0.0%
A1 (South of A41)	2252	71	-10	0	-0.4%	0.0%

PM Peak Hour

Link Name	Base Flow		Change in Flow		% Change	
	All vehicles	HGV's	All vehicles	HGV's	All Vehicles	HGV's
Page Street	1053	4	-1	0	-0.1%	0.0%
The Broadway	1103	49	-5	0	-0.5%	0.0%
A1 (North of Mill Hill Circus)	4486	121	49	0	1.1%	0.0%
Lawrence Street	1101	21	-5	0	-0.5%	0.0%
A1 (South of Mill Hill Circus)	4916	112	-51	0	-1.0%	0.0%
A1 (North of Page Street)	3904	105	-94	0	-2.4%	0.0%
Hall Lane	77	4	0	0	0.0%	0.0%
A41 Watford Way	3700	81	-9	0	-0.2%	0.0%

A1 (South of A41)	1336	36	-41	0	-3.1%	0.0%
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Details relating to the exact movements and the relevant modelling will be contained within the TA.

Hopefully the above is some assistance.

Kind regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR

Direct Dial 020 7939 9975 General Office 020 7939 9916

From: Dresner Melvyn (ST) [<mailto:Melvyn.Dresner@TfL.gov.uk>]
Sent: 31 August 2016 10:48
To: Lloyd Bush <loydbush@robertwest.co.uk>
Cc: O'Rourke Robert <Robert.ORourke@tfl.gov.uk>; Lewis Gareth (Op Property) <GarethLewis@tfl.gov.uk>; markmchugh (road space management) <Mark.McHugh@TfL.gov.uk>; Nichols Daniel <DanielNichols@tfl.gov.uk>
Subject: RE: Scoping Note

Dear All,

I noticed I can't delete the previous version of the agenda from the e-invite.

Attached is the latest version. Happy to update – I am not sure if all TfL people will attend from the beginning – so we may need to improvise at the time.

Regards
Melvyn

From: markmchugh (road space management)
Sent: 31 August 2016 10:38
To: Dresner Melvyn (ST); Nichols Daniel
Cc: O'Rourke Robert; Lewis Gareth (Op Property)
Subject: RE: Scoping Note

Cool

Thanks

McH

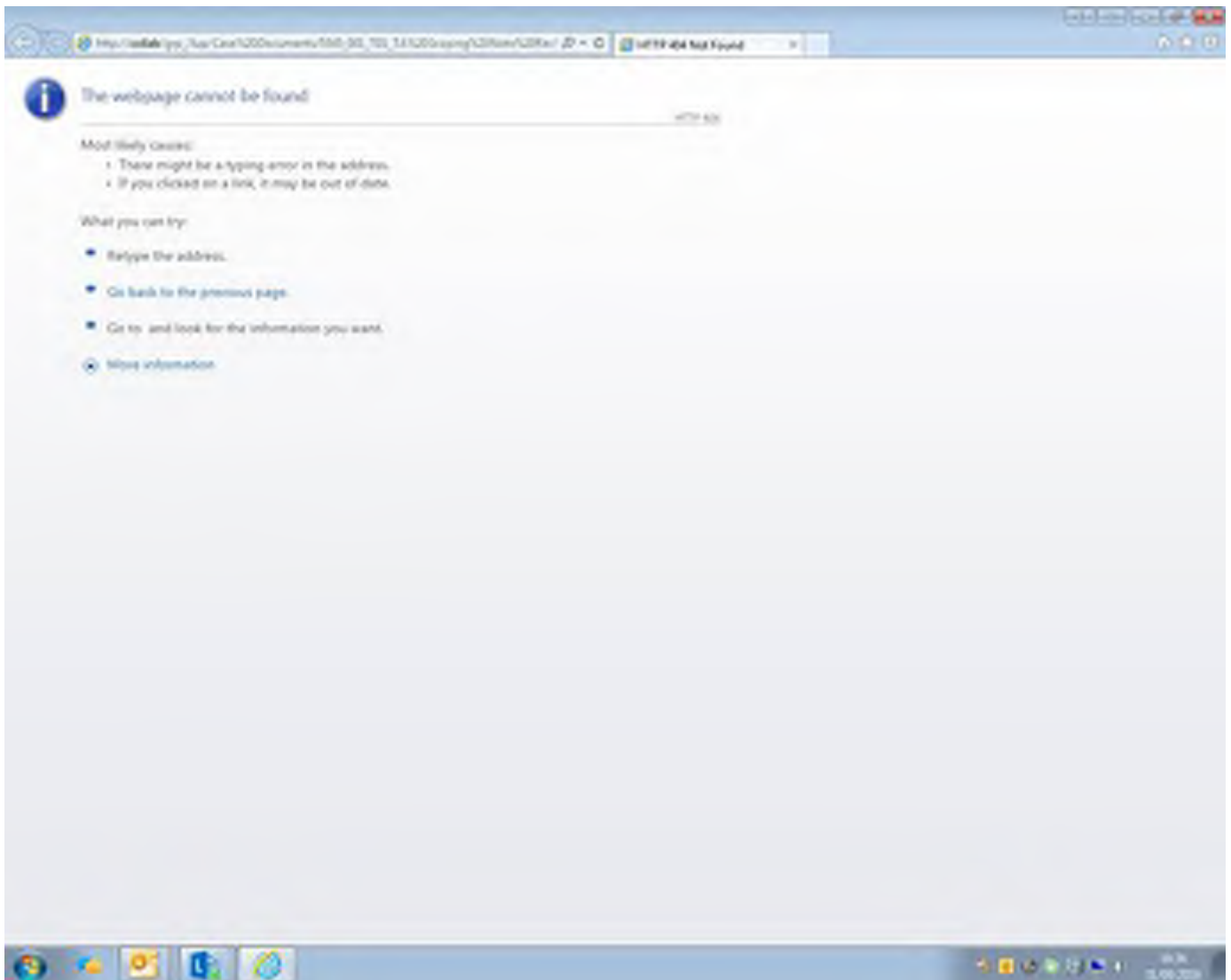
From: Dresner Melvyn (ST)
Sent: 31 August 2016 10:38
To: markmchugh (road space management); Nichols Daniel
Cc: O'Rourke Robert; Lewis Gareth (Op Property)
Subject: RE: Scoping Note

Attached....

From: markmchugh (road space management)
Sent: 31 August 2016 10:37
To: Dresner Melvyn (ST); Nichols Daniel

Cc: O'Rourke Robert; Lewis Gareth (Op Property)
Subject: RE: Scoping Note

The computer says NO



From: Dresner Melvyn (ST)
Sent: 31 August 2016 10:34
To: markmchugh (road space management); Nichols Daniel
Cc: O'Rourke Robert; Lewis Gareth (Op Property)
Subject: RE: Scoping Note

Mark,
Does this link work?

http://collab/grp/_lup/Case%20Documents/5545_001_T01_TA%20Scoping%20Note%20Rev%20A%202010.08.2016.pdf

From: markmchugh (road space management)
Sent: 31 August 2016 10:33
To: Dresner Melvyn (ST); Nichols Daniel
Cc: O'Rourke Robert; Lewis Gareth (Op Property)
Subject: RE: Scoping Note

Morning ,

I tried to open it as well but no data is within the file .

http://collab/grp/_/lup/_layouts/lup/CaseNumberReport.aspx?id=19111 the scoping note for Pentavia Retail Park.

Thanks

Mark

Mark McHugh

Senior Sponsor (Outer North Area - TLRN Boroughs of Barnet , Brent, Enfield , Haringey)
RSM Sponsorship | Road Space Management Directorate | Transport for London

Transport for London, 3rd Floor Palestra, 3Y5 Zone, 197 Blackfriars Road, Southwark, London SE1 8NJ . E:
<mailto:mark.mchugh@tfl.gov.uk> T: +44 (0)2030540806 | Int: 80806 Tel: **Mobile:** 07590600434

Creating reliable, efficient, safer and healthier transport choices



From: Dresner Melvyn (ST)
Sent: 31 August 2016 10:18
To: markmchugh (road space management); Nichols Daniel
Cc: O'Rourke Robert; Lewis Gareth (Op Property)
Subject: Scoping Note

Dear All,

It quite a long one with various correspondence included. I will read it before tomorrow. However, if you're able to review after the meeting please do.

Melvyn Dresner

Principal Technical Planner| North Team| Borough Planning

Transport for London
10th Floor Windsor House
42-50 Victoria Street
SW1H 0TL

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Transport Assessment Scoping Note (Rev A)

The following comments are based on a review of the Transport Assessment Scoping Note (Rev A) by Robert West Consulting Limited issued on 10th August 2016 by Transport and Regeneration Services. For ease of reference, the comments are set out as per the scoping note.

1.3 The London Borough of Barnet (LBB) response to the previous Technical Note are not provided as an appendix. This must be added please.

1.25 Typo 'Woofdland Way'

2.3 Due to existing traffic congestion on Bunns Lane any new vehicular connection between the development and this road will need to demonstrate it can be safely accommodated and have nil detriment.

2.5 Robust entry and exit control measures must be installed to restrict and discourage any through movement. Full details of such control measures will be required for approval, and are expected to be conditioned under any planning consent. Details of access for emergency vehicles / visitors / deliveries, provision of a 24 hour concierge, the 'U' turn capability at the barrier and associated stacking provision will be required.

2.11 Residents travelling from the site to O/D2 will make a difference route choice with and without provision of the Bunns Lane link.

2.23 This states: *'It is further anticipated that a pedestrian link to the A1 from the site will be provided on its eastern boundary. This is anticipated to provide access to bus services on the A1 for all residents, particularly those located on the eastern extents of the site.'* The TA will be required to identify access for disabled people to the southbound A1 bus stop.

2.26 Details of the operation of the proposed shuttle buses will be required, with frequency in the peak hour based on observed journey times.

2.31-2.39 Whilst the improved linkage to Mill Hill Broadway and Burnt Oak stations are welcomed, the proposed changes to the methodology of PTAL calculation means comparisons to other sites (by this methodology) are not meaningful.

2.43 In the meeting of 6th May 2016, Transport and Regeneration Services did request further evidence regarding parking provision at private rented accommodation. However, this was not required *'in order to consider any proposal that did not accord with the maximum standards of DM17.'* A higher parking figure was being sought by Transport and Regeneration Services within the range and not the maximum of the standards provided.

2.47 This states: *'Given the specific setting of the site and its size, it is not considered practical that any resident who might not have access to a car parking space would seek to own a car and keep it off site in*



the surrounding area. It will be people who have no desire for, or cannot afford car ownership, who will rent at the development without parking allocation. Transport and Regeneration Services concern is renting residents who can afford a car but are unwilling or unable to pay for a car parking space.

2.52/5.23 Provision of 615 car parking spaces for 689 units, resulting in a ratio of 0.89 spaces per unit may be acceptable. However, the split in bedrooms per unit is required. To provide base information and assist in the planning process, parking surveys should still be undertaken. However, due to the increase in the parking ratio the extent of the surveys on the adjacent streets can be reduced. Please see Appendix C comments.

2.53 Use of stacking system is acceptable provided that details of robust management arrangements in the event of an operational failure are provided and agreed.

2.54/2.58 The details of the London Plan provision for retail parking should be set out within the TA to enable comparison to the proposed 55 spaces to be undertaken. Until this comparison is provided, together with the details of the summarised demand, the proposed retail parking figure cannot be agreed.

3.13 Typo 'PLAL 2'

3.14 Although slightly lower than the CAAP trip rates, the differences is only 8 vehicles in the AM departure figures and 15 in the PM arrival peak. It is therefore acceptable.

Table 3.5 / 3.6 The non-residential trip rates generated are acceptable.

Table 3.7 The link and pass-by figures are acceptable.

Table 3.8 The total figures for retail in the PM peak and residential in the AM and PM peaks do not tie into Tables 3.5 and 3.4.

Table 3.11 Extant flows have been subtracted but no account has been made of linked and passby trips associated with this use – all are assumed to be new to the network, which is not considered realistic.

4.2 The queue length data, to indicate any existing congestion that may impact on route choice, is not provided as Appendix D but as Appendix L. The results do show significant queues on Bunns Lane at the Bunns Lane/Grahame Park Way Roundabout with figures of 29 and 25 vehicles in the AM and PM peaks respectively. However, these longer queues are only observed for a 5 minutes in each peak and therefore unlikely to impact on routing. Therefore, the trip distributions are agreed.

4.9 Typo 'James David'

5.1 Bunns Lane / Woodcroft Avenue is missing from the proposed junction list

6.9 Existing demand on the bus services being affected should be stated, to identify any shortfall in spare capacity.

7.1 This seeks agreement on the following issues:



*i. Confirmation that the residential trip generation revised in accordance to the discussion on 3rd August is acceptable; - **Yes***

*ii. Confirmation that the trip distribution revised in accordance to the discussion on 27th July and 3rd August is acceptable; - **Yes***

*iii. Confirmation whether the committed developments; Mill Hill East / Millbrook Park development are required to be assessed or whether these are included within the Growth Factors derived from CAAP Model; - **Mill Hill East / Millbrook Park development are not included within the Growth Factors derived from CAAP Model and are required to be assessed.***

*iv. Confirmation on whether overnight parking beat survey in the surrounding streets is required and whether the proposed survey area and the methodology included in Appendix C is acceptable; - **A parking beat survey is required, the details of which are detailed within the comments associated with Appendix C.***

*v. Confirmation on whether the Journey Time Surveys to support the proposal and assessment of shuttle bus provision is required and whether the proposed extent of the survey and the methodology included in Appendix C is sufficient. - **Yes***

Appendix B

There are some detailed Highway design queries, which will be discussed at the next meeting. However, proposed levels at the new junction with Bunns Lane must be provided.

Appendix C

The Parking surveys should be undertaken for two nights on Tuesday, Wednesday or Thursday during school term time with the survey to cover a two-minute walk-time from the application site, covering all roads where cars park within 200 metres of the site. The surveys should be based on the Lambeth methodology, as per the attached.

1.9 / 1.14 These state: *'The strategy for shuttle bus service is expected to rely on the use both Bunns Lane Car Park and Watling Avenue Car Park to facilitate passengers boarding and alighting and is subject to agreement with LBB. It is expected that agreement with LBB to lease car parking spaces will be possible as this arrangement will ensure that services take place within designated areas and will not collide with other users in the vicinity of the stations.'*

'Furthermore, a view on the proposed strategy to facilitated shuttle bus stopping with the Bunns Lane Car Park and Watling Avenue Car Park is required and recommendations in regards to formalising the agreement is sought.'

Car Parks in Barnet are managed by an LBB Client team, and Transport and Regeneration Services are in liaison with them in order to confirm whether the above is acceptable or not. An update will be provided as soon as possible.



1.12/1.13 The scope of the journey time surveys for the shuttle buses, with the provision of the results in an addendum, to support robust assumptions set within the TA, are acceptable.

To Note:

Any trees on public land/ adopted highway which are proposed to be cut down in order to allow new connecting roads/ junctions to be built need to be identified.

Details of any liaison by the developer with local councillors e.g. ward councillors in September 2015, and associated traffic / highways comments, should be provided.

The notes of consultation meetings the applicant has undertaken e.g. 24/25th November 2015, which have been repeatedly requested, should be provided.

Direct and safe links that are accessible to all should be provided to adjacent, local primary / secondary schools. The review should therefore include a review of the subway and footbridge to Grahame Park Way, with proposed improvements.

The design of the proposals should take into account London Borough of Barnet's Draft Developer's Design Guide, and current applicable standards.

To minimise the impact of the development on the highway network, Travel Plans for the residential, leisure and commercial developments, with associated targets and monitoring, will be required, as well as a Servicing and Delivery Strategy, a Construction Transport Management Plan and a Car Parking Management Plan.

The collection of refuse will be required to be in accordance with London Borough of Barnet's policies with refuse to be located within 10m of the highway for collection.

It is likely that any approved application will require contributions to be made to improve local sustainable transport modes in order to help support the new residential community. The developer will also need to fund offsite highway works that may be considered necessary to mitigate any detrimental impacts of the development.

Lloyd Bush

From: Dresner Melvyn (ST) <Melvyn.Dresner@TfL.gov.uk>
Sent: 13 December 2016 17:59
To: Lloyd Bush
Cc: Charleton Patricia
Subject: RE: 16/6420/FUL A1 Watford Way, Pentavia Retail Park– Borough Response

Thanks Lloyd,

I've not had a chance to respond in detail. In principal, we support your approach to reducing car parking ratio and revising trip generation. We generally support reducing traffic impact by generating less traffic.

We would like to work with the Borough on the assessment. So I suggest after our meeting on the 19th December, we set up a session with LBB.

My more detail comments below.

Regards
Melvyn

From: Lloyd Bush [mailto:lloydbush@robertwest.co.uk]
Sent: 13 December 2016 16:18
To: Dresner Melvyn (ST)
Subject: RE: 16/6420/FUL A1 Watford Way, Pentavia Retail Park– Borough Response

Melvyn,

I've had a review of this and have tried to set things out so as to make it clear the process of selection chosen.

Revised Site Selection (see attachment)

I've firstly looked back over the list of available TRAVL Sites, and have indicated those previously used in the first column. Given that the developer now proposes a 0.5 parking ratio, I have deemed it reasonable to focus the selection on sites that have a ration of great than 0, and not more than 1. The comments area sets out the reasoning for selection or discounting. I note I have kept a site previously used that has a parking ratio of greater than one and sacrificed a site with slightly lower than 1 due to it's Barnet location. This enables the average ratio to be kept closer to that proposed.

TfL: In principal acceptable.

Revised Site Selection Summary (see attachment)

This summarise the change from those sites previously used, and those now proposed. You will note that the average parking ration is now closer to 0.5 (albeit still greater for a robust assessment), and that the average PTAL is comparable to the site at 2. It is suggested that these sites will provide a more comparable trip rate for application to the proposal now that it provides 0.5 spaces per unit.

TfL: Where we used older data, it worth considering what has changed. Locally, captured in the Census 2001 vs 2011. Also, need to consider growth in online shopping. Also, TfL Travel in London Reports provide info on travel change in London. For TfL and Borough's satisfaction.

Revised Peak Hour Vehicle Trip Rates (see attachment)

I have processed the new sites to generate a revised trip rate, applied it to the new development (note old development was 695 units, new is 685). I have then drawn some comparisons of the resultant from the amendment. The change appears reasonable given the shift in comparable parking ratio (0.96 in old assessment, to 0.63 in the revised).

TfL: Generally, this goes in the right direction. However, to address concerns that you may be relying on out of data you can refer to other data sources to verify your assessment.

Also, they maybe residual highway impact issues that need addressing.

I would be grateful if you could comment. Or even give me a quick call. Given the time constraints we are keen to make progress on amendments that rely on the having some comfort that the selected sites are appropriate.

Kind regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR

Direct Dial 020 7199 6301

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From: Lloyd Bush

Sent: 13 December 2016 13:41

To: Dresner Melvyn (ST) <Melvyn.Dresner@TfL.gov.uk>

Subject: RE: 16/6420/FUL A1 Watford Way, Pentavia Retail Park– Borough Response

Hi Melvyn,

Thanks for getting back to me. The review was in response to this comment:

“for the development at this high density to be acceptable to TfL we need to see a reduction in car use compared to observed car-use locally. We also note with long walk access to LU services - we expect an increase in bus use that requires the developer to pump prime bus services and a need to tackle traffic congestion where this impacts on bus service reliability”

The team has interpreted that we need to demonstrate a lower level of vehicle trips; and that a higher number of PT trips would be expected by TfL as a result, in order for the development to be deemed acceptable. Given that a suggested maximum parking ratio of 0.6 is given, and that the trip generation was based on comparable sites of a greater ratio than 0.6 (the sites selected actually have an average of near 1:1) it seemed reasonable that you were asking us to re-assess to demonstrate something TfL would consider more realistic. Given that the developer is willing to take TfL’s advice in regard of parking and amend the proposal to provide parking at 0.5 parking spaces per unit, it still seems sensible to re-assess such that relevant impact are defined.

My main concern is timescales as I’m being asked to make progress this week. I have noted your comments in regard of inner locations / PTAL. My intention would be to identify sites in an outer locations, PTAL average of 2-3, and average parking ratio of somewhere approaching the 0.5 spaces per unit proposed.

I recognise that this is just one part of what will be a wider strategy. My main intention of the meeting would be to scope out what might be required in terms of detail for on and off-site infrastructure improvements.

Maybe a quick 5 minute phone call will suffice for now until we meet on Monday?

Kind Regards

Lloyd Bush, Associate 



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Direct Dial 020 7199 6301 General Office 020 7939 9916

From: Dresner Melvyn (ST) [<mailto:Melvyn.Dresner@TfL.gov.uk>]
Sent: 13 December 2016 12:58
To: Lloyd Bush <lloydbush@robertwest.co.uk>
Subject: RE: 16/6420/FUL A1 Watford Way, Pentavia Retail Park– Borough Response

Hi Lloyd,
Can we discuss when we meet? If you send anything today, I not sure I have time to review.

In my Borough Response, I'm not critical of the trip assumptions/ mode split. I'm seeking mode shift from that baseline, and we can discuss how realistic that aspiration is?

Use of inner London trip rates to set a target in outer London with a low PTAL could be a struggle.

Melvyn Dresner

Principal Technical Planner| North Team| Borough Planning

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SW1H 0TL

Tel: (020) 3054 7034 | Auto: 87034

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 *Please consider the environment before printing this e-mail*

From: Lloyd Bush [<mailto:lloydbush@robertwest.co.uk>]
Sent: 13 December 2016 11:57
To: Dresner Melvyn (ST)
Subject: RE: 16/6420/FUL A1 Watford Way, Pentavia Retail Park– Borough Response

Melvyn,

I am beginning to re-assess the site selection for the residential trip generation to bring it in line with TfL's comments (that they would expect to see less vehicle, more PT trips), and this will likely be helped by consideration of a reduction in car parking provision (0.5 spaces per unit, revised No. Units 685).

I tried calling, but appreciate you are likely busy with time of year and pending leave. Ideally I don't want to go too far into the revised trip gen without some input from TfL on the site selection. Will you be available to comment if I set out the difference in sites between what has currently been submitted and what I would suggest. As a starter, it would be useful to know if TfL would be minded to accept 'inner' sites, and those with PTAL upto 4. I would try to limit these where possible, but there are no too many TRAVL sites available with low parking ratios to select from.

Ideally looking to send something over today and get an opinion?

Kind Regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR

Direct Dial 020 7199 6301 General Office 020 7939 9916

From: Dresner Melvyn (ST) [<mailto:Melvyn.Dresner@TfL.gov.uk>]
Sent: 12 December 2016 15:32
To: Lloyd Bush <lloydbush@robertwest.co.uk>
Cc: 'Peter Lumb (Meadow Res)' <plumb@meadowres.com>; 'Ben Ford' <ben.ford@quod.com>; 'Lee Goldberg (Meadow Res)' <goldberg@meadowres.com>; 'Sophia Rainsford' <sophia.rainsford@quod.com>; 'Neil Wells' <neil.wells@quod.com>; 'John Mitri' <john.mitri@cpcprojectservices.com>
Subject: RE: 16/6420/FUL A1 Watford Way, Pentavia Retail Park– Borough Response

Hi Lloyd,

I've just sent you an electronic invite for 19th December at 3pm.

Is that ok? It will be at Windsor House, our office near to St James Park station, on Victoria Street

Regards

Melvyn Dresner

Principal Technical Planner| North Team| Borough Planning

Transport for London
10th Floor Windsor House
42-50 Victoria Street
SW1H 0TL

Tel: (020) 3054 7034 | Auto: 87034

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From: Lloyd Bush [<mailto:lloydbush@robertwest.co.uk>]
Sent: 12 December 2016 13:19
To: Dresner Melvyn (ST)
Cc: 'Peter Lumb (Meadow Res)'; 'Ben Ford'; 'Lee Goldberg (Meadow Res)'; 'Sophia Rainsford'; 'Neil Wells'; 'John Mitri'
Subject: RE: 16/6420/FUL A1 Watford Way, Pentavia Retail Park– Borough Response

Melvyn,

No problem. It's the time of year where it's difficult to get diary dates.

Monday afternoon would be useful from my perspective? 3pm?

Kind Regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR
Direct Dial 020 7199 6301 General Office 020 7939 9916

From: Dresner Melvyn (ST) [<mailto:Melvyn.Dresner@TfL.gov.uk>]
Sent: 12 December 2016 13:11
To: Lloyd Bush <lloydbush@robertwest.co.uk>
Cc: 'Peter Lumb (Meadow Res)' <plumb@meadowres.com>; 'Ben Ford' <ben.ford@quod.com>; 'Lee Goldberg (Meadow Res)' <goldberg@meadowres.com>; 'Sophia Rainsford' <sophia.rainsford@quod.com>; 'Neil Wells' <neil.wells@quod.com>; 'John Mitri' <john.mitri@cpcprojectservices.com>
Subject: RE: 16/6420/FUL A1 Watford Way, Pentavia Retail Park– Borough Response

Hi Lloyd,
Sorry, I've not been at my desk today. I'm on leave from Wednesday, and back on 19th December. Today and tomorrow, I'm relatively busy, so would rather not meet this week.

W/c 19th December may availability is any day apart from Monday morning (12th) or Tuesday afternoon (13th).

I'm back in the new year – on w/c 9th January.

Melvyn Dresner

Principal Technical Planner | North Team | Borough Planning

Transport for London
10th Floor Windsor House
42-50 Victoria Street
SW1H 0TL

Tel: (020) 3054 7034 | **Auto:** 87034

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 *Please consider the environment before printing this e-mail*

From: Lloyd Bush [<mailto:lloydbush@robertwest.co.uk>]
Sent: 12 December 2016 11:12
To: Dresner Melvyn (ST)
Cc: 'Peter Lumb (Meadow Res)'; 'Ben Ford'; 'Lee Goldberg (Meadow Res)'; 'Sophia Rainsford'; 'Neil Wells'; 'John Mitri'
Subject: RE: 16/6420/FUL A1 Watford Way, Pentavia Retail Park– Borough Response

Melvyn,

Further to my e-mail below I have been unable to reach you by telephone. I think your mailbox may also be full as the automated system tells me that it is unable to receive messages.

Myself and the team are keen to address some of the issues raised within the TfL feedback, but require some discussion on scope and resolutions to ensure we do so appropriately. If you are able to suggest some availability I would be grateful.

Kind Regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR

Direct Dial 020 7199 6301 General Office 020 7939 9916

From: Lloyd Bush
Sent: 07 December 2016 15:20
To: 'Dresner Melvyn (ST)' <Melvyn.Dresner@Tfl.gov.uk>
Cc: Peter Lumb (Meadow Res) <plumb@meadowres.com>; Ben Ford <ben.ford@quod.com>; 'Lee Goldberg (Meadow Res)' <lgoldberg@meadowres.com>; Sophia Rainsford <sophia.rainsford@quod.com>; Neil Wells <neil.wells@quod.com>; 'John Mitri' <john.mitri@cpcprojectservices.com>
Subject: RE: 16/6420/FUL A1 Watford Way, Pentavia Retail Park– Borough Response

Melvyn,

Further to the receipt of Tfl's comments on the application and the GLA's Stage 1 report we would like to engage with you to endeavour to satisfy some of your comments. I would be grateful if we would be able to arrange a meeting at your earliest convenience. If you could send over some dates and times for the next week/s we will get something booked in.

Kind regards

Lloyd

From: Dresner Melvyn (ST) [<mailto:Melvyn.Dresner@Tfl.gov.uk>]
Sent: 21 November 2016 12:00
To: 'harriet.beattie@barnet.gov.uk' <harriet.beattie@barnet.gov.uk>; 'Freeman, Jude' <Jude.Freeman@Barnet.gov.uk>; 'david.james@capita.co.uk' <david.james@capita.co.uk>
Cc: 'Jonathan Aubrey' <Jonathan.Aubrey@london.gov.uk>; Charleton Patricia <PatriciaCharleton@Tfl.gov.uk>; Lloyd Bush <lloydbush@robertwest.co.uk>; Nichols Daniel <DanielNichols@tfl.gov.uk>; markmchugh (road space management) <Mark.McHugh@Tfl.gov.uk>; Neves Andre <AndreNeves@tfl.gov.uk>
Subject: 16/6420/FUL A1 Watford Way, Pentavia Retail Park– Borough Response

Hi Harriet,

Please find attached my response to the above application.

I've copied to the applicants' consultant for their information, and colleagues who have provided advice/ input to date.

You or the applicant should contact me to help overcome Tfl concerns, suggest this is done jointly with your transport colleagues. This is likely to require one or more meetings.

I'm preparing my advice today to GLA, which will focus on strategic transport aspects of this proposal, though I'm keen to tackle the detail matters as these feed into the strategic issues.

Melvyn Dresner

Principal Technical Planner| North Team| Borough Planning

Transport for London
10th Floor Windsor House
42-50 Victoria Street
SW1H 0TL

Tel: (020) 3054 7034 | Auto: 87034

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C3 - Resi

Used in TA ?		TRAVL								LBB Previous Comments	RW December Comments
Survey Code	Name	Borough	Survey Date	PTAL	Area	Total Parking	ResUnits				
	242	Coverley Close	TOWER HAMLETS	11/03/1998	3	Inner	0	14	0.00		Car Free / lack of parking ratio information
	649	Winchester Mews	CAMDEN	18/09/2008	3	Inner	0	22	0.00		Car Free / lack of parking ratio information
	650	Green Dragon House	CAMDEN	11/09/2008	6	Inner	0	29	0.00		Car Free / lack of parking ratio information
	289	Longfield Avenue	BARNET	07/06/2000	2	Outer	0	129	0.00		Car Free / lack of parking ratio information
	241	Rougemont Avenue Residential	MERTON	20/08/1997	2	Outer	0	195	0.00		Car Free / lack of parking ratio information
	237	Heath field Park	REDBRIDGE	22/04/1998	2	Outer	0	240	0.00		Car Free / lack of parking ratio information
	254	Exeter Road / Edison Close	WALTHAM FOREST	03/02/1999	3	Outer	11	84	0.13		Survey too old
	888	Swainson Road	EALING	02/12/2009	3	Outer	24	159	0.15		New Selection for trip gen
	699	Watson House & Havilland House	HARROW	24/02/2009	2	Outer	11	49	0.22		New Selection for trip gen
	1113	Kilburn Wells	BRENT	27/11/2013	6	Outer	55	133	0.41		PTAL too High
	1082	Sewardstone Road	TOWER HAMLETS	14/06/2012	3	Inner	28	67	0.42		Inner location
	255	Frazer Close	HAVERING	24/03/1999	4	Outer	50	116	0.43		Survey too old
	467	St George Wharf (Affordable)	LAMBETH	24/05/2006	6	Inner	76	173	0.44		Inner location
	1059	Merryweather Place	GREENWICH	03/11/2011	4	Inner	104	226	0.46		Inner location
	268	Porter Square	ISLINGTON	14/07/1999	2	Inner	27	40	0.68		Inner location
YES	388	Grand Union Village (Private)	HILLINGDON	13/09/2005	2	Outer	186	253	0.74	Acceptable: Tuesday	Continue to use
	714	Chelsea Bridge Wharf	WANDSWORTH	03/06/2009	4	Inner	690	893	0.77	Inner	
	452	St George Wharf (Aff & Priv)	LAMBETH	25/04/2006	6	Inner	226	291	0.78		Inner location
	415	Bed Zed - Mixed Use Site	SUTTON	09/03/2005	3	Outer	84	101	0.83	Use survey 418 (below)	Site discounted upon review of surveys due to lack of
	418	Bed Zed - Private Residential	SUTTON	09/03/2005	3	Outer	84	101	0.83	Acceptable: Wednesday	peak hour information / 0.000 trip rates
	680	Grosvenor Waterside	WESTMINSTER	22/10/2008	2	Central	252	295	0.85	Central	Central location
	886	St George Wharf (Aff and Priv)	LAMBETH	22/10/2009	6	Inner	793	927	0.86		Inner location
YES	400	Chad Cres. etc (Affordable)	ENFIELD	13/07/2005	1	Outer	100	111	0.90	Acceptable: Tuesday	Continue to use
	841	Imperial Wharf (Aff & Priv)	HAMMERSMITH & FULHAM	02/12/2009	2	Inner	1157	1263	0.92	Inner	Inner location
	558	Discovery Dock	TOWER HAMLETS	04/06/2008	4	Inner	180	192	0.94	Inner	Inner location
	185	Rootes Estate	KENSINGTON & CHELSEA	16/07/1997	2	Inner	293	297	0.99		Inner location
	390	Coopers Court (Private)	EALING	22/09/2005	5	Outer	77	77	1.00		PTAL too High
YES	391	Tysoe Ave-Private Affordable	ENFIELD	13/07/2005	1	Outer	84	84	1.00	Acceptable: Wednesday	Removed in favour of site 398
	326	Osier Crescent	HARINGEY	04/07/2001	1	Inner	85	85	1.00		Inner location
	250	Coopers Close	TOWER HAMLETS	11/03/1998	3	Inner	75	74	1.01		Parking Ratio too high for consideration
YES	398	Pavilion Way (Private)	BARNET	19/10/2004	1	Outer	280	269	1.04	Acceptable: Tuesday	Parking Ratio high but to remain due to comparable location
	262	Lee Conservancy Road	HACKNEY	05/05/1999	2	Inner	124	119	1.04		Parking Ratio too high for consideration
	885	Kew Riverside Park (Aff and Pri)	RICHMOND UPON THAMES	01/12/2009	1	Outer	202	192	1.05		Parking Ratio too high for consideration
	290	Yeats Close	BRENT	15/03/2000	2	Outer	112	104	1.08	More recent surveys available. Has a high parking ratio	Parking Ratio too high for consideration
	887	Riverside West (Priv and Aff)	WANDSWORTH	20/10/2009	5	Inner	578	533	1.08		Parking Ratio too high for consideration
	469	Kew Riverside (Affordable)	RICHMOND UPON THAMES	04/05/2006	2	Outer	166	150	1.11		Parking Ratio too high for consideration
	522	Stanley Close	GREENWICH	24/04/2008	3	Inner	175	156	1.12		Parking Ratio too high for consideration
	448	Putney Wharf (Private units)	WANDSWORTH	08/09/2005	6	Inner	240	209	1.15		Parking Ratio too high for consideration
	395	Clarence Close (Private)	BARNET	02/11/2004	3	Outer	120	104	1.15	Adjacent New Barnet Station and has a high parking ratio	Parking Ratio too high for consideration
	281	Watergardens	SUTTON	08/03/2000	4	Outer	321	276	1.16		Parking Ratio too high for consideration
	216	Burdetts Road Estate	BARKING & DAGENHAM	10/09/1997	1	Outer	430	343	1.25		Parking Ratio too high for consideration
	466	Kew Riverside (Aff & Priv)	RICHMOND UPON THAMES	04/05/2006	2	Outer	690	550	1.25		Parking Ratio too high for consideration
	465	St George Wharf (Private)	LAMBETH	24/05/2006	6	Inner	150	118	1.27		Parking Ratio too high for consideration
YES	468	Kew Riverside (Private)	RICHMOND UPON THAMES	04/05/2006	2	Outer	512	400	1.28		Parking Ratio too high for consideration
	844	Battersea Reach (private units)	WANDSWORTH	22/10/2009	4	Inner	650	440	1.48		Parking Ratio too high for consideration
	1032	Orchard Court	HAVERING	21/07/2011	2	Outer	147	97	1.52		Parking Ratio too high for consideration
	1098	Great West Quarter	HOUNSLOW	06/03/2013	2	Outer	1221	616	1.98		Parking Ratio too high for consideration
	521	Osier Crescent	HARINGEY	02/05/2007	1	Inner	270	116	2.33		Parking Ratio too high for consideration
TRICS											
	HO-03-C-02	TRICS Site	BRENTFORD	30/09/2014	3	Outer	64	86	0.74	Acceptable	Previously discounted upon review due to abnormally low vehicle trip generation by vcomparision to similar sites
YES	EN-03-K-03	TRICS Site	ENFIELD	05/05/2015	3	Outer	50	68	0.74	Acceptable	
YES	EN-03-C-01	TRICS Site	ENFIELD	13/04/2016	2	Outer	16	16	1.00	Acceptable	Removed to reduce Parking ratio + noted that it is a small unit site

Sites Used in Original TA

Site No	Site Ref	Survey Date	Location	PTAL	Unit No.	Parking	Parking Rate
1	388	13/09/2005	Hillingdon	2	253	186	0.74
2	391	13/07/2005	Enfield	1	84	84	1
3	398	19/10/2004	Barnet	1	269	280	1.04
4	400	13/07/2005	Enfield	1	111	100	0.9
5	468	04/05/2006	Richmond Upon Thames	2	400	512	1.28
6	EN-03-K-03	05/05/2015	Enfield	3	68	50	0.74
7	EN-03-C-01	13/04/2016	Enfield	2	16	16	1

 Sites to be removed

Parking Ratio too high
 Kept due to Barnet Location
 Parking Ration too high
 Parking Ration too high

Ave 1.71 172 175 0.96

1st Amendments

Site No	Site Ref	Survey Date	Location	PTAL	Unit No.	Parking	Parking Rate
1	388	13/09/2005	Hillingdon	2	253	186	0.74
3	398	19/10/2004	Barnet	1	269	280	1.04
4	400	13/07/2005	Enfield	1	111	100	0.9
5							
6	EN-03-K-03	05/05/2015	Enfield	3	68	50	0.74
7							
8	699	24/02/2009	Harrow	2	49	11	0.22
9	888	02/12/2009	Ealing	3	159	24	0.15

 Sites Added
 Sites removed

Ave 2.00 152 109 0.63

Vehicle Trips

Old

Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate (per unit)			Trip Generation		
Morning Peak (08:00-09:00)	0.066	0.207	0.274	46	144	190
Afternoon Peak (17:00-18:00)	0.173	0.092	0.264	120	64	184

New

Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate (per unit)			Trip Generation		
Morning Peak (08:00-09:00)	0.042	0.141	0.183	29	96	125
Afternoon Peak (17:00-18:00)	0.128	0.083	0.211	88	57	144

Net Change

Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate (per unit)			Trip Generation		
Morning Peak (08:00-09:00)	-0.024	-0.066	-0.091	-17	-48	-65
Afternoon Peak (17:00-18:00)	-0.045	-0.009	-0.053	-32	-7	-40

% Change

Peak Periods	Arrivals	Departures	Total	Arrivals	Departures	Total
	Trip Rate (per unit)			Trip Generation		
Morning Peak (08:00-09:00)	-36%	-32%	-33%	-37%	-33%	-34%
Afternoon Peak (17:00-18:00)	-26%	-10%	-20%	-27%	-11%	-22%

Milena Lipska

From: Matheou Tom <TomMatheou@tfl.gov.uk>
Sent: 19 May 2016 16:15
To: Lloyd Bush
Cc: 'Samantha Wells'; Jonathan Aubrey; Lee Goldberg (Meadow Res)
Subject: RE: Mill Hill Development - Pentavia Park

Lloyd,

For advice on how to model please see TfL's traffic modelling guidance (<http://content.tfl.gov.uk/traffic-modelling-guidelines.pdf>). This should give you all the advice that you need on what is expected.

The need for the safety audit is required as the development will increase vehicular car and pedestrian movements around the site. Whilst it is understood that the current car park can accommodate 350 vehicles TfL do not expect the previous use generated high traffic flows. Moreover, this particular junction has sightline concerns for acceleration lane. Given this, a safety audit is required to understand if any mitigation would be required.

Regards,

Tom

From: Lloyd Bush [mailto:lloydbush@robertwest.co.uk]
Sent: 19 May 2016 16:02
To: Matheou Tom
Cc: 'Samantha Wells'; Jonathan Aubrey; Lee Goldberg (Meadow Res)
Subject: RE: Mill Hill Development - Pentavia Park

Tom,

Further to the below, it is understood from previous correspondence that we would be required to model the impact of the development on the current operation of Mill Hill Circus and A1 / Page Street (I assume this is your reference to five ways corner). In terms of the modelling assessment for these junctions can you confirm your requirements for validation / calibration, as if we are to follow the MAP process I am aware that the surveying costs for Sat flow, DoS, and queuing can be quite significant.

In regard of providing a safety audit in relation to the site access onto the A1, can you confirm why this would be necessary. There are no proposals to alter the geometry of the existing slip road, and this has historic use with the site as a retail park with circa 350 parking spaces and associated traffic generation. I do not believe the development to be introducing any additional demand or alterations to layout, and therefore do not believe it necessary for a safety audit to be provided.

Kind Regards

Lloyd Bush, Associate 



Delta House, 175-177 Borough High Street, London, SE1 1HR

Direct Dial 020 7939 9975

General Office 020 7939 9916

From: Matheou Tom [mailto:TomMatheou@tfl.gov.uk]
Sent: 19 May 2016 15:20

Appendix B

SITE INVENTORY AND PARKING BEAT SURVEY

Row Labels	BUS STOP	DOUBLE YELLOW	DOUBLE YELLOW/DROP KERB	DROP KERB	PERMIT HOLDER	UNRESTRICTED BAY	ZIG ZAG	Restricted Carriageway	ACCESS/DROP KERB	DROP KERB/SINGLE YELLOW	SINGLE YELLOW - DESIRABLE	DISABLED BAY	KEEP CLEAR	DROP KERB/PEDESTRIAN CROSSING	CYCLE LANE	Total
PAGE STREET SERVICE ROAD			0	11	13	0	13	0	3	12	2	7	7			24
PAGE STREET		36		3					3	12	2		7			74
TITHE WALK			12	64					1	1	2	1				81
BUNNS LANE	10	7	0	1	35		20		3	26	178		7	4		291
COLENZO DRIVE			10	47			10		0	0	2					69
LADYSMITH CLOSE			0	11			7									18
ROWLANDS CLOSE			2	55			33		4	0	1					95
GRAHAME PARK WAY	3	78	0				30		11				6		223	351
FLOWER LANE				1					3	4	90					98
COPTHALL DRIVE			13	63						1						77
HILLSIDE GROVE			13	45												58
COPTHALL GARDENS			3	26						0						29
TITHE CLOSE			6	25			4		1							36
Total	13	121	0	60	46	351	20	97	26	44	275	1	20	4	223	1301

BEAT	STREET NAME	Regulation	Waiting Restrictions	LENGTH	No of bays	20-Sep	21-Sep
1	PAGE STREET SERVICE ROAD	Restricted Carriageway		5.7	1		
1	PAGE STREET SERVICE ROAD	DROP KERB		4.7	0		
1	PAGE STREET SERVICE ROAD	ACCESS/DROP KERB		4.1	0		
1	PAGE STREET SERVICE ROAD	UNRESTRICTED BAY		29.2	5	1	3
1	PAGE STREET SERVICE ROAD	DROP KERB	PED	2.2	0		
1	PAGE STREET SERVICE ROAD	UNRESTRICTED BAY		21.2	4	4	4
1	PAGE STREET SERVICE ROAD	DROP KERB	PED	2.0	0		
1	PAGE STREET SERVICE ROAD	UNRESTRICTED BAY		12.0	2	2	1
1	PAGE STREET	UNRESTRICTED BAY		18.3	3	1	3
1	PAGE STREET	ACCESS/DROP KERB		8.1	1		
1	PAGE STREET	DROP KERB/SINGLE YELLOW		6.7	1		
1	PAGE STREET	PERMIT HOLDER	ON EVENT DAYS 1-6PM	8.2	1	1	1
1	PAGE STREET	DROP KERB/SINGLE YELLOW		9.6	1		
1	PAGE STREET	PERMIT HOLDER	ON EVENT DAYS 1-6PM	9.1	1	1	1
1	PAGE STREET	DROP KERB/SINGLE YELLOW		5.7	1		
1	PAGE STREET	PERMIT HOLDER	ON EVENT DAYS 1-6PM	8.0	1	1	0
1	PAGE STREET	DROP KERB/SINGLE YELLOW		7.3	1		
1	PAGE STREET	PERMIT HOLDER	ON EVENT DAYS 1-6PM	9.0	1	2	2
1	PAGE STREET	DROP KERB/SINGLE YELLOW		5.5	1		
1	PAGE STREET	PERMIT HOLDER	ON EVENT DAYS 1-6PM	5.5	1	1	1
1	PAGE STREET	DROP KERB/SINGLE YELLOW		13.7	2		
1	PAGE STREET	PERMIT HOLDER	ON EVENT DAYS 1-6PM	5.8	1		1
1	PAGE STREET	DROP KERB/SINGLE YELLOW		6.1	1		
1	PAGE STREET	PERMIT HOLDER	ON EVENT DAYS 1-6PM	9.9	1	2	1
1	PAGE STREET	DROP KERB/SINGLE YELLOW		5.5	1		
1	PAGE STREET	PERMIT HOLDER	ON EVENT DAYS 1-6PM	6.8	1	1	0
1	PAGE STREET	DROP KERB/SINGLE YELLOW		8.0	1		
1	PAGE STREET	PERMIT HOLDER	ON EVENT DAYS 1-6PM	9.3	1	0	1
1	PAGE STREET	DROP KERB/SINGLE YELLOW		5.5	1		
1	PAGE STREET	PERMIT HOLDER	ON EVENT DAYS 1-6PM	9.6	1	1	1
1	PAGE STREET	DROP KERB/SINGLE YELLOW		5.4	1		
1	PAGE STREET	PERMIT HOLDER	ON FOOTWAY, ON EVENT D	8.9	1	0	1
1	PAGE STREET	DROP KERB/SINGLE YELLOW		2.8	0		
1	PAGE STREET	SINGLE YELLOW - DESIRABLE		10.1	2		
1	TITHE WALK	SINGLE YELLOW - DESIRABLE		3.4	0		
1	TITHE WALK	DROP KERB/SINGLE YELLOW		8.8	1		
1	TITHE WALK	DROP KERB	PED	2.2	0		
1	TITHE WALK	UNRESTRICTED BAY		36.3	7	3	2
1	TITHE WALK	DROP KERB		2.9	0		
1	TITHE WALK	UNRESTRICTED BAY		11.4	2		
1	TITHE WALK	DROP KERB		2.9	0		
1	TITHE WALK	UNRESTRICTED BAY		8.2	1	1	1
1	TITHE WALK	DROP KERB		9.6	1		
1	TITHE WALK	UNRESTRICTED BAY		8.4	1	1	0
1	TITHE WALK	DROP KERB		6.2	1		
1	TITHE WALK	UNRESTRICTED BAY		9.3	1	1	1
1	TITHE WALK	DROP KERB		6.4	1		
1	TITHE WALK	UNRESTRICTED BAY		10.9	2	2	0
1	TITHE WALK	DROP KERB		2.9	0		
1	TITHE WALK	UNRESTRICTED BAY		11.1	2	2	2
1	TITHE WALK	DROP KERB		3.3	0		
1	TITHE WALK	UNRESTRICTED BAY		11.0	2	0	2
1	TITHE WALK	DROP KERB		5.0	1		
1	TITHE WALK	UNRESTRICTED BAY		12.8	2	2	2
1	TITHE WALK	DROP KERB		5.0	1		
1	TITHE WALK	UNRESTRICTED BAY		11.5	2	2	2
1	TITHE WALK	DROP KERB		5.0	1		
1	TITHE WALK	UNRESTRICTED BAY		12.1	2	2	2
1	TITHE WALK	DROP KERB		2.9	0		
1	TITHE WALK	UNRESTRICTED BAY		4.9	0	1	1
1	TITHE WALK	DROP KERB		2.9	0		
1	TITHE WALK	UNRESTRICTED BAY		12.0	2	1	1
1	TITHE WALK	DROP KERB		4.7	0		
1	TITHE WALK	UNRESTRICTED BAY		7.4	1	1	
1	TITHE WALK	DROP KERB	NOT IN USE	2.7	0		
1	TITHE WALK	UNRESTRICTED BAY		32.8	6	1	1
1	TITHE WALK	DROP KERB	PED	3.1	0		
1	TITHE WALK	ACCESS/DROP KERB		8.9	1		
1	TITHE WALK	DROP KERB		4.2	0		
1	TITHE WALK	UNRESTRICTED BAY		6.7	1		
1	TITHE WALK	DROP KERB		3.0	0		
1	TITHE WALK	UNRESTRICTED BAY		13.0	2	1	
1	TITHE WALK	DROP KERB		5.6	1		
1	TITHE WALK	UNRESTRICTED BAY		7.8	1	1	
1	TITHE WALK	DROP KERB		3.1	0		
1	TITHE WALK	UNRESTRICTED BAY		12.4	2	2	1

1	TITHE WALK	DROP KERB		2.9	0		
1	TITHE WALK	UNRESTRICTED BAY		12.4	2	2	2
1	TITHE WALK	DROP KERB		3.0	0		
1	TITHE WALK	UNRESTRICTED BAY		12.7	2	2	2
1	TITHE WALK	DROP KERB		2.9	0		
1	TITHE WALK	UNRESTRICTED BAY		13.1	2	2	2
1	TITHE WALK	DROP KERB		3.6	0		
1	TITHE WALK	UNRESTRICTED BAY		11.8	2	2	2
1	TITHE WALK	DROP KERB		3.5	0		
1	TITHE WALK	UNRESTRICTED BAY		12.9	2	2	2
1	TITHE WALK	DROP KERB		5.3	1		
1	TITHE WALK	UNRESTRICTED BAY		11.8	2	1	1
1	TITHE WALK	DROP KERB		6.9	1		
1	TITHE WALK	UNRESTRICTED BAY		7.0	1	1	1
1	TITHE WALK	DISABLED BAY		6.5	1	1	1
1	TITHE WALK	DROP KERB		6.0	1	1	
1	TITHE WALK	UNRESTRICTED BAY		7.1	1		1
1	TITHE WALK	DROP KERB		2.7	0		
1	TITHE WALK	UNRESTRICTED BAY		10.1	2	1	1
1	TITHE WALK	DROP KERB		6.0	1	1	1
1	TITHE WALK	UNRESTRICTED BAY		7.7	1	1	1
1	TITHE WALK	DROP KERB		3.1	0		
1	TITHE WALK	UNRESTRICTED BAY		10.2	2	2	2
1	TITHE WALK	DROP KERB		4.2	0		
1	TITHE WALK	UNRESTRICTED BAY		6.5	1		
1	TITHE WALK	DROP KERB		3.1	0		
1	TITHE WALK	UNRESTRICTED BAY		5.2	1		
1	TITHE WALK	DROP KERB		7.5	1		
1	TITHE WALK	UNRESTRICTED BAY		20.6	4	0	1
1	TITHE WALK	DROP KERB	PED	2.8	0		
1	TITHE WALK	SINGLE YELLOW - DESIRABLE		12.4	2		
1	PAGE STREET	KEEP CLEAR		20.1	4		
1	PAGE STREET	ACCESS/DROP KERB		5.6	1		
1	PAGE STREET	KEEP CLEAR		16.3	3		
1	PAGE STREET	ACCESS/DROP KERB		7.5	1		
1	PAGE STREET	DOUBLE YELLOW		184.1	36		
1	PAGE STREET SERVICE ROAD	Restricted Carriageway		5.9	1		
1	PAGE STREET SERVICE ROAD	DROP KERB	PED	2.1	0		
1	PAGE STREET SERVICE ROAD	Restricted Carriageway		29.5	5		
1	PAGE STREET SERVICE ROAD	DROP KERB	PED	2.3	0		
1	PAGE STREET SERVICE ROAD	Restricted Carriageway		32.3	6		
1	BUNNS LANE	ZIG ZAG		9.7	1		
1	BUNNS LANE	DROP KERB/PEDESTRIAN CROSSING		5.0	1		
1	BUNNS LANE	ZIG ZAG		16.2	3		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		4.1	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		6.7	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		4.8	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		5.6	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		7.3	1		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	7.3	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		3.8	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.7	1		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	5.8	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		4.8	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		3.4	0		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	5.2	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		7.4	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		3.4	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		6.0	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		4.4	0		
1	BUNNS LANE	BUS STOP		17.1	3		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		2.1	0		
1	COLENZO DRIVE	SINGLE YELLOW - DESIRABLE		2.2	0		
1	COLENZO DRIVE	DROP KERB/SINGLE YELLOW	PED	2.0	0		
1	COLENZO DRIVE	SINGLE YELLOW - DESIRABLE		7.7	1		
1	COLENZO DRIVE	Restricted Carriageway		17.0	3		
1	COLENZO DRIVE	DROP KERB		4.9	0		
1	COLENZO DRIVE	Restricted Carriageway		37.8	7		
1	COLENZO DRIVE	DROP KERB		9.1	1		
1	COLENZO DRIVE	UNRESTRICTED BAY		28.9	5	1	
1	COLENZO DRIVE	UNRESTRICTED BAY	ELEVATED	9.3	1		
1	COLENZO DRIVE	DROP KERB	ELEVATED	4.2	0		
1	COLENZO DRIVE	UNRESTRICTED BAY	ELEVATED	8.0	1		
1	COLENZO DRIVE	DROP KERB		5.7	1		
1	COLENZO DRIVE	UNRESTRICTED BAY		2.3	0		
1	COLENZO DRIVE	DROP KERB		10.4	2		
1	COLENZO DRIVE	UNRESTRICTED BAY		3.6	0		
1	COLENZO DRIVE	DROP KERB		5.7	1		
1	COLENZO DRIVE	UNRESTRICTED BAY		11.7	2		
1	COLENZO DRIVE	DROP KERB		3.8	0		

1	COLENZO DRIVE	UNRESTRICTED BAY		2.4	0		
1	COLENZO DRIVE	DROP KERB		3.6	0		
1	COLENZO DRIVE	UNRESTRICTED BAY		19.6	3	3	2
1	COLENZO DRIVE	DROP KERB		5.5	1		
1	COLENZO DRIVE	UNRESTRICTED BAY		6.4	1		
1	COLENZO DRIVE	DROP KERB		6.0	1		
1	COLENZO DRIVE	UNRESTRICTED BAY		26.2	5	2	2
1	COLENZO DRIVE	DROP KERB		3.8	0		
1	COLENZO DRIVE	UNRESTRICTED BAY		6.3	1	1	1
1	COLENZO DRIVE	UNRESTRICTED BAY		4.7	0	1	1
1	COLENZO DRIVE	DROP KERB		3.7	0		
1	COLENZO DRIVE	UNRESTRICTED BAY		7.0	1	1	1
1	COLENZO DRIVE	UNRESTRICTED BAY		7.2	1		
1	COLENZO DRIVE	DROP KERB		4.8	0		
1	COLENZO DRIVE	UNRESTRICTED BAY		7.0	1	1	1
1	COLENZO DRIVE	DROP KERB		4.4	0		
1	COLENZO DRIVE	UNRESTRICTED BAY		13.9	2	1	
1	COLENZO DRIVE	DROP KERB		5.4	1		
1	COLENZO DRIVE	UNRESTRICTED BAY		19.1	3	2	3
1	COLENZO DRIVE	DROP KERB		4.0	0		
1	COLENZO DRIVE	UNRESTRICTED BAY		2.8	0		
1	COLENZO DRIVE	DROP KERB		3.9	0		
1	COLENZO DRIVE	UNRESTRICTED BAY		19.5	3		
1	COLENZO DRIVE	DROP KERB		4.6	0		
1	COLENZO DRIVE	UNRESTRICTED BAY		20.4	4	2	3
1	COLENZO DRIVE	UNRESTRICTED BAY	ELEVATED	4.5	0		
1	LADYSMITH CLOSE	Restricted Carriageway		22.1	4		
1	LADYSMITH CLOSE	DROP KERB		4.6	0		
1	LADYSMITH CLOSE	Restricted Carriageway		16.7	3		
1	LADYSMITH CLOSE	UNRESTRICTED BAY		17.1	3		
1	LADYSMITH CLOSE	UNRESTRICTED BAY		43.0	8	3	3
1	COLENZO DRIVE	UNRESTRICTED BAY	ELEVATED	5.6	1	1	1
1	COLENZO DRIVE	DROP KERB		3.3	0		
1	COLENZO DRIVE	UNRESTRICTED BAY		3.4	0		
1	COLENZO DRIVE	DROP KERB		3.9	0		
1	COLENZO DRIVE	UNRESTRICTED BAY		10.6	2	1	1
1	COLENZO DRIVE	DROP KERB		5.6	1		
1	COLENZO DRIVE	UNRESTRICTED BAY		15.6	3	3	2
1	COLENZO DRIVE	DROP KERB		5.9	1		
1	COLENZO DRIVE	UNRESTRICTED BAY		14.1	2	2	1
1	COLENZO DRIVE	DROP KERB		4.7	0		
1	COLENZO DRIVE	UNRESTRICTED BAY		26.4	5	3	3
1	COLENZO DRIVE	SINGLE YELLOW - DESIRABLE		7.7	1		
1	COLENZO DRIVE	DROP KERB/SINGLE YELLOW		2.0	0		
1	COLENZO DRIVE	SINGLE YELLOW - DESIRABLE		2.3	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		1.5	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		3.7	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		6.1	1	1	1
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.1	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		9.0	1	1	1
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		7.6	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		10.7	2		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		7.1	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		9.6	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.0	1		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	6.0	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		4.5	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		5.3	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		8.2	1	1	1
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.5	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		4.0	0		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	5.0	1	1	1
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		4.9	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		10.2	2	1	2
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		5.5	1		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	6.1	1	1	1
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		3.8	0		
1	ROWLANDS CLOSE	SINGLE YELLOW - DESIRABLE		3.6	0		
1	ROWLANDS CLOSE	DROP KERB/SINGLE YELLOW	PED	2.7	0		
1	ROWLANDS CLOSE	SINGLE YELLOW - DESIRABLE		4.0	0		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		35.7	7	6	5
1	ROWLANDS CLOSE	ACCESS/DROP KERB		4.7	0		
1	ROWLANDS CLOSE	Restricted Carriageway		12.8	2		
1	ROWLANDS CLOSE	DROP KERB	PED	2.2	0		
1	ROWLANDS CLOSE	Restricted Carriageway		8.4	1		
1	ROWLANDS CLOSE	DROP KERB	PED	2.3	0		
1	ROWLANDS CLOSE	Restricted Carriageway		18.1	3		
1	ROWLANDS CLOSE	DROP KERB		6.9	1		
1	ROWLANDS CLOSE	Restricted Carriageway		68.6	13		
1	ROWLANDS CLOSE	UNRESTRICTED BAY	ECHOLON	10.5	2		

1	ROWLANDS CLOSE	UNRESTRICTED BAY		5.4	1		
1	ROWLANDS CLOSE	DROP KERB		3.4	0		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		6.0	1		
1	ROWLANDS CLOSE	DROP KERB		4.1	0		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		16.5	3		
1	ROWLANDS CLOSE	ACCESS/DROP KERB		7.7	1		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		33.3	6		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		22.4	4		
1	ROWLANDS CLOSE	DROP KERB		4.0	0		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		12.0	2		
1	ROWLANDS CLOSE	DROP KERB	PED	2.1	0		
1	ROWLANDS CLOSE	Restricted Carriageway		42.0	8		
1	ROWLANDS CLOSE	ACCESS/DROP KERB		6.9	1		
1	ROWLANDS CLOSE	ACCESS/DROP KERB		7.5	1		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		39.8	7	1	2
1	ROWLANDS CLOSE	DROP KERB	PED	2.2	0		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		23.8	4	5	5
1	ROWLANDS CLOSE	ACCESS/DROP KERB		6.4	1		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		28.9	5	6	7
1	ROWLANDS CLOSE	DROP KERB	PED	2.2	0		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		28.7	5	5	4
1	ROWLANDS CLOSE	Restricted Carriageway		3.2	0		
1	ROWLANDS CLOSE	Restricted Carriageway		30.8	6		
1	ROWLANDS CLOSE	DROP KERB	PED	2.1	0		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		33.7	6		
1	ROWLANDS CLOSE	DROP KERB		7.5	1		
1	ROWLANDS CLOSE	UNRESTRICTED BAY		13.5	2		
1	ROWLANDS CLOSE	SINGLE YELLOW - DESIRABLE		6.7	1		
1	ROWLANDS CLOSE	DROP KERB/SINGLE YELLOW	PED	3.2	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		6.6	1		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	9.8	1	2	2
1	BUNNS LANE	ACCESS/DROP KERB		18.2	3		
1	BUNNS LANE	DOUBLE YELLOW		6.0	1		
1	BUNNS LANE	DOUBLE YELLOW/DROP KERB	PED	2.8	0		
1	BUNNS LANE	DOUBLE YELLOW		4.7	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		2.5	0		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	9.0	1	1	2
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		3.0	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		4.9	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		17.0	3	1	
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.9	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		3.0	0		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	5.5	1	1	1
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		3.2	0		1
1	BUNNS LANE	BUS STOP		22.1	4		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		14.2	2	2	1
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.8	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		4.9	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW	PED	2.0	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		2.1	0	1	1
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.5	1		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	5.6	1	1	1
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		102.8	20		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW	PED	2.3	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		47.0	9		
1	BUNNS LANE	KEEP CLEAR		16.4	3		
1	BUNNS LANE	DROP KERB		6.5	1		
1	BUNNS LANE	KEEP CLEAR		21.6	4		
1	BUNNS LANE	DOUBLE YELLOW		11.6	2		
1	BUNNS LANE	ZIG ZAG		16.9	3		
1	BUNNS LANE	DROP KERB/PEDESTRIAN CROSSING		6.0	1		
1	BUNNS LANE	ZIG ZAG		17.1	3		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		77.8	15		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		176.3	35		
1	BUNNS LANE	DOUBLE YELLOW		17.8	3		
1	GRAHAME PARK WAY	DOUBLE YELLOW		12.0	2		
1	GRAHAME PARK WAY	DOUBLE YELLOW/DROP KERB	PED	2.2	0		
1	GRAHAME PARK WAY	DOUBLE YELLOW		19.4	3		
1	GRAHAME PARK WAY	Restricted Carriageway		9.3	1		
1	GRAHAME PARK WAY	CYCLE LANE		296.9	59		
1	GRAHAME PARK WAY	DOUBLE YELLOW		75.1	15		
1	GRAHAME PARK WAY	DOUBLE YELLOW/DROP KERB	PED	3.5	0		
1	GRAHAME PARK WAY	DOUBLE YELLOW		39.7	7		
1	GRAHAME PARK WAY	Restricted Carriageway		7.7	1		
1	GRAHAME PARK WAY	CYCLE LANE		226.2	45		
1	GRAHAME PARK WAY	Restricted Carriageway		28.4	5		
1	GRAHAME PARK WAY	DROP KERB	PED	3.0	0		
1	GRAHAME PARK WAY	Restricted Carriageway		27.2	5		
1	GRAHAME PARK WAY	CYCLE LANE		114.6	22		
1	GRAHAME PARK WAY	Restricted Carriageway		11.4	2		

1	GRAHAME PARK WAY	DOUBLE YELLOW		76.7	15		
1	GRAHAME PARK WAY	DOUBLE YELLOW		50.8	10		
1	GRAHAME PARK WAY	Restricted Carriageway		10.8	2		
1	GRAHAME PARK WAY	CYCLE LANE		25.9	5		
1	GRAHAME PARK WAY	ACCESS/DROP KERB		12.2	2		
1	GRAHAME PARK WAY	CYCLE LANE		41.2	8		
1	GRAHAME PARK WAY	ACCESS/DROP KERB		10.7	2		
1	GRAHAME PARK WAY	CYCLE LANE		17.7	3		
1	GRAHAME PARK WAY	Restricted Carriageway		27.4	5		
1	GRAHAME PARK WAY	DROP KERB	PED	2.9	0		
1	GRAHAME PARK WAY	Restricted Carriageway		7.0	1		
1	GRAHAME PARK WAY	ACCESS/DROP KERB		16.2	3		
1	GRAHAME PARK WAY	CYCLE LANE		40.4	8		
1	GRAHAME PARK WAY	ACCESS/DROP KERB		11.5	2		
1	GRAHAME PARK WAY	CYCLE LANE		179.0	35		
1	GRAHAME PARK WAY	Restricted Carriageway		9.1	1		
1	GRAHAME PARK WAY	DOUBLE YELLOW		40.2	8		
1	GRAHAME PARK WAY	DOUBLE YELLOW/DROP KERB	PED	3.0	0		
1	GRAHAME PARK WAY	DOUBLE YELLOW		51.0	10		
1	GRAHAME PARK WAY	CYCLE LANE		86.4	17	4	7
1	GRAHAME PARK WAY	BUS STOP		18.4	3		
1	GRAHAME PARK WAY	CYCLE LANE		109.2	21		1
1	GRAHAME PARK WAY	KEEP CLEAR		15.6	3		
1	GRAHAME PARK WAY	ACCESS/DROP KERB		12.3	2		
1	GRAHAME PARK WAY	KEEP CLEAR		15.6	3		
1	GRAHAME PARK WAY	Restricted Carriageway		8.5	1		2
1	GRAHAME PARK WAY	DROP KERB	PED	3.8	0		
1	GRAHAME PARK WAY	Restricted Carriageway		34.9	6		
1	GRAHAME PARK WAY	DOUBLE YELLOW		25.4	5		
1	GRAHAME PARK WAY	DOUBLE YELLOW/DROP KERB	PED	2.6	0		
1	GRAHAME PARK WAY	DOUBLE YELLOW		18.1	3		
1	BUNNS LANE	DOUBLE YELLOW		9.6	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		96.2	19		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		18.8	3		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		14.4	2		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.2	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		99.9	19		
1	FLOWER LANE	SINGLE YELLOW - DESIRABLE		9.4	1		
1	FLOWER LANE	DROP KERB/SINGLE YELLOW	PED	2.2	0		
1	FLOWER LANE	SINGLE YELLOW - DESIRABLE		140.5	28		
1	FLOWER LANE	ACCESS/DROP KERB		18.6	3		
1	FLOWER LANE	SINGLE YELLOW - DESIRABLE		26.8	5		
1	FLOWER LANE	UNRESTRICTED BAY		6.0	1		
1	FLOWER LANE	DROP KERB/SINGLE YELLOW		4.5	0		
1	FLOWER LANE	SINGLE YELLOW - DESIRABLE		1.8	0		
1	FLOWER LANE	DROP KERB/SINGLE YELLOW		3.7	0		
1	FLOWER LANE	SINGLE YELLOW - DESIRABLE		1.9	0		
1	FLOWER LANE	DROP KERB/SINGLE YELLOW		5.2	1		
1	FLOWER LANE	SINGLE YELLOW - DESIRABLE		12.6	2		
1	FLOWER LANE	DROP KERB/SINGLE YELLOW		5.8	1		
1	FLOWER LANE	SINGLE YELLOW - DESIRABLE		25.2	5		
1	FLOWER LANE	DROP KERB/SINGLE YELLOW		5.0	1		
1	FLOWER LANE	SINGLE YELLOW - DESIRABLE		6.3	1		
1	FLOWER LANE	DROP KERB/SINGLE YELLOW		4.3	0		
1	FLOWER LANE	SINGLE YELLOW - DESIRABLE		7.3	1		
1	FLOWER LANE	DROP KERB/SINGLE YELLOW		5.6	1		
1	FLOWER LANE	SINGLE YELLOW - DESIRABLE		228.0	45		
1	FLOWER LANE	DROP KERB/SINGLE YELLOW	PED	2.3	0		
1	FLOWER LANE	SINGLE YELLOW - DESIRABLE		10.2	2		
1	BUNNS LANE	ZIG ZAG		13.8	2		
1	BUNNS LANE	DROP KERB/PEDESTRIAN CROSSING		5.8	1		
1	BUNNS LANE	ZIG ZAG		17.1	3		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS	5.3	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		4.7	0	1	2
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.0	1		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS	10.0	2	2	2
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		8.2	1		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS	9.5	1	2	2
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		8.9	1		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS	9.3	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		3.8	0		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS	15.9	3		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		2.8	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		18.9	3		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW	PED	1.5	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		102.0	20	1	1
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		5.7	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		11.9	2	1	1
1	BUNNS LANE	DROP KERB/SINGLE YELLOW	PED	2.9	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		3.1	0		

1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		2.5	0	1	1
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	8.0	1		1
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		0.8	0		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	15.5	3	2	2
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		12.1	2	1	1
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	15.1	3	2	2
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		1.9	0		1
1	BUNNS LANE	BUS STOP		12.4	2		
1	BUNNS LANE	BUS STOP		4.1	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		10.7	2	1	1
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		5.3	1		
1	BUNNS LANE	DOUBLE YELLOW		1.0	0		
1	BUNNS LANE	DOUBLE YELLOW/DROP KERB	PED	2.3	0		
1	BUNNS LANE	DOUBLE YELLOW		1.2	0		
1	BUNNS LANE	DOUBLE YELLOW/DROP KERB		2.9	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		1.1	0		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	5.4	1	1	1
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		1.2	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		6.8	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		2.2	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		6.9	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.8	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		1.2	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		3.0	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		3.4	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		4.2	0		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	9.6	1	2	
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		1.8	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		3.8	0		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	5.1	1		1
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		6.2	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.9	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		14.5	2		1
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		3.1	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		1.3	0		
1	BUNNS LANE	PERMIT HOLDER	STREET,ON EVENT DAYS 1	5.0	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		2.7	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		1.5	0		
1	COPTHALL DRIVE	DROP KERB/SINGLE YELLOW	PED	5.8	1		
1	COPTHALL DRIVE	DROP KERB		3.7	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		23.0	4		
1	COPTHALL DRIVE	DROP KERB	NOT IN USE	12.5	2		
1	COPTHALL DRIVE	UNRESTRICTED BAY		27.7	5		
1	HILLSIDE GROVE	UNRESTRICTED BAY		23.8	4	1	1
1	HILLSIDE GROVE	DROP KERB		7.6	1		
1	HILLSIDE GROVE	UNRESTRICTED BAY		10.2	2	1	
1	HILLSIDE GROVE	DROP KERB		4.7	0		
1	HILLSIDE GROVE	UNRESTRICTED BAY		12.6	2		
1	HILLSIDE GROVE	DROP KERB		5.5	1		
1	HILLSIDE GROVE	UNRESTRICTED BAY		11.5	2		
1	HILLSIDE GROVE	DROP KERB		6.2	1		
1	HILLSIDE GROVE	UNRESTRICTED BAY		13.2	2		
1	HILLSIDE GROVE	DROP KERB		5.5	1		
1	HILLSIDE GROVE	UNRESTRICTED BAY		4.4	0	1	1
1	HILLSIDE GROVE	DROP KERB		2.5	0		
1	HILLSIDE GROVE	UNRESTRICTED BAY		5.9	1		
1	HILLSIDE GROVE	DROP KERB		6.6	1		
1	HILLSIDE GROVE	UNRESTRICTED BAY		5.3	1		
1	HILLSIDE GROVE	DROP KERB		5.0	1		
1	HILLSIDE GROVE	UNRESTRICTED BAY		6.6	1		
1	HILLSIDE GROVE	DROP KERB		3.6	0		
1	HILLSIDE GROVE	UNRESTRICTED BAY		5.2	1		
1	HILLSIDE GROVE	DROP KERB		2.5	0		
1	HILLSIDE GROVE	UNRESTRICTED BAY		14.0	2		
1	HILLSIDE GROVE	DROP KERB		6.2	1		
1	HILLSIDE GROVE	UNRESTRICTED BAY		16.4	3		
1	HILLSIDE GROVE	DROP KERB		5.8	1		
1	HILLSIDE GROVE	UNRESTRICTED BAY		6.4	1		
1	HILLSIDE GROVE	DROP KERB		6.7	1		
1	HILLSIDE GROVE	UNRESTRICTED BAY		5.2	1		
1	HILLSIDE GROVE	DROP KERB		3.3	0		
1	HILLSIDE GROVE	UNRESTRICTED BAY		8.6	1		
1	HILLSIDE GROVE	UNRESTRICTED BAY		17.4	3		
1	HILLSIDE GROVE	DROP KERB		3.8	0		
1	HILLSIDE GROVE	UNRESTRICTED BAY		16.3	3		
1	HILLSIDE GROVE	DROP KERB		3.1	0		
1	HILLSIDE GROVE	UNRESTRICTED BAY		7.2	1		
1	HILLSIDE GROVE	DROP KERB		4.0	0		
1	HILLSIDE GROVE	UNRESTRICTED BAY		9.3	1		
1	HILLSIDE GROVE	DROP KERB		6.7	1		

1	HILLSIDE GROVE	UNRESTRICTED BAY		32.2	6	1	1
1	HILLSIDE GROVE	DROP KERB		3.7	0		
1	HILLSIDE GROVE	UNRESTRICTED BAY		13.9	2	1	1
1	HILLSIDE GROVE	DROP KERB		5.6	1		
1	HILLSIDE GROVE	UNRESTRICTED BAY		7.0	1	1	1
1	HILLSIDE GROVE	DROP KERB		3.6	0		
1	HILLSIDE GROVE	UNRESTRICTED BAY		8.3	1		1
1	HILLSIDE GROVE	DROP KERB		10.8	2		
1	HILLSIDE GROVE	UNRESTRICTED BAY		9.4	1		
1	HILLSIDE GROVE	DROP KERB		4.0	0		
1	HILLSIDE GROVE	UNRESTRICTED BAY		11.9	2		
1	COPTHALL DRIVE	UNRESTRICTED BAY		7.9	1		
1	COPTHALL DRIVE	DROP KERB		3.2	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		25.2	5	1	2
1	COPTHALL DRIVE	DROP KERB		2.9	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		6.5	1		
1	COPTHALL DRIVE	DROP KERB		3.5	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		5.5	1		
1	COPTHALL DRIVE	DROP KERB		4.0	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		6.0	1		
1	COPTHALL DRIVE	DROP KERB		3.9	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		6.8	1		
1	COPTHALL DRIVE	DROP KERB		3.5	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		5.8	1		
1	COPTHALL DRIVE	DROP KERB		4.2	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		6.9	1	1	1
1	COPTHALL DRIVE	DROP KERB		3.7	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		7.8	1	1	
1	COPTHALL DRIVE	DROP KERB		5.2	1		
1	COPTHALL DRIVE	UNRESTRICTED BAY		6.7	1	1	1
1	COPTHALL DRIVE	DROP KERB		2.3	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		6.9	1		1
1	COPTHALL DRIVE	DROP KERB		3.4	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		43.9	8		
1	COPTHALL DRIVE	UNRESTRICTED BAY		16.4	3		
1	COPTHALL DRIVE	DROP KERB		7.6	1		
1	COPTHALL DRIVE	UNRESTRICTED BAY		8.6	1		
1	COPTHALL DRIVE	DROP KERB		5.6	1		
1	COPTHALL DRIVE	UNRESTRICTED BAY		5.2	1		
1	COPTHALL DRIVE	DROP KERB		4.2	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		8.9	1		
1	COPTHALL DRIVE	DROP KERB		2.8	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		9.2	1	1	1
1	COPTHALL DRIVE	DROP KERB		6.0	1		
1	COPTHALL DRIVE	UNRESTRICTED BAY		6.2	1		
1	COPTHALL DRIVE	DROP KERB		2.7	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		13.4	2		
1	COPTHALL DRIVE	DROP KERB		6.2	1		
1	COPTHALL DRIVE	UNRESTRICTED BAY		12.1	2		
1	COPTHALL DRIVE	DROP KERB		5.8	1		
1	COPTHALL DRIVE	UNRESTRICTED BAY		13.0	2	1	1
1	COPTHALL DRIVE	DROP KERB		6.9	1		
1	COPTHALL DRIVE	UNRESTRICTED BAY		10.1	2	1	1
1	COPTHALL DRIVE	DROP KERB		6.7	1		
1	COPTHALL DRIVE	UNRESTRICTED BAY		13.6	2	2	2
1	COPTHALL DRIVE	DROP KERB		5.9	1		
1	COPTHALL DRIVE	UNRESTRICTED BAY		12.2	2	1	1
1	COPTHALL DRIVE	DROP KERB		5.7	1		
1	COPTHALL DRIVE	UNRESTRICTED BAY		12.6	2	1	1
1	COPTHALL DRIVE	DROP KERB		2.5	0		
1	COPTHALL DRIVE	UNRESTRICTED BAY		12.6	2	2	1
1	COPTHALL DRIVE	DROP KERB		5.7	1		
1	COPTHALL DRIVE	UNRESTRICTED BAY		35.2	7	3	3
1	COPTHALL DRIVE	DROP KERB/SINGLE YELLOW	PED	3.4	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		1.7	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		4.8	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		3.0	0		
1	BUNNS LANE	PERMIT HOLDER	OFF STREET	10.2	2		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		3.2	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		2.8	0		
1	BUNNS LANE	PERMIT HOLDER	OFF STREET	5.2	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		6.8	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		7.6	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		6.6	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		2.6	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		0.8	0		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		3.2	0		
1	BUNNS LANE	PERMIT HOLDER	OFF STREET	6.1	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		3.5	0		
1	BUNNS LANE	PERMIT HOLDER	OFF STREET	9.5	1		

1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		9.3	1		
1	COPTHALL GARDENS	DROP KERB/SINGLE YELLOW	PED	2.7	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		32.0	6		
1	COPTHALL GARDENS	DROP KERB		2.5	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		2.7	0		
1	COPTHALL GARDENS	DROP KERB		2.6	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		11.4	2	1	1
1	COPTHALL GARDENS	DROP KERB		2.5	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		6.4	1		
1	COPTHALL GARDENS	DROP KERB		6.6	1		
1	COPTHALL GARDENS	UNRESTRICTED BAY		10.0	2		
1	COPTHALL GARDENS	DROP KERB		5.2	1		
1	COPTHALL GARDENS	UNRESTRICTED BAY		6.9	1		
1	COPTHALL GARDENS	DROP KERB		2.8	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		10.3	2	1	
1	COPTHALL GARDENS	DROP KERB		3.7	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		1.0	0		
1	COPTHALL GARDENS	DROP KERB		4.2	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		3.8	0	1	1
1	COPTHALL GARDENS	DROP KERB		2.6	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		15.3	3		
1	COPTHALL GARDENS	DROP KERB		2.4	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		2.6	0		
1	COPTHALL GARDENS	DROP KERB		2.9	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		4.2	0		
1	COPTHALL GARDENS	DROP KERB		3.7	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		4.0	0		
1	COPTHALL GARDENS	DROP KERB		3.7	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		3.5	0		
1	COPTHALL GARDENS	DROP KERB		3.9	0		
1	COPTHALL GARDENS	UNRESTRICTED BAY		15.1	3		
1	COPTHALL GARDENS	DROP KERB		6.2	1		
1	COPTHALL GARDENS	UNRESTRICTED BAY		30.0	6	4	4
1	COPTHALL GARDENS	DROP KERB/SINGLE YELLOW		3.4	0		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		11.7	2		
1	BUNNS LANE	PERMIT HOLDER	OFF STREET	8.1	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		6.1	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		5.5	1		
1	BUNNS LANE	DROP KERB/SINGLE YELLOW		5.1	1		
1	BUNNS LANE	BUS STOP		3.6	0		
1	BUNNS LANE	BUS STOP		4.1	0		
1	BUNNS LANE	BUS STOP		9.9	1		
1	BUNNS LANE	SINGLE YELLOW - DESIRABLE		8.7	1		
1	BUNNS LANE	ZIG ZAG		16.6	3		
1	BUNNS LANE	DROP KERB/PEDESTRIAN CROSSING		5.2	1		
1	BUNNS LANE	ZIG ZAG		10.5	2		
1	TITHE CLOSE	DROP KERB	PED	1.8	0		
1	TITHE CLOSE	Restricted Carriageway		2.0	0		
1	TITHE CLOSE	DROP KERB		2.8	0		
1	TITHE CLOSE	Restricted Carriageway		23.4	4		
1	TITHE CLOSE	DROP KERB		7.2	1		
1	TITHE CLOSE	UNRESTRICTED BAY		7.4	1	1	1
1	TITHE CLOSE	DROP KERB		2.3	0		
1	TITHE CLOSE	UNRESTRICTED BAY		12.0	2		
1	TITHE CLOSE	DROP KERB		3.0	0		
1	TITHE CLOSE	UNRESTRICTED BAY		12.2	2		2
1	TITHE CLOSE	DROP KERB		3.3	0		
1	TITHE CLOSE	UNRESTRICTED BAY		12.0	2	2	2
1	TITHE CLOSE	DROP KERB		2.6	0		
1	TITHE CLOSE	UNRESTRICTED BAY		9.9	1	1	1
1	TITHE CLOSE	DROP KERB		24.1	4	2	2
1	TITHE CLOSE	ACCESS/DROP KERB		6.7	1		
1	TITHE CLOSE	UNRESTRICTED BAY	ECHELON	6.8	1	2	
1	TITHE CLOSE	DROP KERB		3.2	0		
1	TITHE CLOSE	UNRESTRICTED BAY		13.5	2	2	2
1	TITHE CLOSE	DROP KERB		6.2	1		
1	TITHE CLOSE	UNRESTRICTED BAY		11.7	2	2	2
1	TITHE CLOSE	DROP KERB		2.8	0		
1	TITHE CLOSE	UNRESTRICTED BAY		13.6	2	2	2
1	TITHE CLOSE	DROP KERB		3.2	0		
1	TITHE CLOSE	UNRESTRICTED BAY		50.2	10	6	5
1	TITHE CLOSE	DROP KERB	PED	1.9	0		

STREET	REGULATION	OCCUPANCY		CAPACITY
		Occupancy on 20/09	Occupancy on 21/09	
PAGE STREET SERVICE ROAD	UNRESTRICTED BAY	7	8	11
	DROP KERB			0
	Restricted Carriageway			13
	ACCESS/DROP KERB			0
PAGE STREET SERVICE ROAD Total		7	8	24
PAGE STREET	DOUBLE YELLOW			36
	UNRESTRICTED BAY	1	3	3
	PERMIT HOLDER	10	10	11
	ACCESS/DROP KERB			3
	DROP KERB/SINGLE YELLOW			12
	SINGLE YELLOW - DESIRABLE			2
	KEEP CLEAR			7
PAGE STREET Total		11	13	74
TITHE WALK	UNRESTRICTED BAY	40	36	64
	DROP KERB	2	1	12
	ACCESS/DROP KERB			1
	DROP KERB/SINGLE YELLOW			1
	SINGLE YELLOW - DESIRABLE			2
	DISABLED BAY	1	1	1
TITHE WALK Total		43	38	81
BUNNS LANE	DOUBLE YELLOW			7
	ZIG ZAG			20
	DOUBLE YELLOW/DROP KERB			0
	DROP KERB			1
	BUS STOP			10
	PERMIT HOLDER	18	19	35
	ACCESS/DROP KERB			3
	DROP KERB/SINGLE YELLOW			26
	SINGLE YELLOW - DESIRABLE	14	17	178
	KEEP CLEAR			7
	DROP KERB/PEDESTRIAN CROSSING			4
BUNNS LANE Total		32	36	291
COLENZO DRIVE	UNRESTRICTED BAY	25	22	47
	DROP KERB			10
	Restricted Carriageway			10
	DROP KERB/SINGLE YELLOW			0
	SINGLE YELLOW - DESIRABLE			2
COLENZO DRIVE Total		25	22	69
LADYSMITH CLOSE	UNRESTRICTED BAY	3	3	11
	DROP KERB			0
	Restricted Carriageway			7
LADYSMITH CLOSE Total		3	3	18
ROWLANDS CLOSE	UNRESTRICTED BAY	23	23	55
	DROP KERB			2
	Restricted Carriageway			33
	ACCESS/DROP KERB			4
	DROP KERB/SINGLE YELLOW			0
	SINGLE YELLOW - DESIRABLE			1
ROWLANDS CLOSE Total		23	23	95
GRAHAME PARK WAY	DOUBLE YELLOW			78
	DOUBLE YELLOW/DROP KERB			0
	DROP KERB			0
	BUS STOP			3
	Restricted Carriageway		2	30

	ACCESS/DROP KERB			11
	KEEP CLEAR			6
	CYCLE LANE	4	8	223
GRAHAME PARK WAY Total		4	10	351
FLOWER LANE	UNRESTRICTED BAY			1
	ACCESS/DROP KERB			3
	DROP KERB/SINGLE YELLOW			4
	SINGLE YELLOW - DESIRABLE			90
FLOWER LANE Total				98
COPTHALL DRIVE	UNRESTRICTED BAY	16	16	63
	DROP KERB			13
	DROP KERB/SINGLE YELLOW			1
COPTHALL DRIVE Total		16	16	77
HILLSIDE GROVE	UNRESTRICTED BAY	6	6	45
	DROP KERB			13
HILLSIDE GROVE Total		6	6	58
COPTHALL GARDENS	UNRESTRICTED BAY	7	6	26
	DROP KERB			3
	DROP KERB/SINGLE YELLOW			0
COPTHALL GARDENS Total		7	6	29
TITHE CLOSE	UNRESTRICTED BAY	18	17	25
	DROP KERB	2	2	6
	Restricted Carriageway			4
	ACCESS/DROP KERB			1
TITHE CLOSE Total		20	19	36
Total		197	200	1301

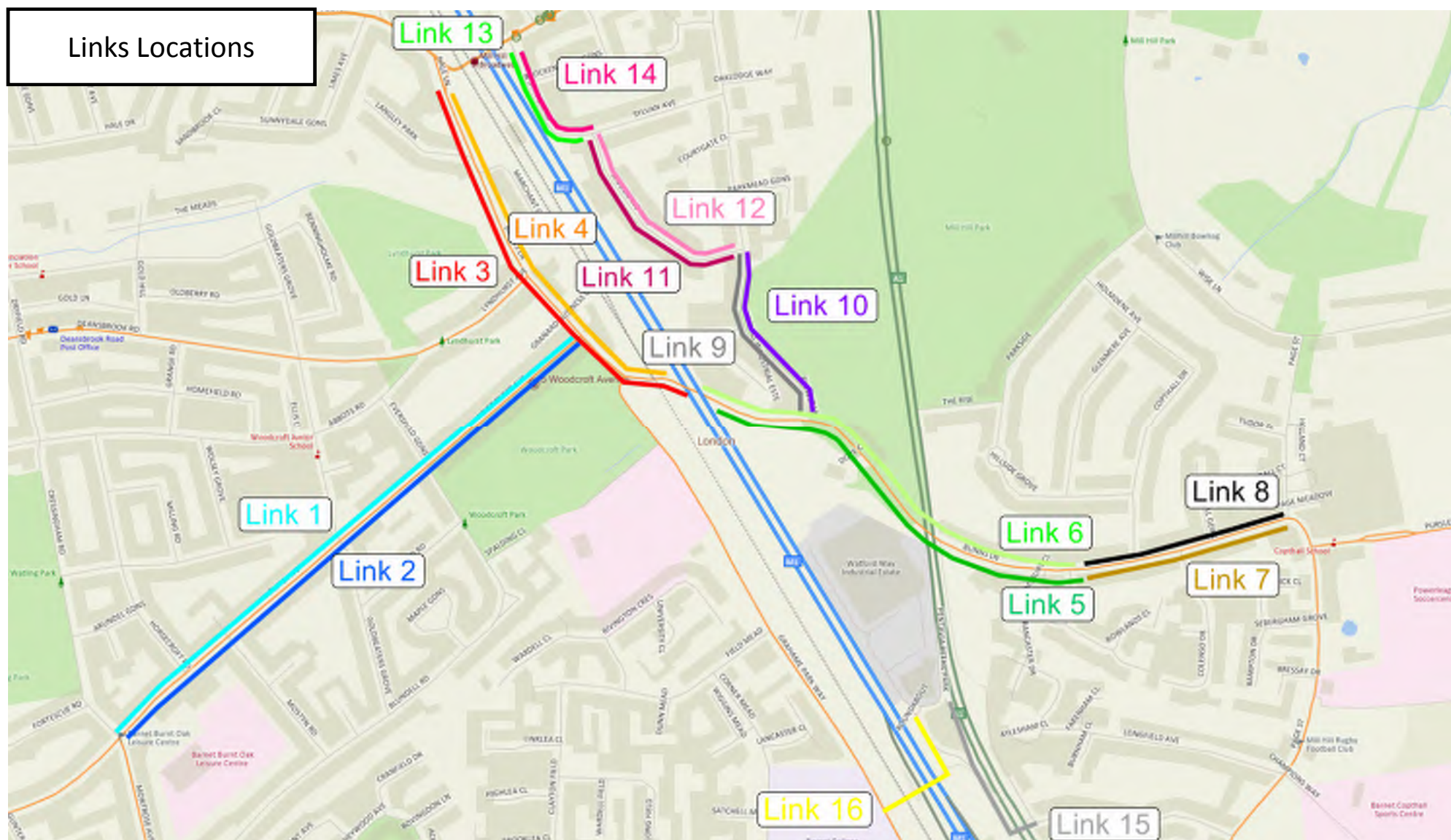
STREET	REGULATION	% OCCUPANCY	
		% Occupancy on 20/09	% Occupancy on 21/09
PAGE STREET SERVICE ROAD	UNRESTRICTED BAY	64%	73%
	DROP KERB		
	Restricted Carriageway		
	ACCESS/DROP KERB		
PAGE STREET SERVICE ROAD Total			
PAGE STREET	DOUBLE YELLOW		
	UNRESTRICTED BAY	33%	100%
	PERMIT HOLDER	91%	91%
	ACCESS/DROP KERB		
	DROP KERB/SINGLE YELLOW		
	SINGLE YELLOW - DESIRABLE		
	KEEP CLEAR		
PAGE STREET Total			
TITHE WALK	UNRESTRICTED BAY	63%	56%
	DROP KERB	17%	8%
	ACCESS/DROP KERB		
	DROP KERB/SINGLE YELLOW		
	SINGLE YELLOW - DESIRABLE		
	DISABLED BAY	100%	100%
TITHE WALK Total			
BUNNS LANE	DOUBLE YELLOW		
	ZIG ZAG		
	DOUBLE YELLOW/DROP KERB		
	DROP KERB		
	BUS STOP		
	PERMIT HOLDER	51%	54%
	ACCESS/DROP KERB		
	DROP KERB/SINGLE YELLOW		
	SINGLE YELLOW - DESIRABLE	8%	10%
	KEEP CLEAR		
	DROP KERB/PEDESTRIAN CROSSING		
BUNNS LANE Total			
COLENZO DRIVE	UNRESTRICTED BAY	53%	47%
	DROP KERB		
	Restricted Carriageway		
	DROP KERB/SINGLE YELLOW		
	SINGLE YELLOW - DESIRABLE		
COLENZO DRIVE Total			
LADYSMITH CLOSE	UNRESTRICTED BAY	27%	27%
	DROP KERB		
	Restricted Carriageway		
LADYSMITH CLOSE Total			

ROWLANDS CLOSE	UNRESTRICTED BAY	42%	42%
	DROP KERB		
	Restricted Carriageway		
	ACCESS/DROP KERB		
	DROP KERB/SINGLE YELLOW		
	SINGLE YELLOW - DESIRABLE		
ROWLANDS CLOSE Total			
GRAHAME PARK WAY	DOUBLE YELLOW		
	DOUBLE YELLOW/DROP KERB		
	DROP KERB		
	BUS STOP		
	Restricted Carriageway		7%
	ACCESS/DROP KERB		
	KEEP CLEAR		
	CYCLE LANE	2%	4%
GRAHAME PARK WAY Total			
FLOWER LANE	UNRESTRICTED BAY		
	ACCESS/DROP KERB		
	DROP KERB/SINGLE YELLOW		
	SINGLE YELLOW - DESIRABLE		
FLOWER LANE Total			
COPTHALL DRIVE	UNRESTRICTED BAY	25%	25%
	DROP KERB		
	DROP KERB/SINGLE YELLOW		
COPTHALL DRIVE Total			
HILLSIDE GROVE	UNRESTRICTED BAY	13%	13%
	DROP KERB		
HILLSIDE GROVE Total			
COPTHALL GARDENS	UNRESTRICTED BAY	27%	23%
	DROP KERB		
	DROP KERB/SINGLE YELLOW		
COPTHALL GARDENS Total			
TITHE CLOSE	UNRESTRICTED BAY	72%	68%
	DROP KERB	33%	33%
	Restricted Carriageway		
	ACCESS/DROP KERB		
TITHE CLOSE Total			

Appendix C

PERS ASSESSMENT

Links Locations





Link 1 – Watling Avenue/Woodcroft Avenue



Link 2 – Watling Avenue/Woodcroft Avenue



Link 3 – Bunns Lane



Link 4 – Bunns Lane



Link 5 – Bunns Lane



Link 6 – Bunns Lane



Link 7 – Bunns Lane



Link 8 – Bunns Lane



Link 9 – Flower Lane



Link 10 – Flower Lane



Link 11 – Woodland Way



Link 12 – Woodland Way



Link 13 – Station Road



Link 14 – Station Road



Link 15 – Watford
Way/Tithe Walk



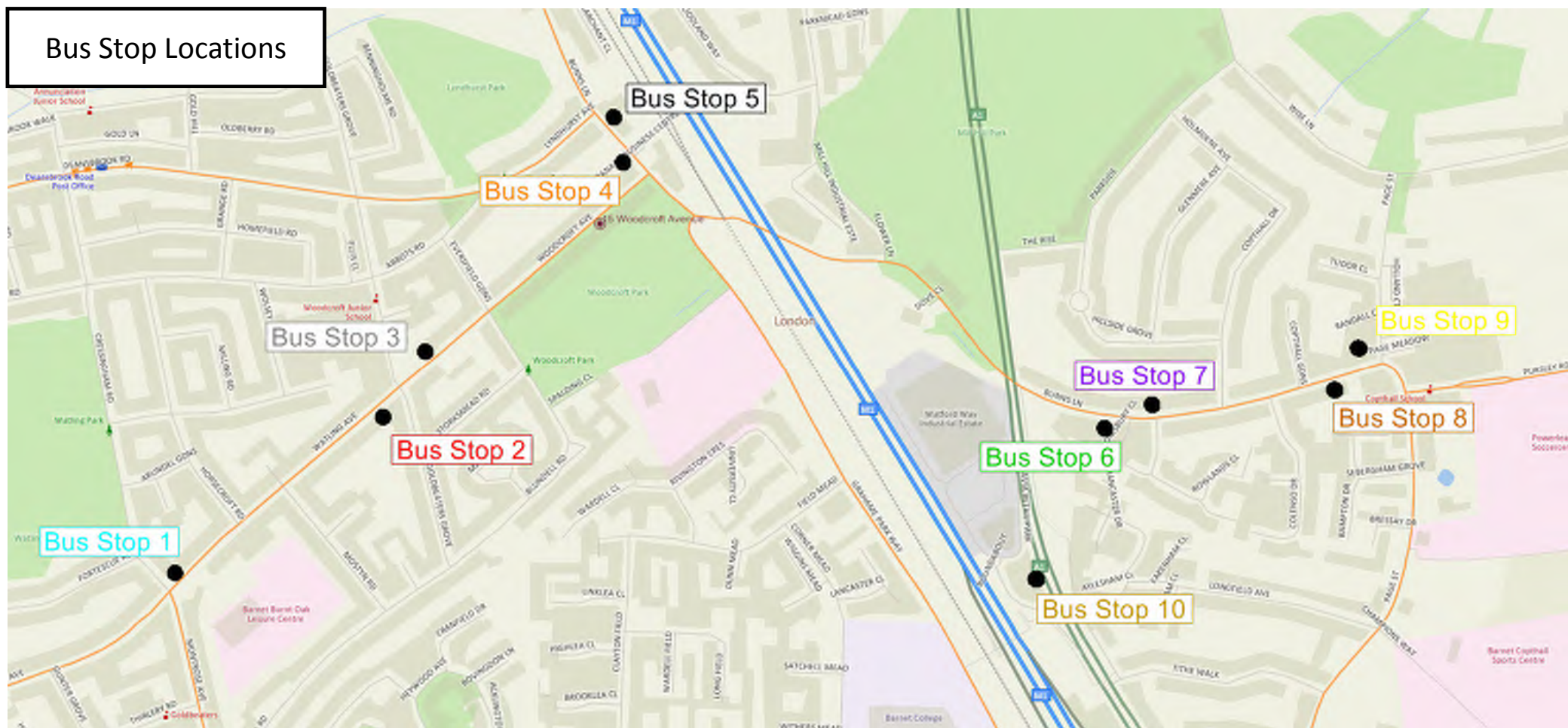
Link 16 – M1 Overpass

Pedestrian Links PERS Results



- Link 1 - Watling Avenue/Woodcroft Avenue Northern Footway
- Link 2 - Watling Avenue/Woodcroft Avenue Southern Footway
- Link 3 - Bunns Lane Western Footway (West of M1)
- Link 4 - Bunns Lane Eastern Footway (West of M1)
- Link 5 - Bunns Lane Southern Footway (East of M1)
- Link 6 - Bunns Lane Northern Footway (East of M1)
- Link 7 - Bunns Lane Southern Footway (East of A1)
- Link 8 - Bunns Lane Northern Footway (East of A1)
- Link 9 - Flower Lane Western Footway
- Link 10 - Flower Lane Eastern Footway
- Link 11 - Woodland Way Eastern Footway
- Link 12 - Woodland Way Western Footway
- Link 13 - Station Road Western Footway
- Link 14 - Station Road Eastern Footway
- Link 15 - Tithe Walk / Watford Way (East of Watford Way)
- Link 16 - Grahame Park / Pentavia Retail Park (West of M1)

Bus Stop Locations





PT1 – Watling Avenue



PT2 – Watling Avenue



PT3 – Watling Avenue



PT4 – Bunns Lane



PT5 – Bunns Lane



PT6 – Bunns Lane



PT7 – Bunns Lane



PT8 – Bunns Lane

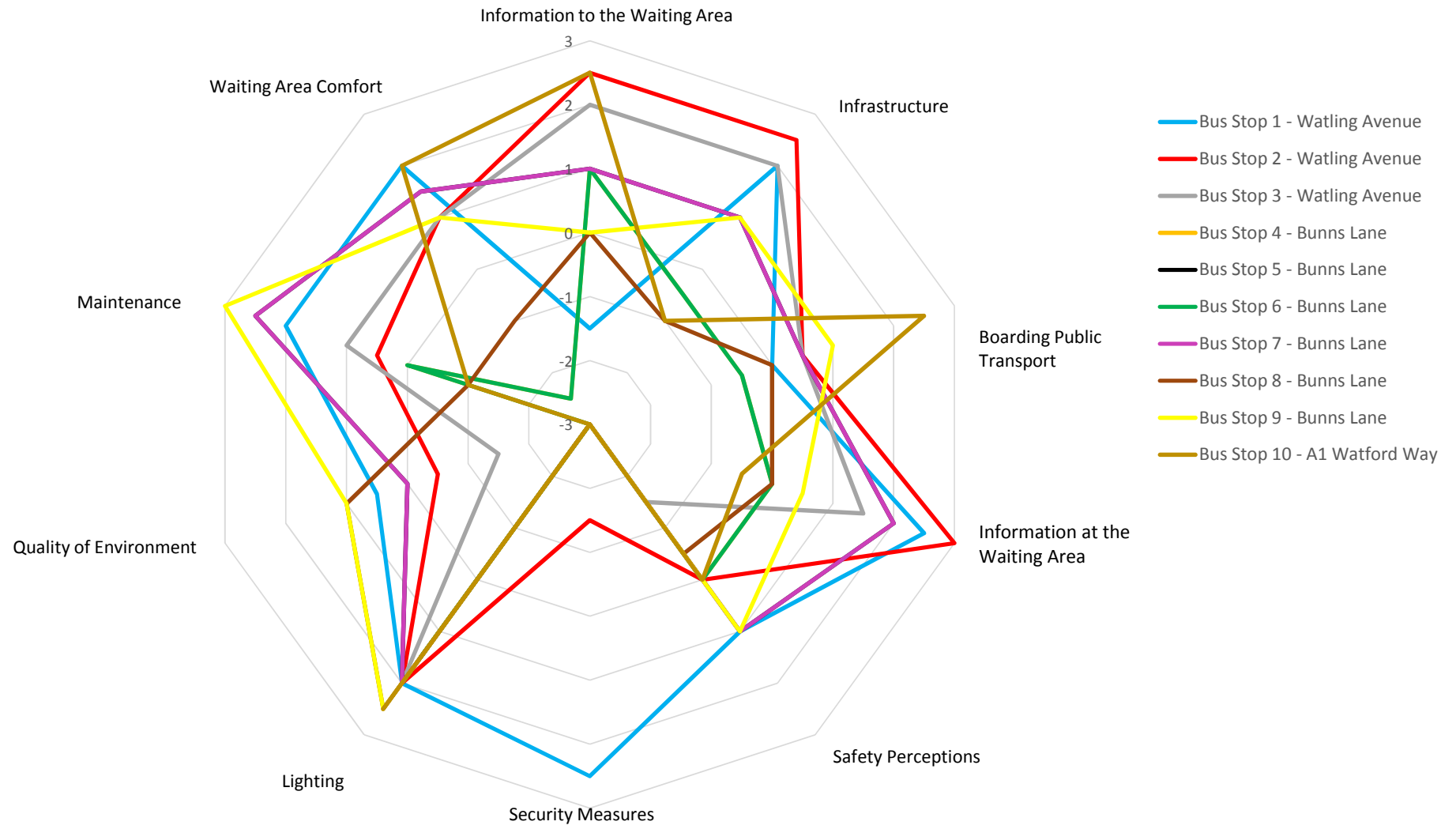


PT9 – Bunns Lane

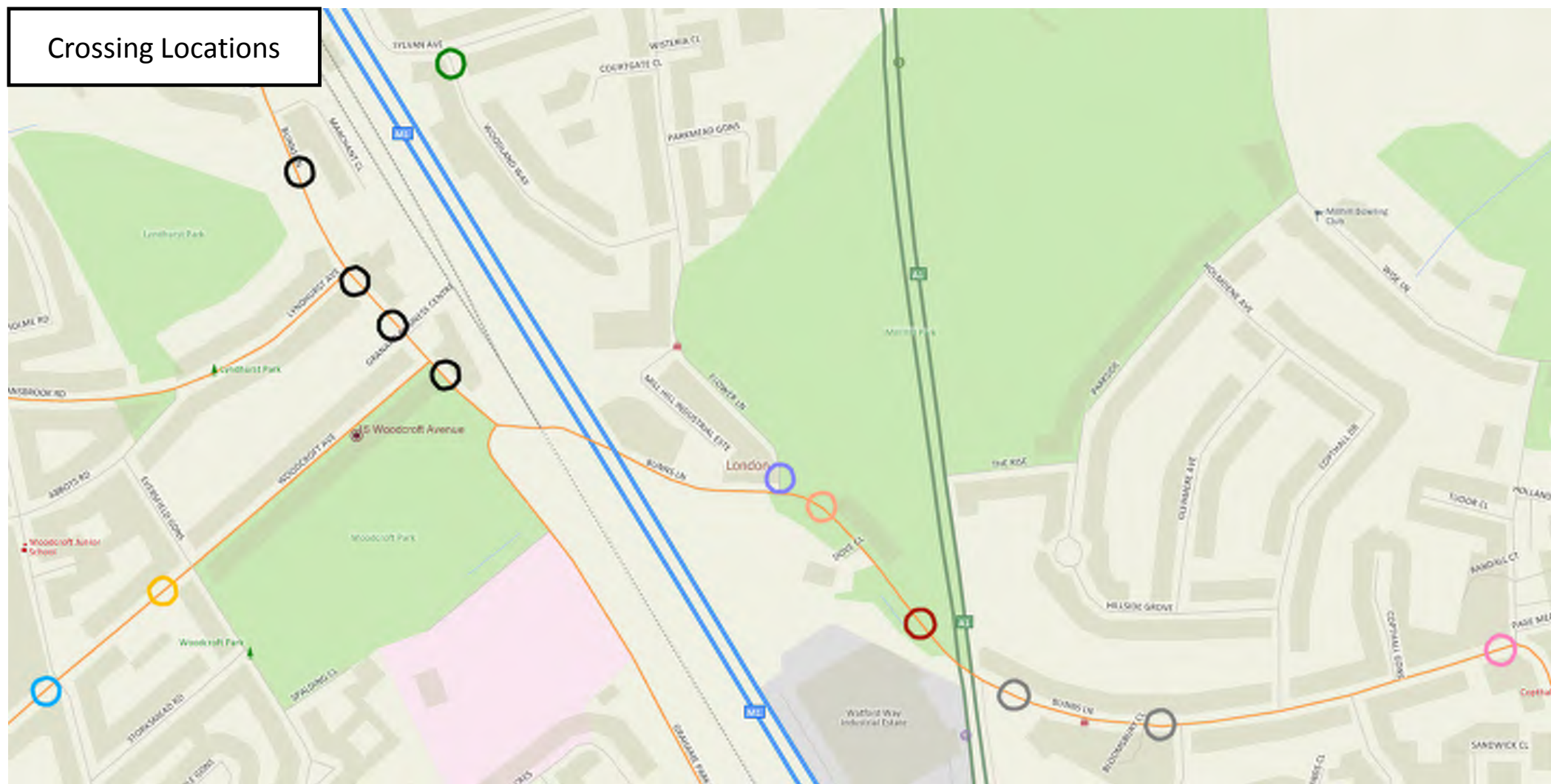


PT10 – Watford Way

Public Transport Waiting Area PERS Results



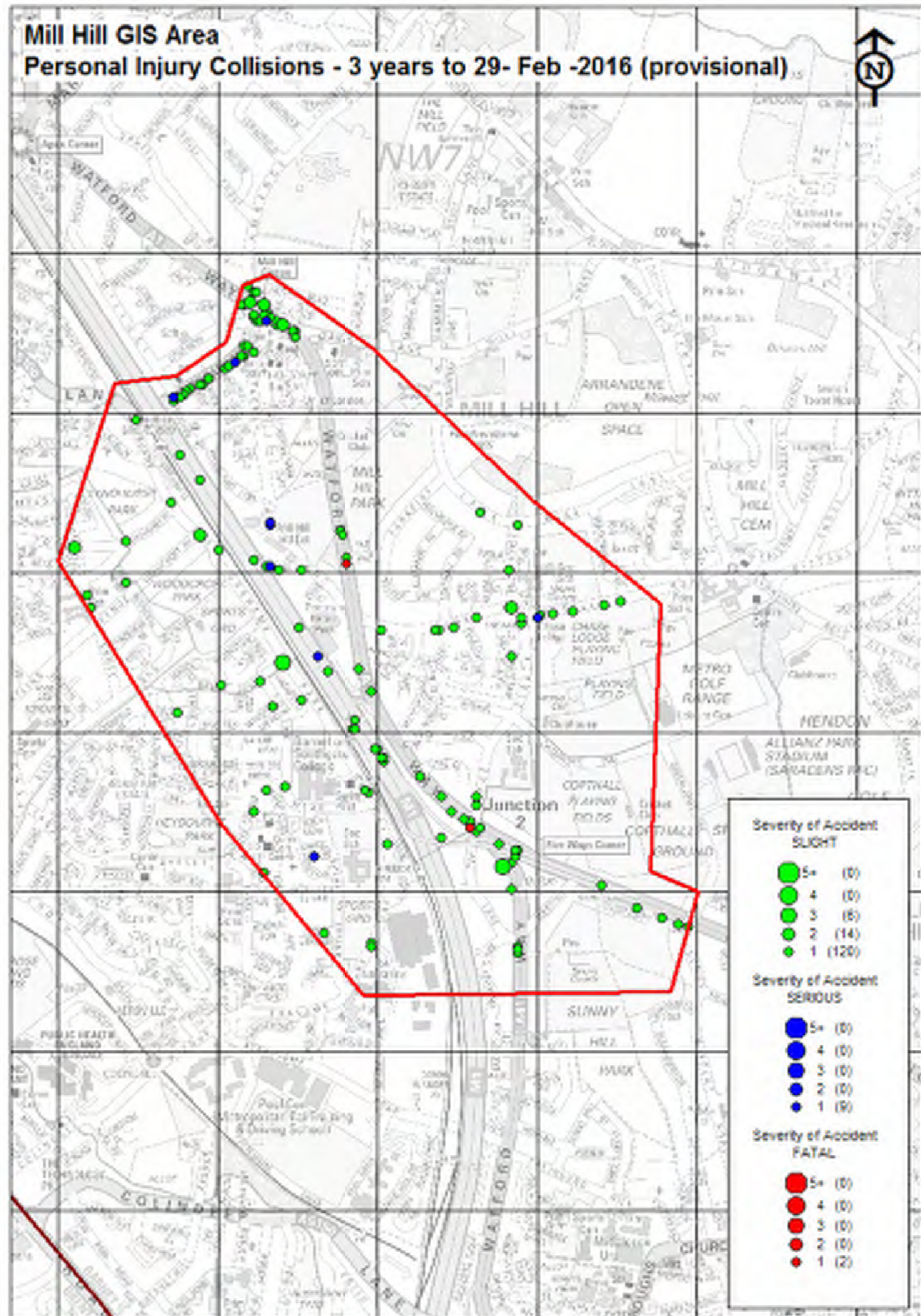
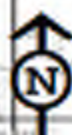
Crossing Locations



Appendix D

PIA DATA

Mill Hill GIS Area
 Personal Injury Collisions - 3 years to 29- Feb -2016 (provisional)





Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

Summary of Accidents Selected

Site Reference and Description (zero accident counts shown in bold)	Date Period	Accidents
MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016	151

The description of how the accident occurred and the contributory factors are the reporting officer's opinion at the time of reporting and may not be the result of extensive investigation


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)							36 MTS TO FEB-2016 SORTED BY DATE	
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1	0113SX20156	MON 04/03/13 19:25	LIGHT NFL - GREAT NORTH WAY 50M NORTH WEST OF J/W GREAT NORTH WAY	30	LINK 127-130	522700 / 190520
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SLIP RD NO JUN IN 20M NO XING FACILITY IN 50M

AS V2 BRAKED V1 COLLIDED WITH V2'S REAR. V3 STOPPED, BUT V4 HIT V3'S REAR, PUSHING V3 INTO V1.

CASUALTY 001 (003) (21 Yrs - F NW11) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(? Yrs - M HA7)	GOING AHEAD OTHER	NW TO SE
		BT - NOT REQUESTED			FRONT HIT FIRST

VEHICLE	002 (001)	CAR	(? Yrs - M DD6)	SLOWING OR STOPPING	NW TO SE
		BT - DRV NOT CONTACTED			BACK HIT FIRST

VEHICLE	003 (004)	CAR	(21 Yrs - F NW11)	GOING AHEAD HELD UP	NW TO SE
		BT - NOT REQUESTED			BACK HIT FIRST

VEHICLE	004 (003)	CAR	(63 Yrs - M EN6)	SLOWING OR STOPPING	NW TO SE
		BT - NOT REQUESTED			FRONT HIT FIRST

V002 A 408 (SUDDEN BRAKING)

V004 A 308 (FOLLOWING TOO CLOSE)

V001 A 308 (FOLLOWING TOO CLOSE)

V002 A 308 (FOLLOWING TOO CLOSE)

2	0113SX20165	FRI 08/03/13 07:40	LIGHT M1 4617M NORTH OF J/W NORTH CIRCULAR RD	30	LINK 135-318	521440 / 191790
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POLICE - AT SCENE ROAD-WET RAINING DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

AS V2 CHANGED LANE TO RIGHT V1 SWERVED, LOST CONTROL AND COLLIDED WITH CENTRAL RESERVATION.

CASUALTY 001 (001) (23 Yrs - M NW2) SLIGHT DRIVER/RIDER

VEHICLE	001 (000)	CAR	(23 Yrs - M NW2)	GOING AHEAD OTHER	SE TO NW	COMM TO/FROM WORK
		BT - NEGATIVE		SKIDDED	FRONT HIT FIRST	
		LEFT CWY ONTO RES/REBOUND			HIT CENTRAL BAR	

VEHICLE	002 (000)	CAR	(? Yrs - U UNKN)	CHANGE LANE TO RIGHT	SE TO NW
		BT - DRV NOT CONTACTED			DID NOT IMPACT

V001 A 409 (SWERVED)

V001 A 410 (LOSS OF CONTROL)

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

3 0113SX20210 TUE 12/03/13 08:00 LIGHT NFL - WATFORD WAY (BARNET BY-PASS) 100M NORTH OF J/W THE RISE 30 LINK 126-218 521880 / 191630
 POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
 AS V2 CHANGED LAN TO RIGHT V1 BRAKED SUDDENLY, CAUSING COLLISION.

CASUALTY 001 (001) (20 Yrs - F EN7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (20 Yrs - F EN7) CHANGE LANE TO RIGHT S TO N
 BT - DRV NOT CONTACTED N/S HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (? Yrs - M UNKN) SLOWING OR STOPPING S TO N
 BT - DRV NOT CONTACTED BACK HIT FIRST

V002 A 408 (SUDDEN BRAKING)

V001 A 308 (FOLLOWING TOO CLOSE)

4 0113SX20207 TUE 19/03/13 18:00 LIGHT NFL - THE BROADWAY J/W BROCKENHURST GARDENS 30 LINK 212-214 521410 / 192080
 POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT PELICAN OR SIMILAR
 PASSENGER OF STATIONARY V2 OPENED DOOR INTO PATH OF PASSING V1, CAUSING COLLISION. V1 REBOUNDED INTO PARKED V3.

CASUALTY 001 (001) (43 Yrs - M NW7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) PEDAL CYCLE (43 Yrs - M NW7) OVERTAKING NEARSIDE SW TO NE JNY PART OF WORK JCT APP
 BT - NOT APPLICABLE SKIDDED O/S HIT FIRST

VEHICLE 002 (001) TAXI (? Yrs - M UNKN) HIT PARKED VEH GOING AHEAD HELD UP SW TO NE JNY PART OF WORK JCT APP
 BT - DRV NOT CONTACTED N/S HIT FIRST

VEHICLE 003 (001) CAR (? Yrs - U PARKED) PARKED P TO P JCT APP
 BT - DRV NOT CONTACTED N/S HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 904 (VEHICLE DOOR OPENED OR CLOSED NEGLIGENTLY)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

5 0113SX20184 WED 20/03/13 19:40 DARK WATFORD WAY (BARNET BY-PASS) J/W THE RISE 30 LINK 126-218 521900 / 191550

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 HIT REAR OF V1. V3 THEN HIT REAR OF V2.

CASUALTY 001 (001) (33 Yrs - M E10) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (33 Yrs - M WD6) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (33 Yrs - M E10) SLOWING OR STOPPING N TO S JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (33 Yrs - M WD6) SLOWING OR STOPPING N TO S JCT APP
BT - NEGATIVE FRONT HIT FIRST

VEHICLE 003 (002) CAR (39 Yrs - M CB3) SLOWING OR STOPPING N TO S JCT APP
BT - NEGATIVE FRONT HIT FIRST

V002 A 408 (SUDDEN BRAKING)

V002 A 308 (FOLLOWING TOO CLOSE)

V003 A 308 (FOLLOWING TOO CLOSE)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

6 0113SX20240 SAT 23/03/13 18:10 DARK WATFORD WAY (BARNET BY-PASS) J/W LAWRENCE STREET 30 NODE 217 521650 / 192300

POLICE - AT SCENE ROAD-WET WEATHER-FINE DUAL CWY ROUNDABOUT AUTO SIG PEDN PHASE AT ATS

AS V1 BRAKED V2 HIT V1'S REAR. V3 THEN HIT V2'S REAR.

CASUALTY 001 (002) (29 Yrs - M TW13) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (? Yrs - M NW9) SLIGHT DRIVER/RIDER

CASUALTY 003 (001) (34 Yrs - M NW9) SLIGHT PASSENGER BACK SEAT

CASUALTY 004 (001) (25 Yrs - M NW9) SLIGHT PASSENGER BACK SEAT

CASUALTY 005 (003) (20 Yrs - F TW11) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (? Yrs - M NW9) SLOWING OR STOPPING NW TO SE JCT CLEARED
BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (29 Yrs - M TW13) SLOWING OR STOPPING NW TO SE COMM TO/FROM WORK JCT CLEARED
BT - NEGATIVE SKIDDED FRONT HIT FIRST

VEHICLE 003 (002) CAR (38 Yrs - M TW11) GOING AHEAD OTHER NW TO SE JCT CLEARED
BT - NEGATIVE FRONT HIT FIRST
LEFT CWY ONTO CENTRAL RES HIT KERB

V001 A 401 (JUNCTION OVERSHOOT)

V002 A 308 (FOLLOWING TOO CLOSE)

V003 A 308 (FOLLOWING TOO CLOSE)

7 0113SX20193 MON 25/03/13 08:57 LIGHT NFL - THE BROADWAY J/W MILL WAY 30 LINK 212-214 521370 / 192050

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT ZEBRA

PED RAN INTO PATH OF V1, CAUSING COLLISION.

CASUALTY 001 (001) (28 Yrs - F HA8) SLIGHT PEDESTRIAN UNKNOWN

VEHICLE 001 (000) M/C 50-125CC (57 Yrs - F NW7) GOING AHEAD OTHER SW TO NE JCT CLEARED
BT - NEGATIVE N/S HIT FIRST

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

8 0113SX20249 WED 27/03/13 08:30 LIGHT NFL - LONG MEAD J/W CORNER MEAD 30 CELL 521500/190500 521710 / 190830
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 PED RAN BETWEEN STATIONARY VEHICLES INTO PATH OF V1 WHO WAS TURNING LEFT, CAUSING COLLISION.

CASUALTY 001 (001) (12 Yrs - F NW9) SLIGHT PEDESTRIAN UNKNOWN FROM DRIVERS O/SIDE MSK
 JOURNEY TO/FROM SCHOOL Sch Attended : ST JAMES' SCHOOL

VEHICLE 001 (000) CAR (? Yrs - U UNKN) TURNING LEFT S TO W JCT MID
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V001 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S)) C001 A 808 (CARELESS/RECKLESS/IN A HURRY)
 C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

9 0113SX20265 SAT 30/03/13 10:30 LIGHT WISE LANE J/W PAGE STREET 30 LINK 173-221 522440 / 191650
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 AS V1 BRAKED SUDDENLY V1 LOST CONTROL AND COLLIDED WITH ONCOMING V2.

CASUALTY 001 (001) (23 Yrs - M NW2) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) M/C 50-125CC (23 Yrs - M NW2) SLOWING OR STOPPING W TO E JNY PART OF WORK JCT MID
 BT - NOT REQUESTED SKIDDED FRONT HIT FIRST

VEHICLE 002 (001) GDS => 7.5T (26 Yrs - M NW9) TURNING LEFT E TO S JNY PART OF WORK JCT MID
 BT - NOT REQUESTED O/S HIT FIRST

V001 A 408 (SUDDEN BRAKING) V001 A 410 (LOSS OF CONTROL)
 V001 B 605 (INEXPERIENCED OR LEARNER DRIVER/RIDER) V001 A 308 (FOLLOWING TOO CLOSE)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

10 0113SX20243 THU 04/04/13 23:50 DARK M1 500M NORTH WEST OF J/W M1 30 LINK 135-318 521750 / 191330
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
 ROADWORKS

V2 HIT REAR OF BREAKING V1. V3 THEN HIT REAR OF BRAKING V2.

CASUALTY 001 (002) (36 Yrs - F N16) SLIGHT PASSENGER

VEHICLE 001 (002) CAR (23 Yrs - M IG3) SLOWING OR STOPPING NW TO SE
 BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (001) MINIBUS (52 Yrs - M N16) SLOWING OR STOPPING NW TO SE
 BT - NEGATIVE BACK HIT FIRST

VEHICLE 003 (002) GDS => 7.5T (40 Yrs - M MK42) GOING AHEAD OTHER NW TO SE JNY PART OF WORK
 BT - NEGATIVE FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE)

V003 A 308 (FOLLOWING TOO CLOSE)

V001 A 408 (SUDDEN BRAKING)

V002 A 408 (SUDDEN BRAKING)

11 0113SX20283 SUN 07/04/13 15:55 LIGHT WATFORD WAY (BARNET BY-PASS) J/W THE BROADWAY 30 NODE 214 521620 / 192290

POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT AUTO SIG PEDN PHASE AT ATS

AS V2 BRAKED SUDDENLY V1 HIT V2'S REAR.

CASUALTY 001 (002) (48 Yrs - F NW11) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (30 Yrs - M HA7) SLIGHT PASSENGER

CASUALTY 003 (001) (36 Yrs - F SG13) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) GDS =< 3.5T (36 Yrs - F SG13) GOING AHEAD OTHER SE TO NW JCT MID
 BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) CAR (48 Yrs - F NW11) SLOWING OR STOPPING SE TO NW JCT MID
 BT - NEGATIVE BACK HIT FIRST

V001 A 308 (FOLLOWING TOO CLOSE)

V002 A 408 (SUDDEN BRAKING)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

12 0113SX20339 THU 25/04/13 14:45 LIGHT NFL - GREAT NORTH WAY 50M SOUTH EAST OF J/W WATFORD WAY 30 LINK 127-130 522440 / 190630

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V1 AND V2 BRAKED HARD. V3 HIT V2, PUSHING V2 INTO V1.

CASUALTY 001 (003) (30 Yrs - M UNKN) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (? Yrs - U UNKN) SLOWING OR STOPPING NW TO SE
BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (003) CAR (45 Yrs - M IG1) SLOWING OR STOPPING NW TO SE
BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 003 (002) GDS =< 3.5T (30 Yrs - M UNKN) GOING AHEAD OTHER NW TO SE JNY PART OF WORK
BT - NOT PROVD (MEDCL REASONS) FRONT HIT FIRST

V003 A 308 (FOLLOWING TOO CLOSE)

V001 A 408 (SUDDEN BRAKING)

V002 A 408 (SUDDEN BRAKING)

V002 A 308 (FOLLOWING TOO CLOSE)

13 0113SX20327 SAT 27/04/13 22:09 DARK WATFORD WAY J/W A1 30 NODE 127 522390 / 190580

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY ROUNDABOUT AUTO SIG NO XING FACILITY IN 50M

V2 COLLIDED WITH REAR OF STAT V1.

CASUALTY 001 (001) (54 Yrs - M SG4) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (31 Yrs - F SG19) SLIGHT DRIVER/RIDER

CASUALTY 003 (001) (? Yrs - F SG4) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (54 Yrs - M SG4) GOING AHEAD HELD UP S TO N JCT APP
BT - NOT PROVD (MEDCL REASONS) BACK HIT FIRST

VEHICLE 002 (001) CAR (31 Yrs - F SG19) GOING AHEAD OTHER S TO N COMM TO/FROM WORK JCT APP
BT - NEGATIVE FRONT HIT FIRST

V002 B 503 (FATIGUE)

V002 A 405 (FAILED TO LOOK PROPERLY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)							36 MTS TO FEB-2016 SORTED BY DATE	
14	0113SX20382	WED 15/05/13 19:30	LIGHT	THE BROADWAY 47M SOUTH WEST J/W FLOWER LANE	30	LINK 212-214	521550 / 192160	
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY NO JUN IN 20M	NO XING FACILITY IN 50M			
V1 U TURNED ACROSS PATH V2								
CASUALTY 001 (002) (49 Yrs - M HA8)			SERIOUS DRIVER/RIDER					
VEHICLE	001 (002)	CAR (20 Yrs - F NW7)	U-TURNING		NE TO NE O/S HIT FIRST			
BT - NOT REQUESTED								
VEHICLE	002 (001)	M/C 50-125CC (49 Yrs - M HA8)	GOING AHEAD OTHER		NE TO SW FRONT HIT FIRST			
BT - NOT REQUESTED								
V001 A 405 (FAILED TO LOOK PROPERLY)				V001 A 602 (CARELESS/RECKLESS/IN A HURRY)				
15	0113SX20442	THU 30/05/13 16:50	LIGHT	WATFORD WAY (BARNET BY-PASS), JUNCTION WITH THE BROADWAY	30	NODE 216	521580 / 192340	
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	DUAL CWY ROUNDABOUT	GIVE WAY/UNCONT PELICAN OR SIMILAR			
VEH 2 HIT REAR OF VEH 1								
CASUALTY 001 (001) (56 Yrs - M WD6)			SLIGHT DRIVER/RIDER					
VEHICLE	001 (002)	CAR (56 Yrs - M WD6)	GOING AHEAD OTHER		SE TO NW COMM TO/FROM WORK		JCT CLEARED	
BT - NOT REQUESTED					BACK HIT FIRST			
VEHICLE	002 (001)	CAR (? Yrs - F HA7)	GOING AHEAD OTHER		SE TO NW		JCT CLEARED	
BT - DRV NOT CONTACTED					FRONT HIT FIRST			
V001 A 408 (SUDDEN BRAKING)				V002 B 308 (FOLLOWING TOO CLOSE)				
16	0113SX20443	MON 03/06/13 15:15	LIGHT	THE BROADWAY J/W MILL WAY	30	LINK 212-214	521360 / 192050	
POLICE - OVER COU ROAD-DRY			WEATHER-FINE	SINGLE CWY T/STAG JUN	GIVE WAY/UNCONT ZEBRA			
AS V1 TURNED LEFT V2 HIT V1'S REAR.								
CASUALTY 001 (001) (52 Yrs - F HA8)			SERIOUS DRIVER/RIDER					
VEHICLE	001 (002)	CAR (52 Yrs - F HA8)	TURNING LEFT		SW TO NW TAKING PUPIL TO/FROM SC		LEAVING MAIN RD	
BT - DRV NOT CONTACTED					BACK HIT FIRST			
VEHICLE	002 (001)	CAR (? Yrs - M UNKN)	GOING AHEAD OTHER		SW TO NE		JCT MID	
BT - DRV NOT CONTACTED					FRONT HIT FIRST			
V002 A 308 (FOLLOWING TOO CLOSE)				V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)				



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

17 0113SX20481 FRI 07/06/13 11:30 LIGHT LINKLEA CLOSE 52M WEST OF J/W CLAYTON FIELD 30 CELL 521000/191000 521370 / 191060

POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 REVERSED INTO THE PATH OF V1, CAUSING COLLISION.

CASUALTY 001 (001) (44 Yrs - M NW9) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (40 Yrs - F NW9) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) TAXI (44 Yrs - M NW9) GOING AHEAD OTHER SW TO NE TAKING PUPIL TO/FROM SC JCT MID
BT - DRV NOT CONTACTED N/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M NW9) REVERSING NW TO SE ENTERING MAIN RD
BT - DRV NOT CONTACTED BACK HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

18 0113SX20472 SAT 08/06/13 11:15 LIGHT BUNN'S LANE J/W COPTHALL GARDENS 30 LINK 173-460 522310 / 191360

POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 MOVED OFF AT JUNCTION AND HIT V1

CASUALTY 001 (001) (20 Yrs - M NW4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (20 Yrs - M NW4) GOING AHEAD OTHER W TO E JCT MID
BT - DRV NOT CONTACTED N/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - F NW7) MOVING OFF N TO S JCT MID
BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

19 0113SX20506 THU 27/06/13 14:55 LIGHT WATFORD WAY (BARNET BY-PASS) J/W DAWS LANE 30 NODE 218 521740 / 192260
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY OTHER JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 AS V1 BRAKED V2 HIT V1'S REAR.

CASUALTY 001 (001) (45 Yrs - M E17) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (40 Yrs - F E11) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (002) CAR (45 Yrs - M E17) SLOWING OR STOPPING NW TO SE JCT APP
 BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (27 Yrs - M UNKN) GOING AHEAD OTHER NW TO SE JNY PART OF WORK JCT APP
 BT - NEGATIVE FRONT HIT FIRST

V001 B 408 (SUDDEN BRAKING)

V002 A 308 (FOLLOWING TOO CLOSE)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

20 0113SX20527 THU 04/07/13 13:57 LIGHT NFL - WATFORD WAY (BARNET BY-PASS) JUNCTION WITH THE BROADWAY 30 NODE 217 521650 / 192290
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY ROUNDABOUT AUTO SIG PEDN PHASE AT ATS
 C1 WAS HIT BY VEH 1 IN LANE 3 AS SHE CROSSED 3 LANES OF SLOW MOVING TRAFFIC IN LANES 1 & 2

CASUALTY 001 (001) (27 Yrs - F NW7) SERIOUS PEDESTRIAN UNKNOWN

VEHICLE 001 (000) CAR (51 Yrs - F HA8) GOING AHEAD OTHER SE TO NW JNY PART OF WORK JCT APP
 BT - NEGATIVE FRONT HIT FIRST

V001 B 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))

C001 B 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

C001 B 804 (WRONG USE OF PEDESTRIAN CROSSING FACILITY)

C001 B 802 (FAILED TO LOOK PROPERLY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

21 0113SX20564 SUN 14/07/13 19:45 LIGHT FLOWER LANE, 95 METRES SOUTH OF WOODLAND WAY.

30 CELL 521500/191500 521660 / 191650

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M

NO XING FACILITY IN 50M

V.1 LOST CONTROL OF V & HIT V.2.

CASUALTY 001 (001) (? Yrs - F SG1) SERIOUS DRIVER/RIDER

CASUALTY 002 (001) (48 Yrs - M UNKN) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (? Yrs - F SG1) GOING AHEAD LEFT BEND N TO SE
BT - NOT PROVD (MEDCL REASONS) SKIDDED O/S HIT FIRSTVEHICLE 002 (001) GDS =< 3.5T (? Yrs - U PARKED) HIT PARKED VEH
BT - DRV NOT CONTACTED PARKED P TO P
O/S HIT FIRST

V001 B 306 (EXCEEDING SPEED LIMIT)

V001 A 410 (LOSS OF CONTROL)

V001 A 601 (AGGRESSIVE DRIVING)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

22 0113SX20605 THU 18/07/13 18:55 LIGHT M1 J/W GREAT NORTH WAY (BARNET BY-PASS) 30 NODE 127 522430 / 190610

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY SLIP ROAD GIVE WAY/UNCONT NO XING FACILITY IN 50M

VEHICLES 1 AND 2 INVOLVED IN ROAD RAGE STOPPED ON SLIP ROAD, V3 THEN HIT V2 PUSHING IT INTO V1, V4 HIT V3, V5 HIT V4.

CASUALTY 001 (002) (25 Yrs - F WD23) SLIGHT DRIVER/RIDER

CASUALTY 002 (003) (31 Yrs - M N7) SLIGHT DRIVER/RIDER

CASUALTY 003 (004) (19 Yrs - M NW4) SLIGHT DRIVER/RIDER

CASUALTY 004 (005) (21 Yrs - M UNKN) SLIGHT PASSENGER BACK SEAT

CASUALTY 005 (005) (31 Yrs - F HP3) SLIGHT PASSENGER FRONT SEAT

CASUALTY 006 (005) (30 Yrs - M HP3) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (002) CAR (48 Yrs - M WD24) PARKED P TO P JCT MID
BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (003) CAR (25 Yrs - F WD23) GOING AHEAD HELD UP SE TO NW JCT MID
BT - NEGATIVE BACK HIT FIRST

VEHICLE 003 (004) CAR (31 Yrs - M N7) HIT PARKED VEH GOING AHEAD OTHER SE TO NW JCT MID
BT - NEGATIVE FRONT HIT FIRST

VEHICLE 004 (003) CAR (19 Yrs - M NW4) GOING AHEAD OTHER SE TO NW JCT MID
BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 005 (004) CAR (50 Yrs - F HP3) GOING AHEAD OTHER SE TO NW JCT MID
BT - NEGATIVE FRONT HIT FIRST

V001 A 601 (AGGRESSIVE DRIVING)

V002 A 601 (AGGRESSIVE DRIVING)

23 0113SX20594 WED 24/07/13 19:20 LIGHT LANCASTER CLOSE, 64 METRES EAST OF CORNER MEAD. 30 CELL 521500/191000 521760 / 191100

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

DRIVER OF V.1 & PED KNEW EACH OTHER & HAD AN ARGUMENT. V.1 DROVE OFF, MOUNTED PAVEMENT & HIT PED.

CASUALTY 001 (001) (28 Yrs - M NW9) SLIGHT PEDESTRIAN ON FOOTPATH - VERGE STANDING

VEHICLE 001 (000) CAR (? Yrs - M UNKN) GOING AHEAD OTHER NW TO SE FRONT HIT FIRST
BT - DRV NOT CONTACTED

HIT KERB

V001 A 601 (AGGRESSIVE DRIVING)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

24 0113SX20697 SUN 04/08/13 18:01 LIGHT LAWRENCE STREET, 34M NORTH WEST OF JUNCTION WITH VICTORIA ROAD 30 CELL 521500/192000 521590 / 192400
 POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

VEH 2 DROVE HEAD ON INTO A BUS (VEH 1) AS HE NEGOTIATED A LEFT HAND BEND IN THE ROAD

CASUALTY 001 (001) (17 Yrs - F N14) SLIGHT PASSENGER SEATED ON PSV

CASUALTY 002 (002) (27 Yrs - M N20) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) BUS/COACH (57 Yrs - M WD6) GOING AHEAD RIGHT BEND SE TO N
 BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) CAR (27 Yrs - M N20) GOING AHEAD LEFT BEND N TO SE
 BT - NEGATIVE FRONT HIT FIRST

V002 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 408 (SUDDEN BRAKING)

V002 A 601 (AGGRESSIVE DRIVING)

25 0113SX20656 THU 08/08/13 19:15 LIGHT SEBERGHAM GROVE, 26M EAST OF JUNCTION WITH BRAMPTON DRIVE 30 CELL 522000/191000 522420 / 191240
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

VEH 1 TURNED RIGHT OUT OF DRIVEWAY, LEFT CARRIAGEWAY, HIT A BUSH & THEN COLLIDED WITH PARKED VEH 2

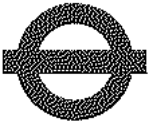
CASUALTY 001 (001) (89 Yrs - F NW7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (89 Yrs - F NW7) TURNING RIGHT S TO E JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST
 LEFT CWY OFFSIDE HIT PARKED VEH HIT OTH OBJECT

VEHICLE 002 (001) CAR (? Yrs - M PARKED) PARKED P TO P JCT APP
 BT - NOT REQUESTED N/S HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 410 (LOSS OF CONTROL)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

26 0113SX20657 MON 12/08/13 18:42 LIGHT EVERGLADE STRAND, 55 METRES WEST OF GREAT STRAND. 30 CELL 521500/190500 521800 / 190610
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 V.2 CROSSED THE ROAD IN PATH OF ON-COMING V.1. V.1 HIT V.2 AND THEN DROVE OFF.

CASUALTY 001 (002) (5 Yrs - M NW9) SERIOUS DRIVER/RIDER

Sch Attended : N/R

VEHICLE 001 (002) GDS =< 3.5T (? Yrs - U UNKN)
 BT - DRV NOT CONTACTED

GOING AHEAD OTHER E TO W
 FRONT HIT FIRST

VEHICLE 002 (001) PEDAL CYCLE (5 Yrs - M NW9)
 BT - NOT APPLICABLE

GOING AHEAD OTHER N TO S
 N/S HIT FIRST

V002 A 310 (CYCLIST ENTERING ROAD FROM PAVEMENT)

V002 A 405 (FAILED TO LOOK PROPERLY)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 405 (FAILED TO LOOK PROPERLY)

27 0113SX20745 TUE 20/08/13 11:00 LIGHT BUNN'S LANE, 29M WEST OF JUNCTION WITH COPTHALL DRIVE 30 LINK 173-460 522180 / 191320
 POLICE - OVER COU ROAD-DRY WEATHER-UNKNOWN SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 VEH 1 STOPPED TO LET UNKNOWN VEHICLE REVERSE OUT OF THIER DRIVE & WAS HIT IN REAR BY VEH 2

CASUALTY 001 (001) (72 Yrs - F HA7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (72 Yrs - F HA7)
 BT - DRV NOT CONTACTED

SLOWING OR STOPPING E TO W
 BACK HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (? Yrs - M UNKN)
 BT - DRV NOT CONTACTED

GOING AHEAD OTHER E TO W
 FRONT HIT FIRST

V001 B 408 (SUDDEN BRAKING)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 B 308 (FOLLOWING TOO CLOSE)

V002 B 602 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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28 0113SX20715 THU 29/08/13 08:30 LIGHT WOODCROFT AVENUE J/W BUNN'S LANE.	30 NODE 172	521440 / 191620
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POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V.1 & V.2 WERE BOTH TURNING RIGHT, V.2 HIT REAR OF V.1 & DROVE OFF.

CASUALTY 001 (001) (56 Yrs - F NW7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (56 Yrs - F NW7)	TURNING RIGHT	SW TO SE	JCT MID
BT - DRV NOT CONTACTED		BACK HIT FIRST	

VEHICLE 002 (001) CAR (? Yrs - M UNKN)	TURNING RIGHT	SW TO SE	JCT MID
BT - DRV NOT CONTACTED		FRONT HIT FIRST	

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 601 (AGGRESSIVE DRIVING)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

29 0113SX20707 FRI 30/08/13 11:35 LIGHT BUNN'S LANE JUNCTION WITH COPTHALL DRIVE	30 LINK 173-460	522190 / 191320
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

C1 STEPPED INTO CARRIAGEWAY & INTO PATH OF VEH 1 & WAS HIT

CASUALTY 001 (001) (16 Yrs - F NW7) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) N BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (52 Yrs - F NW11)	GOING AHEAD OTHER	E TO W	JCT CLEARED
BT - NEGATIVE		FRONT HIT FIRST	

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

30 0113SX20827 THU 19/09/13 20:00 DARK THE BROAD WAY 83M SOUTH WEST J/W FLOWER LANE	30 LINK 212-214	521520 / 192140
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POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 HIT REAR V1

CASUALTY 001 (001) (37 Yrs - M SE12) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (37 Yrs - M SE12)	GOING AHEAD HELD UP	SW TO NE	
BT - DRV NOT CONTACTED		BACK HIT FIRST	

VEHICLE 002 (001) CAR (? Yrs - M UNKN)	GOING AHEAD OTHER	SW TO NE	
BT - DRV NOT CONTACTED		FRONT HIT FIRST	

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 B 602 (CARELESS/RECKLESS/IN A HURRY)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

31 0113SX20816 TUE 24/09/13 18:00 LIGHT BUNN'S LANE J/W PAGE STREET 30 NODE 173 522410 / 191390
 POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY MINI GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V2 HIT REAR V1

CASUALTY 001 (001) (28 Yrs - F EN8) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (28 Yrs - F EN8) GOING AHEAD HELD UP W TO E JCT APP
 BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - F NW7) GOING AHEAD OTHER W TO E JCT APP
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

32 0113SX20854 TUE 08/10/13 13:20 LIGHT BUNN'S LANE J/W LYNDHURST AVENUE 30 LINK 172-212 521350 / 191720
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY MINI GIVE WAY/UNCONT NO XING FACILITY IN 50M

V3 DRIVER ADJUSTED SEAT AND COLLIDED WITH V2, PUSHING V2 INTO V1.

CASUALTY 001 (001) (48 Yrs - F UNKN) SLIGHT DRIVER/RIDER
 CASUALTY 002 (002) (38 Yrs - F DE56) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (48 Yrs - F UNKN) GOING AHEAD HELD UP NW TO SE JNY PART OF WORK JCT APP
 BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (003) CAR (38 Yrs - F DE56) GOING AHEAD HELD UP NW TO SE JCT APP
 BT - NEGATIVE BACK HIT FIRST

VEHICLE 003 (002) BUS/COACH (48 Yrs - M HA4) GOING AHEAD OTHER NW TO SE JNY PART OF WORK JCT APP
 BT - NEGATIVE FRONT HIT FIRST

V003 A 410 (LOSS OF CONTROL)

V003 A 405 (FAILED TO LOOK PROPERLY)

V003 A 602 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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33 0113SX20851 WED 09/10/13 12:07 LIGHT NFL - BUNN'S LANE 70M WEST OF J/W FLOWER LANE	30 LINK 460-655	521690 / 191510
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V1 COLLIDED WITH ONCOMING V2.

CASUALTY 001 (002) (32 Yrs - M HA7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (30 Yrs - F NW7) GOING AHEAD OTHER W TO E TAKING PUPIL TO/FROM SC
BT - NOT REQUESTED O/S HIT FIRST

VEHICLE 002 (001) CAR (32 Yrs - M HA7) GOING AHEAD OTHER E TO W
BT - NEGATIVE O/S HIT FIRST

V001 B 405 (FAILED TO LOOK PROPERLY)

V002 B 405 (FAILED TO LOOK PROPERLY)

34 0113TD00128 TUE 15/10/13 18:46 DARK WATFORD WAY J/W THE RISE	30 LINK 126-218	521900 / 191530
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 STOPPED SUDDENLY DUE TO ANOTHER CAR, V2 (PRIVATE AMBULANCE) HIT V1'S REAR, V3 HIT V2'S REAR

CASUALTY 001 (002) (85 Yrs - F HA8) FATAL PASSENGER

VEHICLE 001 (003) CAR (33 Yrs - M CV6) GOING AHEAD OTHER N TO S JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (001) OTH MOT VEH (63 Yrs - M HA8) GOING AHEAD OTHER N TO S JNY PART OF WORK JCT APP
BT - NEGATIVE FRONT HIT FIRST

VEHICLE 003 (002) CAR (33 Yrs - M W3) GOING AHEAD OTHER N TO S JCT APP
BT - NEGATIVE FRONT HIT FIRST

V001 A 408 (SUDDEN BRAKING)

V002 B 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V003 A 308 (FOLLOWING TOO CLOSE)

V003 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)							36 MTS TO FEB-2016 SORTED BY DATE	
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35	0113SX20886	FRI 18/10/13 19:15	DARK	WATFORD WAY (BARNET BY-PASS) 45M NORTH WEST OF J/W THE BROADWAY	30	LINK 216-275	521570 / 192340
POLICE - OVER COU ROAD-DRY			WEATHER-FINE	DUAL CWY	NO JUN IN 20M	PEDN PHASE AT ATS	

V3 COLLIDED WITH V2, PUSHING V2 INTO V1.

CASUALTY 001 (001) (31 Yrs - F WD6) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(31 Yrs - F WD6)	GOING AHEAD HELD UP	SE TO NW
BT - DRV NOT CONTACTED					BACK HIT FIRST

VEHICLE	002 (003)	CAR	(? Yrs - M CM1)	GOING AHEAD HELD UP	SE TO NW
BT - DRV NOT CONTACTED					BACK HIT FIRST

VEHICLE	003 (002)	CAR	(? Yrs - M UNKN)	GOING AHEAD OTHER	SE TO NW
BT - DRV NOT CONTACTED					FRONT HIT FIRST

V003 A 405 (FAILED TO LOOK PROPERLY)

36	0113SX20888	FRI 25/10/13 08:00	LIGHT	NFL - M1 50M NORTH WEST OF J/W M1 SLIP RD	30	LINK 135-318	522000 / 190950
POLICE - AT SCENE ROAD-WET			RAINING	DUAL CWY	NO JUN IN 20M	NO XING FACILITY IN 50M	

V2 CHANGED LANE TO RIGHT IN FRONT OF V1, CAUSING COLLISION.

CASUALTY 001 (001) (23 Yrs - M WD19) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	M/C > 500CC	(23 Yrs - M WD19)	SLOWING OR STOPPING	NW TO SE	COMM TO/FROM WORK
BT - NOT REQUESTED					FRONT HIT FIRST	

VEHICLE	002 (001)	GDS => 7.5T	(? Yrs - U UNKN)	CHANGE LANE TO RIGHT	NW TO SE
BT - DRV NOT CONTACTED					BACK HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 710 (VISION AFFECTED - VEHICLE BLIND SPOT)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

37 0113SX20889 FRI 25/10/13 12:15 LIGHT WATFORD WAY (BARNET BY-PASS) 97M SOUTH EAST OF J/W TITHE CLOSE 30 LINK 126-218 522200 / 190800
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
 AS V1 BRAKED V2 HIT V1'S REAR.

CASUALTY 001 (002) (36 Yrs - F UNKN) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) TAXI (50 Yrs - M NW10) SLOWING OR STOPPING NW TO SE JNY PART OF WORK
 BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (001) CAR (36 Yrs - F UNKN) GOING AHEAD OTHER NW TO SE
 BT - NEGATIVE FRONT HIT FIRST

V001 A 408 (SUDDEN BRAKING)

V002 A 308 (FOLLOWING TOO CLOSE)

V002 B 306 (EXCEEDING SPEED LIMIT)

38 0113TD00130 SAT 26/10/13 18:36 LIGHT WATFORD WAY J/W HALL LANE 30 NODE 126 522290 / 190700
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG NO XING FACILITY IN 50M
 V1 MOVED OFF AND SWERVED TO AVOID A PED CROSSING BUT V1 STILL COLLIDED WITH PED

CASUALTY 001 (001) (55 Yrs - M NW7) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (52 Yrs - M NW7) FATAL PEDESTRIAN CROSSING ROAD (NOT ON XING) NE BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) M/C > 500CC (55 Yrs - M NW7) MOVING OFF SE TO NW JCT CLEARED
 BT - NEGATIVE FRONT HIT FIRST

C002 A 802 (FAILED TO LOOK PROPERLY)

C002 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)

C002 A 808 (CARELESS/RECKLESS/IN A HURRY)

V001 A 409 (SWERVED)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 410 (LOSS OF CONTROL)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

39 0113SX20907 FRI 01/11/13 16:52 DARK GRAHAME PARK WAY 132M SOUTH WEST OF J/W AVION CRESCENT 30 LINK 655-660 521980 / 190340

POLICE - AT SCENE ROAD-WET WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT CENTRAL REFUGE

V1 LOST CONTROL, COLLIDING WITH PARKED V2. V2 THEN HIT PARKED V3.

CASUALTY 001 (001) (50 Yrs - F HA8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (50 Yrs - F HA8) GOING AHEAD OTHER SW TO NE COMM TO/FROM WORK JCT MID
BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - U PARKED) HIT PARKED VEH PARKED P TO P JCT MID
BT - DRV NOT CONTACTED O/S HIT FIRST

VEHICLE 003 (002) CAR (? Yrs - U PARKED) HIT PARKED VEH PARKED P TO P JCT MID
BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 003 (002) CAR (? Yrs - U PARKED) HIT PARKED VEH PARKED P TO P JCT MID
BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 003 (002) CAR (? Yrs - U PARKED) HIT PARKED VEH PARKED P TO P JCT MID
BT - DRV NOT CONTACTED BACK HIT FIRST

V001 A 410 (LOSS OF CONTROL) V001 A 405 (FAILED TO LOOK PROPERLY)

40 0113SX20985 MON 11/11/13 09:00 LIGHT PAGE STREET J/W PURLSEY RD 30 NODE 173 522450 / 191350

POLICE - AT SCENE ROAD-WET RAINING ROUNDABOUT MINI GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 AND V2 BOTH TURNED ONTO ROUNDABOUT FROM DIFFERENT DIRECTIONS AND COLLIDED.

CASUALTY 001 (002) (27 Yrs - M N11) SLIGHT PASSENGER

VEHICLE 001 (002) CAR (48 Yrs - M NW4) TURNING RIGHT S TO E JCT MID
BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (47 Yrs - M N12) TURNING RIGHT E TO N JCT MID
BT - NOT REQUESTED N/S HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE) V001 A 405 (FAILED TO LOOK PROPERLY)

V002 A 405 (FAILED TO LOOK PROPERLY) V001 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)							36 MTS TO FEB-2016 SORTED BY DATE		
41	0113SX21043	THU 14/11/13 19:05	DARK	WATFORD WAY J/W A1			30	NODE 127	522390 / 190580
POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M									
V3 BROKE SUDDENLY. V2 FOLLOWING BEHIND V3 THEN BROKE SUDDENLY. V1 HIT V2'S REAR.									
CASUALTY 001 (002) (39 Yrs - F WD6) SLIGHT DRIVER/RIDER									
VEHICLE	001 (002)	CAR	(? Yrs - M UNKN)	GOING AHEAD OTHER	S TO N				JCT APP
BT - DRV NOT CONTACTED					FRONT HIT FIRST				
VEHICLE	002 (001)	CAR	(39 Yrs - F WD6)	SLOWING OR STOPPING	S TO N				JCT APP
BT - DRV NOT CONTACTED					BACK HIT FIRST				
VEHICLE	003 (000)	CAR	(? Yrs - U UNKN)	SLOWING OR STOPPING	S TO N				JCT MID
BT - DRV NOT CONTACTED					DID NOT IMPACT				
V003 A 408 (SUDDEN BRAKING)					V002 A 408 (SUDDEN BRAKING)				
V002 A 308 (FOLLOWING TOO CLOSE)					V001 A 308 (FOLLOWING TOO CLOSE)				
42	0113SX21001	FRI 22/11/13 15:05	LIGHT	GOLDBEATERS GROVE J/W GOLDBEATERS GROVE			30	CELL 521000/191000	521090 / 191430
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M									
V1 MOVED OFF, TURNING RIGHT INTO PATH OF V2, CAUSING COLLISION.									
CASUALTY 001 (002) (34 Yrs - M HA8) SLIGHT DRIVER/RIDER									
VEHICLE	001 (002)	CAR	(52 Yrs - M NW9)	TURNING RIGHT	NE TO N				JCT MID
BT - NEGATIVE					FRONT HIT FIRST				
VEHICLE	002 (001)	PEDAL CYCLE	(34 Yrs - M HA8)	GOING AHEAD OTHER	N TO S				JCT MID
BT - NOT APPLICABLE					FRONT HIT FIRST				
V001 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))					V002 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))				
V001 A 402 (JUNCTION RESTART)					V001 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)				



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

43 0113SX21014 WED 27/11/13 08:49 LIGHT THE BROADWAY J/W FLOWER LANE 30 LINK 212-214 521580 / 192210

POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY OTHER JUN GIVE WAY/UNCONT ZEBRA

PED ATTEMPTED TO CROSS BEHIND V1 AS V1 REVERSED, CAUSING COLLISION.

CASUALTY 001 (001) (37 Yrs - F HA8) SLIGHT PEDESTRIAN UNKNOWN FROM DRIVERS O/SIDE

VEHICLE 001 (000) CAR (30 Yrs - M NW7) REVERSING SW TO NE JNY PART OF WORK JCT CLEARED
BT - NOT REQUESTED BACK HIT FIRST

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

44 0113SX21053 SAT 07/12/13 07:00 LIGHT THE BROADWAY, 126M NORTH EAST OF JUNCTION WITH MILL WAY 30 LINK 212-214 521470 / 192110

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M PELICAN OR SIMILAR

C1 WENT TO CROSS ROAD FROM BEHIND REVERSING V1, ANOTHER CAR WAS COMING SO SHE STEPPED BACK & WAS HIT BY V1

CASUALTY 001 (001) (32 Yrs - F W12) SLIGHT PEDESTRIAN CROSSING ROAD WITHIN 50M XING SE BOUND FROM DRIVERS N/SIDE MSK

VEHICLE 001 (000) CAR (37 Yrs - M NW7) REVERSING NE TO SW BACK HIT FIRST
BT - NEGATIVE

ENTERING LAY-BY/HARD SHL

V001 B 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

45 0113SX21087 TUE 10/12/13 08:25 LIGHT WATFORD WAY J/W HALL LANE 30 LINK 106-127 522440 / 190310

POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT FOOTBRIDGE OR SUBWAY

V1 CHNAGED LANE TO LEFT AND WAS HIT IN REAR BY V2

CASUALTY 001 (001) (34 Yrs - F NW9) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (11 Yrs - F W9) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (34 Yrs - F NW9) CHANGE LANE TO LEFT S TO N JCT APP
BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - U UNKN) GOING AHEAD OTHER S TO N JCT APP
BT - DRV NOT CONTACTED FRONT HIT FIRST

V001 B 403 (POOR TURN OR MANOEUVRE)

V001 B 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 B 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)

V002 B 405 (FAILED TO LOOK PROPERLY)

V002 B 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 B 308 (FOLLOWING TOO CLOSE)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

46 0113SX21180 WED 11/12/13 16:50 DARK WATFORD WAY (BARNET BY-PASS), JUNCTION WITH THE BROADWAY 30 NODE 214 521610 / 192300

POLICE - OVER COU ROAD-WET FOG/MIST ROUNDABOUT ROUNDABOUT AUTO SIG PEDN PHASE AT ATS

V1 WAS ON ROUNDABOUT WHEN APPARANTLY V2 HIT THE N/S OF V1 & FAILED TO STOP

CASUALTY 001 (001) (50 Yrs - M NW9) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (50 Yrs - M NW9) GOING AHEAD OTHER SE TO NW JNY PART OF WORK JCT MID
BT - DRV NOT CONTACTED N/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - U UNKN) CHANGE LANE TO RIGHT SE TO NW JCT MID
BT - DRV NOT CONTACTED O/S HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

47 0113SX21072 FRI 13/12/13 11:48 LIGHT WATFORD WAY J/W WILTSHIRE CLOSE. 30 LINK 217-218 521700 / 192280

POLICE - AT SCENE ROAD-WET WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V.1 BRAKED SHARPLY DUE TO TRAFFIC AHEAD. V.2 HIT REAR OF V.1, V.3 HIT REAR OF V.2.

CASUALTY 001 (001) (41 Yrs - M E4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (41 Yrs - M E4) GOING AHEAD OTHER NW TO SE JNY PART OF WORK JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (001) CAR (30 Yrs - F HA7) GOING AHEAD OTHER NW TO SE JCT APP
BT - NEGATIVE FRONT HIT FIRST

VEHICLE 003 (002) TAXI (37 Yrs - M EN6) GOING AHEAD OTHER NW TO SE JNY PART OF WORK JCT APP
BT - NEGATIVE FRONT HIT FIRST

V001 A 408 (SUDDEN BRAKING)

V002 A 308 (FOLLOWING TOO CLOSE)

V003 A 308 (FOLLOWING TOO CLOSE)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)							36 MTS TO FEB-2016 SORTED BY DATE	
48	0113SX21081	MON 16/12/13 08:39	LIGHT	BUNN'S LANE, 102M WEST OF J/W FLOWER LANE	30	LINK 460-655	521660 / 191520	
POLICE - AT SCENE ROAD-WET			RAINING/HIGH WINDS	SINGLE CWY NO JUN IN 20M	NO XING FACILITY IN 50M			
DRIVER V1 STATES THAT THE STEERING FAILED CAUSING HER TO LOSE CONTROL & COLLIDED WITH A TELEGRAPH POLE								
CASUALTY 001 (001) (58 Yrs - F NW7)			SERIOUS DRIVER/RIDER					
VEHICLE	001 (000)	CAR	(58 Yrs - F NW7)	GOING AHEAD LEFT BEND	NW TO E	JNY PART OF WORK		
BT - NEGATIVE			HIT KERB			FRONT HIT FIRST		
LEFT CWY NEARSIDE			HIT TELEGRAPH					
V001 B	204	(DEFECTIVE STEERING OR SUSPENSION)			V001 B	108	(ROAD LAYOUT (EG BEND, HILL, NARROW CARRIAGEWAY))	
V001 B	103	(SLIPPERY ROAD (DUE TO WEATHER))			V001 B	602	(CARELESS/RECKLESS/IN A HURRY)	
49	0113SX21099	THU 19/12/13 14:00	LIGHT	NFL - LITTLE STRAND 47M WEST OF J/W GREAT STRAND	30	CELL 521500/190000	521830 / 190370	
POLICE - OVER COU ROAD-DRY			WEATHER-FINE	SINGLE CWY PRIV DRIVE	GIVE WAY/UNCONT NO XING FACILITY IN 50M			
V2 ENTERED RD, COLLIDING WITH N/S OF V1.								
CASUALTY 001 (001) (23 Yrs - F HA3)			SLIGHT DRIVER/RIDER					
VEHICLE	001 (002)	CAR	(23 Yrs - F HA3)	GOING AHEAD OTHER	W TO E	JCT MID		
BT - DRV NOT CONTACTED			N/S HIT FIRST					
VEHICLE	002 (001)	CAR	(? Yrs - F WD6)	MOVING OFF	N TO S	ENTERING MAIN RD		
BT - DRV NOT CONTACTED			FRONT HIT FIRST					
V002 A	402	(JUNCTION RESTART)			V002 A	302	(DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)	
V002 A	405	(FAILED TO LOOK PROPERLY)						
50	0113SX21132	MON 30/12/13 19:20	DARK	WATFORD WAY, 34M NORTH WEST OF JUNCTION WITH WILTSHIRE CLOSE	30	LINK 217-218	521680 / 192290	
POLICE - AT SCENE ROAD-WET			WEATHER-FINE	DUAL CWY NO JUN IN 20M	PELICAN OR SIMILAR			
AFTER EXITING ROUNDABOUT, V1 MOVED FROM LANE 1 TO LANE2 & STRUCK N/S OF V2 ALREADY IN LANE 2								
CASUALTY 001 (001) (32 Yrs - F RM3)			SLIGHT DRIVER/RIDER					
VEHICLE	001 (002)	CAR	(32 Yrs - F RM3)	CHANGE LANE TO RIGHT	NW TO SE	O/S HIT FIRST		
BT - NOT REQUESTED			N/S HIT FIRST					
VEHICLE	002 (001)	CAR	(30 Yrs - F HA8)	GOING AHEAD OTHER	NW TO SE	N/S HIT FIRST		
BT - NOT REQUESTED								
V001 A	403	(POOR TURN OR MANOEUVRE)			V001 B	404	(FAILED TO SIGNAL/ MISLEADING SIGNAL)	
V001 A	405	(FAILED TO LOOK PROPERLY)			V001 B	602	(CARELESS/RECKLESS/IN A HURRY)	



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)						36 MTS TO FEB-2016 SORTED BY DATE	
51	0114SX20254	THU 02/01/14 13:56	LIGHT NFL - PURSLEY ROAD, 66M WEST OF J/W FEATHERSTONE ROAD	30	LINK 173-458	522710 / 191400	
POLICE - AT SCENE ROAD-WET WEATHER-FINE SINGLE CWY NO JUN IN 20M			NO XING FACILITY IN 50M				
TYRE OF V1 HAD BLOWN, V1 LOST CONTROL & HIT REAR OF PARKED V3, V3 WAS THEN PUSHED INTO V2							
CASUALTY 001 (001) (74 Yrs - M NW7) SLIGHT DRIVER/RIDER							
VEHICLE	001 (003)	CAR (74 Yrs - M NW7)	GOING AHEAD OTHER	W TO E			
BT - NOT REQUESTED			FRONT HIT FIRST				
			HIT PARKED VEH				
VEHICLE	002 (003)	CAR (38 Yrs - M PARKED)	PARKED	P TO P			
BT - NOT REQUESTED			BACK HIT FIRST				
			HIT PARKED VEH				
VEHICLE	003 (001)	GDS =< 3.5T (43 Yrs - M PARKED)	PARKED	P TO P			
BT - NOT REQUESTED			BACK HIT FIRST				
			HIT PARKED VEH				
V001 A	201 (TYRES ILLEGAL, DEFECTIVE OR UNDER INFLATED)			V001 A	410 (LOSS OF CONTROL)		
V001 B	505 (ILLNESS OR DISABILITY, MENTAL OR PHYSICAL)			V001 B	602 (CARELESS/RECKLESS/IN A HURRY)		
52	0114SX20233	MON 06/01/14 18:57	DARK WATFORD WAY, 80M SOUTH OF JUNCTION WITH GREAT NORTH WAY (BARNET BY	30	LINK 106-127	522420 / 190510	
POLICE - AT SCENE ROAD-WET RAINING/HIGH WINDS DUAL CWY NO JUN IN 20M			NO XING FACILITY IN 50M				
V2 GOT DISTRACTED & HIT REAR OF STATIONARY V1							
CASUALTY 001 (002) (21 Yrs - F NW9) SLIGHT PASSENGER FRONT SEAT							
VEHICLE	001 (002)	CAR (? Yrs - M NW9)	SLOWING OR STOPPING	S TO N			
BT - NEGATIVE			BACK HIT FIRST				
			HIT PARKED VEH				
VEHICLE	002 (001)	CAR (36 Yrs - F NW4)	GOING AHEAD OTHER	S TO N			
BT - NEGATIVE			FRONT HIT FIRST				
			HIT PARKED VEH				
V002 B	308 (FOLLOWING TOO CLOSE)			V002 A	406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)		
V002 A	509 (DISTRACTION IN VEHICLE)			V002 B	707 (VISION AFFECTED - RAIN, SLEET, SNOW, OR FOG)		


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)										36 MTS TO FEB-2016 SORTED BY DATE		
53	0114SX20239	TUE 07/01/14 13:35	LIGHT NFL - PURSLEY RD 53M EAST OF J/W PAGE STREET							30	LINK 173-458	522500 / 191360
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M ZEBRA												
AS V1 BRAKED SHARPLY AT A ZEBRA CROSSING V2 HIT V1'S REAR.												
CASUALTY 001 (001) (47 Yrs - M UNKN) SERIOUS DRIVER/RIDER												
VEHICLE	001 (002)	CAR	(47 Yrs - M UNKN)	SLOWING OR STOPPING	E TO W	COMM TO/FROM WORK						
BT - NOT REQUESTED BACK HIT FIRST												
VEHICLE	002 (001)	GDS =< 3.5T	(42 Yrs - M NW7)	SLOWING OR STOPPING	E TO W	COMM TO/FROM WORK						
BT - NOT REQUESTED FRONT HIT FIRST												
V001 A 408 (SUDDEN BRAKING)						V001 B 603 (NERVOUS/UNCERTAIN/ PANIC)						
V002 A 308 (FOLLOWING TOO CLOSE)												
54	0114SX20054	MON 27/01/14 09:10	LIGHT NFL - WATFORD WAY (BARNET BY-PASS) J/W HALL LANE							30	NODE 126	522310 / 190690
POLICE - OVER COU ROAD-WET WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS												
V2 COLLIDED WITH REAR OF STAT V1.												
CASUALTY 001 (001) (45 Yrs - M EN6) SLIGHT DRIVER/RIDER												
VEHICLE	001 (002)	CAR	(45 Yrs - M EN6)	GOING AHEAD HELD UP	SE TO NW	COMM TO/FROM WORK						JCT APP
BT - DRV NOT CONTACTED BACK HIT FIRST												
VEHICLE	002 (001)	CAR	(? Yrs - F UNKN)	GOING AHEAD OTHER	SE TO NW							JCT APP
BT - DRV NOT CONTACTED FRONT HIT FIRST												
V002 A 308 (FOLLOWING TOO CLOSE)						V002 A 405 (FAILED TO LOOK PROPERLY)						
V001 B 408 (SUDDEN BRAKING)												
55	0114SX20081	THU 30/01/14 20:00	DARK RIVINGTON CRESCENT J/W FIELD MEAD.							30	CELL 521500/191000	521510 / 191150
POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M												
C.1 CROSSED THE ROAD IN PATH OF ON-COMING V.1. V.1 HIT PED. & DROVE OFF.												
CASUALTY 001 (001) (31 Yrs - M NW9) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) E BOUND FROM DRIVERS N/SIDE												
VEHICLE	001 (000)	CAR	(? Yrs - M UNKN)	TURNING LEFT	W TO N							JCT CLEARED
BT - DRV NOT CONTACTED N/S HIT FIRST												
V001 A 405 (FAILED TO LOOK PROPERLY)						V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)						
C001 A 802 (FAILED TO LOOK PROPERLY)						C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)						


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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56	0114SX20058	SAT 01/02/14 14:30	LIGHT	WATFORD WAY (BARNET BY-PASS), 243M NORTH EAST OF J/W HALL LANE	30	LINK 126-218	522132 / 190860
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POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 WAS TAILGATING UNKNOWN VEH IN MIDDLE LANE THEN SWERVED INTO N/S LANE & HIT O/S OF V1, V2 FAILED TO STOP

CASUALTY 001 (001) (46 Yrs - F EN7) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(46 Yrs - F EN7)	GOING AHEAD OTHER	SE TO NW	COMM TO/FROM WORK
					O/S HIT FIRST	

BT - DRV NOT CONTACTED

HIT KERB

VEHICLE	002 (001)	GDS =< 3.5T	(? Yrs - U UNKN)	SINGLE	CHANGE LANE TO LEFT	SE TO NW
						N/S HIT FIRST

BT - DRV NOT CONTACTED

V002 B 306 (EXCEEDING SPEED LIMIT)

V002 A 601 (AGGRESSIVE DRIVING)

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

57	0114SX20125	WED 19/02/14 07:12	LIGHT	NFL - PAGE STREET 100M NORTH OF J/W WATFORD WAY (BARNET BY-PASS)	30	LINK 126-173	522310 / 190800
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

PARKED V2 OPENED DOOR INTO PATH OF V1, CAUSING COLLISION. V1 SWERVED AND COLLIDED WITH PARKED V'S 3 & 4.

CASUALTY 001 (001) (56 Yrs - F HA8) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (29 Yrs - F HA8) SLIGHT PASSENGER FRONT SEAT

VEHICLE	001 (002)	CAR	(56 Yrs - F HA8)	GOING AHEAD OTHER	S TO N	JNY PART OF WORK
					FRONT HIT FIRST	

BT - NOT REQUESTED

HIT PARKED VEH

VEHICLE	002 (001)	CAR	(51 Yrs - M WD6)	PARKED	P TO P	O/S HIT FIRST

BT - NOT REQUESTED

VEHICLE	003 (001)	CAR	(? Yrs - U PARKED)	PARKED	P TO P	O/S HIT FIRST

BT - DRV NOT CONTACTED

VEHICLE	004 (001)	CAR	(? Yrs - U PARKED)	PARKED	P TO P	O/S HIT FIRST

BT - DRV NOT CONTACTED

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 904 (VEHICLE DOOR OPENED OR CLOSED NEGLIGENTLY)

V001 A 409 (SWERVED)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)							36 MTS TO FEB-2016 SORTED BY DATE	
58	0114SX20168	FRI 28/02/14 18:26	DARK	THE BROADWAY J/W FLOWER LANE	30	LINK 212-214	521580 / 192180	
POLICE - AT SCENE ROAD-WET			RAINING	SINGLE CWY	T/STAG JUN	GIVE WAY/UNCONT ZEBRA		
PED STEPPED INTO PATH OF V1, CAUSING COLLISION.								
CASUALTY 001 (001) (21 Yrs - M NW7)			SLIGHT	PEDESTRIAN	CROSSING ROAD IN ZIG-ZAG EXIT		N BOUND	FROM DRIVERS N/SIDE
VEHICLE	001 (000)	CAR	(76 Yrs - M HA8)	GOING AHEAD OTHER		NE TO SW		JCT CLEARED
BT - NOT REQUESTED					FRONT HIT FIRST			
C001 A 802 (FAILED TO LOOK PROPERLY)					C001 A 808 (CARELESS/RECKLESS/IN A HURRY)			
V001 B 707 (VISION AFFECTED - RAIN, SLEET, SNOW, OR FOG)					V001 B 304 (DISOBEYED PEDESTRIAN CROSSING FACILITY)			
59	0114SX20167	WED 05/03/14 10:18	LIGHT	THE BROADWAY J/W FLOWER LANE	30	LINK 212-214	521590 / 192210	
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY	T/STAG JUN	GIVE WAY/UNCONT ZEBRA		
AS V2 BRAKED SUDDENLY V1 HIT V2'S REAR.								
CASUALTY 001 (002) (26 Yrs - M N10)			SLIGHT	DRIVER/RIDER				
VEHICLE	001 (002)	CAR	(78 Yrs - F NW4)	SLOWING OR STOPPING		N TO S		JCT APP
BT - NOT REQUESTED					FRONT HIT FIRST			
VEHICLE	002 (001)	CAR	(26 Yrs - M N10)	SLOWING OR STOPPING		N TO S		JCT APP
BT - NEGATIVE					BACK HIT FIRST		FOREIGN REG LHD	
V002 A 408 (SUDDEN BRAKING)					V002 A 308 (FOLLOWING TOO CLOSE)			
V001 A 308 (FOLLOWING TOO CLOSE)								
60	0114SX20179	TUE 11/03/14 12:02	LIGHT	NFL - WATFORD WAY (BARNET BY-PASS) 603M NORTH WEST OF J/W HALL LAN	30	LINK 126-218	521940 / 191200	
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	DUAL CWY	NO JUN IN 20M	NO XING FACILITY IN 50M		
V1 COLLIDED WITH KERB AND N/S RAILINGS. V1 OVERTURNED.								
CASUALTY 001 (001) (75 Yrs - F NW7)			SLIGHT	DRIVER/RIDER				
VEHICLE	001 (000)	CAR	(75 Yrs - F NW7)	GOING AHEAD OTHER		S TO N		
BT - NEGATIVE			OVERTURN		N/S HIT FIRST			
LEFT CWY NEARSIDE/REBOUND			HIT KERB		HIT NR/OFF BAR			
V001 A 405 (FAILED TO LOOK PROPERLY)					V001 A 602 (CARELESS/RECKLESS/IN A HURRY)			


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)										36 MTS TO FEB-2016 SORTED BY DATE	
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61	0114SX20213	THU 20/03/14 11:30	LIGHT	WATFORD WAY (BARNET BY-PASS) 86M NORTH OF J/W THE RISE	30	LINK 126-218	521890 / 191620			
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	DUAL CWY	NO JUN IN 20M	NO XING FACILITY IN 50M				

V1 FAILED TO LOOK AHEAD AND RODE INTO REAR OF STAT V2.

CASUALTY 001 (001) (41 Yrs - M TW1) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	M/C 50-125CC (41 Yrs - M TW1)	GOING AHEAD OTHER	N TO S
		BT - NOT REQUESTED		FRONT HIT FIRST

VEHICLE	002 (001)	GDS =< 3.5T (32 Yrs - M WD17)	GOING AHEAD HELD UP	N TO S
		BT - NEGATIVE		BACK HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

62	0114SX20314	FRI 04/04/14 17:05	LIGHT	M1 (OFF SLIP) 231M WEST J/W GREAT NORTH WAY (BARNET BY-PASS)	30	LINK 130-135	522200 / 190670			
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SLIP RD	NO JUN IN 20M	NO XING FACILITY IN 50M				

RIDER V1 LOST CONTROL

CASUALTY 001 (001) (32 Yrs - M E15) SLIGHT DRIVER/RIDER

VEHICLE	001 (000)	M/C 125-500CC (32 Yrs - M E15)	GOING AHEAD LEFT BEND	N TO E
		BT - NOT REQUESTED	SKIDDED	N/S HIT FIRST

V001 A 102 (DEPOSIT ON ROAD (EG. OIL, MUD, CHIPPINGS))

63	0114SX20381	SUN 27/04/14 16:25	LIGHT	WATFORD WAY J/W HALL LANE	30	LINK 106-127	522440 / 190330			
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	DUAL CWY	T/STAG JUN	GIVE WAY/UNCONT	NO XING FACILITY IN 50M			

V1 BRAKED TO AVOID ACCIDENT AND WAS HIT IN REAR BY V2

CASUALTY 001 (001) (34 Yrs - M SE5) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (18 Yrs - M SE5) SLIGHT PASSENGER FRONT SEAT

CASUALTY 003 (001) (24 Yrs - M SE18) SLIGHT PASSENGER BACK SEAT

CASUALTY 004 (002) (35 Yrs - M AL10) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR (34 Yrs - M SE5)	GOING AHEAD OTHER	S TO N	JCT MID
		BT - NEGATIVE		BACK HIT FIRST	

VEHICLE	002 (001)	CAR (35 Yrs - M AL10)	GOING AHEAD OTHER	S TO N	JCT MID
		BT - NEGATIVE		FRONT HIT FIRST	

V001 A 408 (SUDDEN BRAKING)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

64 0114SX20360 THU 01/05/14 09:20 LIGHT DEANSBROOK RD J/W GOLDBEATERS GROVE 30 CELL 521000/191500 521050 / 191580

POLICE - AT SCENE ROAD-WET WEATHER-FINE ROUNDABOUT MINI GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 TURNED RIGHT INTO PATH OF V1, CAUSING COLLISION.

CASUALTY 001 (001) (42 Yrs - F HA8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (42 Yrs - F HA8)
BT - NOT REQUESTED

GOING AHEAD OTHER

W TO E
O/S HIT FIRST

JCT MID

HIT ROUNDABOUT

VEHICLE 002 (001) CAR (40 Yrs - F HA8)
BT - NOT REQUESTED

TURNING RIGHT

S TO E
FRONT HIT FIRST

JCT MID

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

65 0114SX20472 FRI 06/06/14 16:15 LIGHT GOLDBEATERS GROVE 57M NORTH J/W WATLING STREET 30 CELL 521000/191000 521100 / 191390

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

PED CROSSED ROAD INTO PATH OF V1 MASKED BY PARKED VEHICLE

CASUALTY 001 (001) (10 Yrs - M NW9) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) E BOUND FROM DRIVERS N/SIDE MSK

VEHICLE 001 (000) CAR (30 Yrs - F HA8)
BT - NEGATIVE

GOING AHEAD OTHER

N TO S
FRONT HIT FIRST

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

C001 A 802 (FAILED TO LOOK PROPERLY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

66 0114SX20502 MON 16/06/14 18:30 LIGHT WATFORD WAY (BARNET BY-PASS) J/W WILTSHIRE CLOSE 30 LINK 217-218 521700 / 192280
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 HIT REAR V1, V2 WAS THEN HIT BY V3

CASUALTY 001 (001) (32 Yrs - M UB2) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (38 Yrs - M HA8) SLIGHT DRIVER/RIDER

CASUALTY 003 (003) (41 Yrs - M WD7) SLIGHT DRIVER/RIDER

CASUALTY 004 (001) (40 Yrs - M AL2) SLIGHT PASSENGER FRONT SEAT

CASUALTY 005 (002) (30 Yrs - M N3) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (32 Yrs - M UB2) GOING AHEAD HELD UP NW TO SE JCT APP
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (38 Yrs - M HA8) GOING AHEAD OTHER NW TO SE JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 003 (002) CAR (41 Yrs - M WD7) GOING AHEAD OTHER NW TO SE JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

V002 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V003 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

67 0114SX20572 MON 16/06/14 18:10 LIGHT WATFORD WAY (BARNET BY-PASS) J/W THE BROADWAY 30 NODE 214 521630 / 192290
 POLICE - OVER COU ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT AUTO SIG PEDN PHASE AT ATS

V2 CHANGED LANE HITTING V1

CASUALTY 001 (001) (54 Yrs - M NW7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) M/C > 500CC (54 Yrs - M NW7) GOING AHEAD OTHER SE TO NW COMM TO/FROM WORK JCT MID
 BT - DRV NOT CONTACTED O/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M HA8) CHANGE LANE TO LEFT SE TO NW JCT MID
 BT - DRV NOT CONTACTED N/S HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

68 0114SX20496 TUE 17/06/14 08:30 LIGHT LAWRENCE STREET J/W VICTORIA ROAD 30 CELL 521500/192000 521610 / 192380
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 HIT REAR V1

CASUALTY 001 (001) (41 Yrs - M NW9) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (17 Yrs - M NW9) SLIGHT PASSENGER FRONT SEAT

CASUALTY 003 (001) (11 Yrs - M NW9) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (002) CAR (41 Yrs - M NW9) WAITING TO TURN RIGHT S TO E JCT MID
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (51 Yrs - F BS39) GOING AHEAD OTHER S TO N JCT MID
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

69 0114SX20506 THU 19/06/14 16:00 LIGHT FIELD MEAD J/W CORNER MEAD 30 CELL 521500/191000 521630 / 191160
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT MINI GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 FAILED TO ACCORD PRECEDENCE AT JUNCTION AND HIT V2

CASUALTY 001 (002) (28 Yrs - M HA8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (22 Yrs - M N10) GOING AHEAD OTHER NE TO SW JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (28 Yrs - M HA8) TURNING RIGHT SW TO SE JCT MID
 BT - NOT REQUESTED N/S HIT FIRST

V001 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

70 0114SX20539 WED 25/06/14 10:20 LIGHT THE BROADWAY 30M SOUTH WEST J/W BROCKENHURST GARDENS 30 LINK 212-214 521400 / 192070
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

PED STEPPED INTO PATH V1

CASUALTY 001 (001) (15 Yrs - F NW7) SLIGHT PEDESTRIAN IN ROAD - NOT CROSSING UNKNOWN

VEHICLE 001 (000) CAR (? Yrs - F UNKN) GOING AHEAD OTHER NE TO SW FRONT HIT FIRST
 BT - DRV NOT CONTACTED

C001 A 802 (FAILED TO LOOK PROPERLY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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71 0114SX20534 THU 26/06/14 17:00 LIGHT PURSLEY ROAD 100M EAST J/W PAGE STREET	30	LINK 173-458		522550 / 191370
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POLICE - AT SCENE ROAD-DRY	WEATHER-FINE	SINGLE CWY	NO JUN IN 20M	NO XING FACILITY IN 50M
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V1 U-TURNED AS V2 OVERTOOK

CASUALTY 001 (002) (21 Yrs - M N2)	SLIGHT	DRIVER/RIDER
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VEHICLE 001 (002) CAR	(27 Yrs - M NW7)	U-TURNING	E TO E
BT - NEGATIVE			O/S HIT FIRST

VEHICLE 002 (001) PEDAL CYCLE	(21 Yrs - M N2)	OVERTAKE MOVE VEH O/S	E TO W
BT - NOT APPLICABLE			N/S HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

72 0114SX20553 SUN 29/06/14 12:45 LIGHT THE BROADWAY, 49M SOUTH WEST OF FLOWER LANE	30	LINK 212-214		521550 / 192160
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POLICE - AT SCENE ROAD-DRY	WEATHER-UNKNOWN	SINGLE CWY	NO JUN IN 20M	PELICAN OR SIMILAR
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C1 HAS ONLY LOOKED ONE WAY BEFORE CROSSING THE ROAD & WAS HIT BY REVERSING V1 WHO HAD NOT CHECKED HER MIRRORS

CASUALTY 001 (001) (78 Yrs - F N20)	SLIGHT	PEDESTRIAN
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VEHICLE 001 (000) CAR	(45 Yrs - F HA8)	REVERSING	SW TO NE
BT - NEGATIVE			BACK HIT FIRST

V001 B 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 B 808 (CARELESS/RECKLESS/IN A HURRY)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

73 0114SX20587 THU 03/07/14 16:57 LIGHT FLOWER LANE, 85M SOUTH OF J/W WOODLAND WAY 30 CELL 521500/191500 521660 / 191660
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

IT APPEARS V2 MAY HAVE BEEN OVERTAKING PARKED VEHICLES ON A BEND & COLLIDED HEAD ON WITH V1

CASUALTY 001 (001) (46 Yrs - M N22) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (30 Yrs - M NW7) SERIOUS DRIVER/RIDER

VEHICLE 001 (002) BUS/COACH (46 Yrs - M N22) GOING AHEAD LEFT BEND N TO SE JNY PART OF WORK
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) M/C 50-125CC (30 Yrs - M NW7) GOING AHEAD RIGHT BEND SE TO N JNY PART OF WORK
 BT - NOT PROVD (MEDCL REASONS) FRONT HIT FIRST

V002 B 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V002 B 403 (POOR TURN OR MANOEUVRE)

V002 A 410 (LOSS OF CONTROL)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V002 A 405 (FAILED TO LOOK PROPERLY)

74 0114SX20620 MON 14/07/14 09:55 LIGHT WATFORD WAY (BARNET BY-PASS) J/W LAWRENCE STREET 30 NODE 217 521650 / 192310
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 DRIFTED ACROSS CARRIAGEWAY COLLIDING WITH V1

CASUALTY 001 (001) (66 Yrs - F HP14) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (66 Yrs - F HP14) GOING AHEAD OTHER NW TO SE LEAVING R'ABOUT
 BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) GDS => 7.5T (48 Yrs - M HD6) GOING AHEAD OTHER NW TO SE JNY PART OF WORK LEAVING R'ABOUT
 BT - NEGATIVE O/S HIT FIRST

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 403 (POOR TURN OR MANOEUVRE)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

75 0114SX20643 FRI 18/07/14 22:04 DARK WATFORD WAY (BARNET BY-PASS) J/W DAWS LANE 30 NODE 218 521730 / 192260
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V3 HIT REAR OF V2, PUSHING IT INTO REAR OF V1

CASUALTY 001 (002) (64 Yrs - F NW10) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (? Yrs - M CM18) GOING AHEAD OTHER NW TO SE JCT APP
 BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (003) CAR (39 Yrs - M EN6) GOING AHEAD OTHER NW TO SE JCT APP
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 003 (002) CAR (36 Yrs - M N3) GOING AHEAD OTHER NW TO SE JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

V001 A 408 (SUDDEN BRAKING)

V002 A 308 (FOLLOWING TOO CLOSE)

V003 A 308 (FOLLOWING TOO CLOSE)

76 0114SX20657 THU 24/07/14 13:40 LIGHT BUNN'S LANE 106M WEST J/W ROWLANDS CLOSE 30 LINK 173-460 522010 / 191320
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

DRIVER V1 CLIPPED KERB AND LOST CONTROL

CASUALTY 001 (001) (35 Yrs - M HA8) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) M/C <= 50CC (35 Yrs - M HA8) GOING AHEAD RIGHT BEND E TO NW N/S HIT FIRST
 BT - NOT REQUESTED

HIT KERB

V001 B 510 (DISTRACTION OUTSIDE VEHICLE)

V001 A 410 (LOSS OF CONTROL)

V001 B 607 (UNFAMILIAR WITH MODEL OF VEHICLE)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

77 0114SX20952 FRI 25/07/14 15:05 LIGHT NFL - WATFORD WAY (BARNET BY-PASS) J/W PAGE STREET 30 NODE 126 522320 / 190700

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG NO XING FACILITY IN 50M

V2 CHANGED LANE TO THE RIGHT, COLLIDING WITH V1.

CASUALTY 001 (001) (21 Yrs - M N9) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) M/C 50-125CC (21 Yrs - M N9) MOVING OFF NW TO SE JCT CLEARED
BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) TAXI (47 Yrs - M IG8) CHANGE LANE TO RIGHT NW TO SE JNY PART OF WORK JCT CLEARED
BT - NOT REQUESTED O/S HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 B 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)

78 0114SX20663 SUN 27/07/14 16:55 LIGHT M1 (SLIP ROAD) J/W M1 30 LINK 135-318 521920 / 191010

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SLIP RD SLIP ROAD GIVE WAY/UNCONT NO XING FACILITY IN 50M

V4 HIT REAR OF V3, PUSHING IT INTO REAR OF V2 WHICH HIT V1

CASUALTY 001 (002) (52 Yrs - F AL5) SLIGHT DRIVER/RIDER

CASUALTY 002 (004) (23 Yrs - M N12) SLIGHT DRIVER/RIDER

CASUALTY 003 (004) (29 Yrs - M N12) SLIGHT PASSENGER FRONT SEAT

CASUALTY 004 (004) (21 Yrs - M N12) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (002) CAR (22 Yrs - M IG11) GOING AHEAD OTHER S TO N JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (003) CAR (52 Yrs - F AL5) GOING AHEAD OTHER S TO N JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 003 (004) CAR (54 Yrs - M WD23) GOING AHEAD OTHER S TO N JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 004 (003) CAR (23 Yrs - M N12) GOING AHEAD OTHER S TO N JCT APP
BT - NEGATIVE FRONT HIT FIRST

V004 A 308 (FOLLOWING TOO CLOSE)

V004 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V004 A 602 (CARELESS/RECKLESS/IN A HURRY)

V001 A 408 (SUDDEN BRAKING)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)										36 MTS TO FEB-2016 SORTED BY DATE	
79	0114SX20754	SAT 02/08/14 18:12	LIGHT	DEANSBROOK RD J/W LYNDHURST AVENUE	30	CELL 521000/191500	521210 / 191600				
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M											
V1 SWERVED TO AVOID A COLLISION, BUT COLLIDED WITH THE N/S BARRIER.											
CASUALTY 001 (001) (23 Yrs - F IG7) SLIGHT DRIVER/RIDER											
VEHICLE	001 (000)	CAR	(23 Yrs - F IG7)	GOING AHEAD OTHER		W TO E		JCT APP			
			BT - NOT REQUESTED			FRONT HIT FIRST					
			LEFT CWY NEARSIDE			HIT NR/OFF BAR					
V001 A	409	(SWERVED)							V001 A	410 (LOSS OF CONTROL)	
V001 A	603	(NERVOUS/UNCERTAIN/ PANIC)									
80	0114SX20795	MON 04/08/14 07:10	LIGHT	M1 J/W M1 SLIP RD	30	LINK 135-318	522020 / 190920				
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY SLIP ROAD GIVE WAY/UNCONT NO XING FACILITY IN 50M											
V2 COLLIDED WITH REAR OF STAT V1.											
CASUALTY 001 (001) (49 Yrs - F LU1) SLIGHT DRIVER/RIDER											
VEHICLE	001 (002)	CAR	(49 Yrs - F LU1)	GOING AHEAD HELD UP		NW TO SE	COMM TO/FROM WORK	JCT APP			
			BT - NEGATIVE			BACK HIT FIRST					
VEHICLE	002 (001)	CAR	(58 Yrs - M NN1)	GOING AHEAD OTHER		NW TO SE	COMM TO/FROM WORK	JCT APP			
			BT - NEGATIVE			FRONT HIT FIRST					
V002 A	405	(FAILED TO LOOK PROPERLY)									
81	0114SX20687	TUE 05/08/14 20:43	LIGHT	GREAT NORTH WAY (BARNET BY-PASS) J/W SUNNY GARDENS	30	LINK 130-133	522970 / 190390				
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT FOOTBRIDGE OR SUBWAY											
V1 PULLED OUT INTO RD. V2 COLLIDED WITH V1'S REAR.											
CASUALTY 001 (001) (40 Yrs - M N9) SLIGHT PASSENGER FRONT SEAT											
CASUALTY 002 (001) (44 Yrs - F WD18) SLIGHT DRIVER/RIDER											
VEHICLE	001 (002)	CAR	(44 Yrs - F WD18)	TURNING LEFT		S TO NW		ENTERING MAIN RD			
			BT - NOT PROVD (MEDCL REASONS)	SKIDDED		BACK HIT FIRST					
VEHICLE	002 (001)	CAR	(28 Yrs - M N17)	SLOWING OR STOPPING		SE TO NW		JCT CLEARED			
			BT - NEGATIVE	SKIDDED		FRONT HIT FIRST					
V001 A	302	(DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)							V001 A	405 (FAILED TO LOOK PROPERLY)	
V001 A	403	(POOR TURN OR MANOEUVRE)							V001 A	406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)	


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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82 0114SX20777 SUN 10/08/14 04:00 DARK M1 1000M NORTH WEST OF J/W M1 SLIP RD	30 LINK 135-318	521380 / 191870
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POLICE - AT SCENE ROAD-WET WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V1 DRIVING AT SPEED LOST CONTROL AND COLLIDED WITH V2. V1 THEN HIT THE CENTRAL RESERVATION.

CASUALTY 001 (001) (21 Yrs - M UNKN) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (002) CAR (? Yrs - M UNKN) GOING AHEAD OTHER SE TO NW
BT - NOT REQUESTED FRONT HIT FIRST
LEFT CWY ONTO CENTRAL RES HIT CENTRAL BAR

VEHICLE 002 (001) MINIBUS (51 Yrs - M HP1) GOING AHEAD OTHER SE TO NW JNY PART OF WORK
BT - NEGATIVE N/S HIT FIRST

V001 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V001 A 410 (LOSS OF CONTROL)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

V001 B 501 (IMPAIRED BY ALCOHOL)

83 0114SX20737 WED 27/08/14 17:15 LIGHT WATFORD WAY (BARNET BY-PASS) 50M SOUTH EAST OF J/W THE BROADWAY	30 LINK 217-218	521680 / 192280
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POLICE - AT SCENE ROAD-WET WEATHER-FINE DUAL CWY NO JUN IN 20M PEDN PHASE AT ATS

V1 STOPPED. V2 THEN HIT V1'S REAR.

CASUALTY 001 (002) (64 Yrs - F HA8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (38 Yrs - M HA8) GOING AHEAD HELD UP SE TO NW COMM TO/FROM WORK
BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (64 Yrs - F HA8) GOING AHEAD OTHER SE TO NW
BT - NOT REQUESTED FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE)

V001 B 408 (SUDDEN BRAKING)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

84	0114SX20836	WED 03/09/14 12:50	LIGHT	WAROFRD WAY J/W HALL LANE					30	LINK 106-127	522440 / 190320
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M											
V1 BRAKED AND SLOWED FOR TRAFFIC V2 COLLIDED WITH V1'S REAR											
CASUALTY 001 (001) (32 Yrs - M IG5) SLIGHT DRIVER/RIDER											
CASUALTY 002 (001) (14 Yrs - M IG5) SLIGHT PASSENGER FRONT SEAT											
VEHICLE 001 (002) CAR (32 Yrs - M IG5) SLOWING OR STOPPING S TO N JNY PART OF WORK JCT APP											
BT - NOT REQUESTED BACK HIT FIRST											
VEHICLE 002 (001) CAR (? Yrs - U UNKN) GOING AHEAD OTHER S TO N JCT APP											
BT - DRV NOT CONTACTED FRONT HIT FIRST											

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

85 0114SX20775 WED 10/09/14 06:45 LIGHT M1 J/W M1 SLIP RD

30 LINK 135-318

522020 / 190910

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY SLIP ROAD GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 HIT THE REAR OF SLOWING V2, CAUSING A CHAIN REACTION

CASUALTY 001 (006) (60 Yrs - M WD6) SLIGHT DRIVER/RIDER

CASUALTY 002 (008) (63 Yrs - M HP23) SLIGHT DRIVER/RIDER

CASUALTY 003 (009) (18 Yrs - M W4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) GDS => 7.5T (58 Yrs - M SM1) SLOWING OR STOPPING N TO S JNY PART OF WORK JCT APP
BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) CAR (33 Yrs - M NG17) SLOWING OR STOPPING N TO S JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 003 (002) CAR (45 Yrs - M W6) SLOWING OR STOPPING N TO S JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 004 (003) CAR (26 Yrs - M W6) SLOWING OR STOPPING N TO S JNY PART OF WORK JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 005 (004) CAR (31 Yrs - M MK45) SLOWING OR STOPPING N TO S JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 006 (005) GDS =< 3.5T (60 Yrs - M WD6) SLOWING OR STOPPING N TO S JNY PART OF WORK JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 007 (006) CAR (55 Yrs - M HP2) SLOWING OR STOPPING N TO S JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 008 (007) CAR (63 Yrs - M HP23) SLOWING OR STOPPING N TO S JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 009 (008) CAR (18 Yrs - M W4) SLOWING OR STOPPING N TO S JCT APP
BT - NEGATIVE BACK HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 308 (FOLLOWING TOO CLOSE)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)							36 MTS TO FEB-2016 SORTED BY DATE	
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86	0114SX20933	FRI 19/09/14 19:18	DARK NFL- GREAT NORTH WAY J/W WALFORD WAY	30	NODE 127	522420 / 190590
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 TURNS LEFT ACROSS LANE ONE AND V2

CASUALTY 001 (002) (87 Yrs - M N2) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(38 Yrs - M HA3)	TURNING LEFT	SE TO S	JCT APP
			BT - NOT REQUESTED		N/S HIT FIRST	

VEHICLE	002 (001)	CAR	(87 Yrs - M N2)	GOING AHEAD RIGHT BEND	NW TO S	JCT APP
			BT - NEGATIVE		O/S HIT FIRST	

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 403 (POOR TURN OR MANOEUVRE)

87	0114SX20849	SUN 21/09/14 14:20	LIGHT HARTLEY AVENUE J/W FLOWER LANE	30	LINK 212-214	521610 / 192190
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POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY OTHER JUN GIVE WAY/UNCONT CENTRAL REFUGE

PED IN CWY - NOT INJ

V2 COLLIDED WITH REAR OF STAT V1.

CASUALTY 001 (001) (43 Yrs - F UNKN) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(43 Yrs - F UNKN)	GOING AHEAD HELD UP	E TO W	JCT APP
			BT - DRV NOT CONTACTED		BACK HIT FIRST	

VEHICLE	002 (001)	CAR	(? Yrs - M UNKN)	SLOWING OR STOPPING	E TO W	JCT APP
			BT - DRV NOT CONTACTED		FRONT HIT FIRST	

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)							36 MTS TO FEB-2016 SORTED BY DATE	
88	0114SX20818	WED 24/09/14 22:45	DARK	WATFORD WAY 186M NW OF J/W TITHE WALK	30	LINK 126-218	521980	/ 191130
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	DUAL CWY	NO JUN IN 20M	NO XING FACILITY IN 50M ROADWORKS		
V2 BRAKED SUDDENLY CAUSING V1 TO BRAKE BUT COLLIDED WITH V2'S REAR								
CASUALTY 001 (001) (22 Yrs - M HA9) SLIGHT DRIVER/RIDER								
VEHICLE	001 (002)	M/C 50-125CC	(22 Yrs - M HA9)	GOING AHEAD OTHER	NW TO SE	COMM TO/FROM WORK	FRONT HIT FIRST	
		BT - NEGATIVE						
VEHICLE	002 (001)	GDS 3.5-7.5T	(? Yrs - U UNKN)	GOING AHEAD OTHER	NW TO SE	BACK HIT FIRST		
		BT - DRV NOT CONTACTED						
V002 A 408 (SUDDEN BRAKING)				V001 A 408 (SUDDEN BRAKING)				
V001 B 308 (FOLLOWING TOO CLOSE)								
89	0114SX21125	WED 24/09/14 16:01	LIGHT	GRAHAME PARK WAY J/W FIELD MEAD	30	LINK 655-660	521710	/ 191220
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY	T/STAG JUN	GIVE WAY/UNCONT NO XING FACILITY IN 50M		
V1 TURNED RIGHT, COLLIDING WITH V2.								
CASUALTY 001 (002) (18 Yrs - M NW7) SLIGHT DRIVER/RIDER								
VEHICLE	001 (002)	CAR	(39 Yrs - M NW7)	TURNING RIGHT	NW TO SW	JCT MID		
		BT - NOT REQUESTED		FRONT HIT FIRST				
VEHICLE	002 (001)	M/C 50-125CC	(18 Yrs - M NW7)	GOING AHEAD OTHER	SE TO NW	JCT MID		
		BT - NOT REQUESTED		O/S HIT FIRST				
V001 A 403 (POOR TURN OR MANOEUVRE)				V001 A 405 (FAILED TO LOOK PROPERLY)				
90	0114SX20857	SUN 05/10/14 09:10	LIGHT	NFL THE BROADWAY J/W BROCKENHURST GARDENS	30	LINK 212-214	521450	/ 192090
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY	T/STAG JUN	GIVE WAY/UNCONT PELICAN OR SIMILAR		
PED CROSSED ROAD INTO PATH OF V1								
CASUALTY 001 (001) (83 Yrs - F HA8) SLIGHT PEDESTRIAN								
VEHICLE	001 (000)	CAR	(73 Yrs - M NW7)	GOING AHEAD OTHER	NE TO SW	JCT APP		
		BT - NOT REQUESTED		FRONT HIT FIRST				
C001 A 804 (WRONG USE OF PEDESTRIAN CROSSING FACILITY)				C001 A 802 (FAILED TO LOOK PROPERLY)				
C001 A 808 (CARELESS/RECKLESS/IN A HURRY)								


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

91 0114SX20872 SUN 12/10/14 10:51 LIGHT WATFORD WAY (BARNET BY-PASS) J/W LAWRENCE STREET 30 NODE 216 521600 / 192350

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 OVERTAKING ON NEARSIDE HIT V2

CASUALTY 001 (002) (1 Yrs - F HA3) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (002) CAR (? Yrs - U UNKN) OVERTAKING NEARSIDE NW TO SE JCT APP
BT - DRV NOT CONTACTED O/S HIT FIRST

VEHICLE 002 (001) CAR (33 Yrs - M HA3) GOING AHEAD OTHER NW TO SE JCT APP
BT - NEGATIVE N/S HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 601 (AGGRESSIVE DRIVING)

92 0114SX20930 SUN 19/10/14 06:04 DARK NFL M1 ABOVE J/W BUNNS LANE 30 LINK 135-318 521610 / 191540

POLICE - AT SCENE ROAD-WET RAINING DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V1 HIT SURFACE WATER ON CARRIAGEWAY, SPAN AND STOPPED. V2 SWERVED TO AVOID V1 WAS HIT IN REAR BY V3 AND PUSHED INTO V1

CASUALTY 001 (002) (45 Yrs - M WD19) SLIGHT DRIVER/RIDER

CASUALTY 002 (003) (36 Yrs - M LU4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (26 Yrs - M LU2) GOING AHEAD OTHER N TO S
BT - NEGATIVE FRONT HIT FIRST
LEFT CWY ONTO CENTRAL RES HIT CENTRAL BAR

VEHICLE 002 (003) CAR (45 Yrs - M WD19) GOING AHEAD OTHER N TO S COMM TO/FROM WORK
BT - NEGATIVE BACK HIT FIRST

VEHICLE 003 (002) BUS/COACH (36 Yrs - M LU4) GOING AHEAD OTHER N TO S JNY PART OF WORK
BT - NEGATIVE FRONT HIT FIRST

V001 A 707 (VISION AFFECTED - RAIN, SLEET, SNOW, OR FOG)

V001 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V002 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V002 A 409 (SWERVED)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

93 0114SX21075 SUN 19/10/14 12:20 LIGHT WISE LANE 122M WEST J/W PAGE STREET 30 LINK 173-221 522320 / 191690

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

DRIVER V1 LOST CONTROL

CASUALTY 001 (001) (36 Yrs - M NW7) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) CAR (36 Yrs - M NW7)

BT - NOT REQUESTED

GOING AHEAD RIGHT BEND E TO NW
N/S HIT FIRST

HIT PARKED VEH

V001 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V001 A 410 (LOSS OF CONTROL)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

94 0114SX21027 FRI 24/10/14 20:33 DARK GREAT NORTH WAY (BARNET BY-PASS) 45M NORTH WEST J/W SUNNY GARDENS 30 LINK 130-133 522940 / 190400

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V1 BRAKED TO AVOID ACCIDENT AND WAS HIT IN REAR BY V2

CASUALTY 001 (001) (28 Yrs - M E17) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (25 Yrs - F N15) SLIGHT PASSENGER

BACK SEAT

CASUALTY 003 (001) (25 Yrs - F N4) SLIGHT PASSENGER

BACK SEAT

CASUALTY 004 (001) (29 Yrs - M UNKN) SLIGHT PASSENGER

FRONT SEAT

CASUALTY 005 (002) (34 Yrs - M E17) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (28 Yrs - M E17)

BT - NEGATIVE

GOING AHEAD OTHER E TO W
BACK HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (34 Yrs - M E17)

BT - NEGATIVE

GOING AHEAD OTHER E TO W
FRONT HIT FIRST

V001 A 408 (SUDDEN BRAKING)

V002 A 308 (FOLLOWING TOO CLOSE)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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95 0114SX21014 WED 29/10/14 12:34 LIGHT BUNN'S LANE 115M WEST J/W FLOWER LANE	30	LINK 460-655		521650 / 191520
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POLICE - AT SCENE ROAD-DRY	WEATHER-FINE	SINGLE CWY	NO JUN IN 20M	NO XING FACILITY IN 50M
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V2 HIT REAR V1

CASUALTY 001 (001) (18 Yrs - F W3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR	(18 Yrs - F W3)	GOING AHEAD OTHER	W TO E
BT - NOT REQUESTED			BACK HIT FIRST

VEHICLE 002 (001) CAR	(? Yrs - M UNKN)	GOING AHEAD OTHER	W TO E JNY PART OF WORK
BT - NEGATIVE			FRONT HIT FIRST

V001 A 408 (SUDDEN BRAKING)

V001 B 603 (NERVOUS/UNCERTAIN/ PANIC)

V002 A 510 (DISTRACTION OUTSIDE VEHICLE)

96 0114SX20981 MON 03/11/14 17:40 DARK WATFORD WAY (BARNET BY-PASS) J/W LAWRENCE STREET	30	NODE 216		521640 / 192340
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POLICE - AT SCENE ROAD-DRY	WEATHER-FINE	ROUNDAABOUT	ROUNDAABOUT	GIVE WAY/UNCONT PEDN PHASE AT ATS
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V2 ENTERED THE ROUNDAABOUT FROM THE PAVEMENT AS V1 ENTERED THE ROUNDAABOUT FROM A MINOR RD, CAUSING COLLISION.

CASUALTY 001 (002) (? Yrs - M EN5) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR	(52 Yrs - M WD7)	GOING AHEAD OTHER	N TO S
BT - NEGATIVE			O/S HIT FIRST

ENTERING MAIN RD

VEHICLE 002 (001) PEDAL CYCLE	(? Yrs - M EN5)	GOING AHEAD OTHER	NW TO SE
BT - NOT APPLICABLE			FRONT HIT FIRST

ENTERING MAIN RD

V002 A 310 (CYCLIST ENTERING ROAD FROM PAVEMENT)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V002 A 405 (FAILED TO LOOK PROPERLY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

97 0114SX21071 TUE 04/11/14 17:15 DARK WATFORD WAY (BARNET BY-PASS) J/W WATFORD WAY 30 NODE 127 522380 / 190650

POLICE - AT SCENE ROAD-WET RAINING DUAL CWY MULTI JUN AUTO SIG NO XING FACILITY IN 50M

V2 FAILED TO STOP AT ATS AND HIT V1

CASUALTY 001 (001) (36 Yrs - F N3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (36 Yrs - F N3) MOVING OFF N TO S JNY PART OF WORK JCT MID
BT - NEGATIVE O/S HIT FIRST

VEHICLE 002 (001) CAR (29 Yrs - M NW10) TURNING RIGHT S TO E COMM TO/FROM WORK JCT MID
BT - NEGATIVE FRONT HIT FIRST

V002 A 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

98 0114SX21011 WED 19/11/14 08:16 DARK M1 60M NORTH WEST OF J/W M1 SLIP RD 30 LINK 135-318 521990 / 190950

POLICE - AT SCENE ROAD-WET WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V1 COLLIDED WITH REAR OF STAT V2, PUSHING V2 INTO REAR OF V3.

CASUALTY 001 (002) (52 Yrs - M HP1) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) GDS =< 3.5T (31 Yrs - M WD25) SLOWING OR STOPPING NW TO SE JNY PART OF WORK
BT - NEGATIVE SKIDDED FRONT HIT FIRST

VEHICLE 002 (001) CAR (52 Yrs - M HP1) GOING AHEAD HELD UP NW TO SE COMM TO/FROM WORK
BT - NEGATIVE BACK HIT FIRST

VEHICLE 003 (002) GDS => 7.5T (39 Yrs - M WD6) SLOWING OR STOPPING NW TO SE JNY PART OF WORK
BT - NEGATIVE BACK HIT FIRST

V001 A 308 (FOLLOWING TOO CLOSE)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 B 103 (SLIPPERY ROAD (DUE TO WEATHER))

V001 B 307 (TRAVELLING TOO FAST FOR CONDITIONS)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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99 0114SX21030 SAT 22/11/14 16:43 DARK BUNN'S LANE 30M NORTH EAST OF J/W COPTHALL DRIVE	30 LINK 173-460	522240 / 191330
POLICE - AT SCENE ROAD-WET WEATHER-UNKNOWN SINGLE CWY NO JUN IN 20M	NO XING FACILITY IN 50M	
V1 COLLIDED WITH REAR OF V2.		

CASUALTY 001 (002) (52 Yrs - M NW9) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (33 Yrs - F NW9)	SLOWING OR STOPPING	NE TO SW
BT - NOT REQUESTED		FRONT HIT FIRST

VEHICLE 002 (001) CAR (52 Yrs - M NW9)	SLOWING OR STOPPING	NE TO SW
BT - NOT REQUESTED		BACK HIT FIRST

V001 A 103 (SLIPPERY ROAD (DUE TO WEATHER))

V001 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 308 (FOLLOWING TOO CLOSE)

100 0114SX21036 TUE 25/11/14 11:10 LIGHT WATFORD WAY (BARNET BY-PASS) J/W LAWRENCE STREET	30 NODE 217	521650 / 192310
POLICE - OVER COU ROAD-WET RAINING ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT	NO XING FACILITY IN 50M	
V1 CLIPPED PED.		

CASUALTY 001 (001) (72 Yrs - M NW7) SLIGHT PEDESTRIAN UNKNOWN

VEHICLE 001 (000) CAR (? Yrs - U UNKN)	GOING AHEAD OTHER	NW TO SE	JCT CLEARED
BT - DRV NOT CONTACTED		N/S HIT FIRST	

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

V001 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)

V001 A 405 (FAILED TO LOOK PROPERLY)

101 0114SX21128 SUN 14/12/14 16:50 LIGHT THE BROADWAY, J/W FLOWER LANE	30 LINK 212-214	521570 / 192180
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN	GIVE WAY/UNCONT PELICAN OR SIMILAR	
IT APPEARS V2 HAS PULLED AWAY FROM BEING PARKED INTO PATH OF V1 & HAS HIT O/S OF V1		

CASUALTY 001 (001) (21 Yrs - F NW7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (21 Yrs - F NW7)	GOING AHEAD OTHER	NE TO SW	JCT CLEARED
BT - NOT REQUESTED		O/S HIT FIRST	

VEHICLE 002 (001) CAR (45 Yrs - M SE6)	CHANGE LANE TO LEFT	NE TO SW	JCT CLEARED
BT - NOT REQUESTED		JNY PART OF WORK	
		N/S HIT FIRST	

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

102 0114SX21156 SUN 21/12/14 17:50 DARK GREAT NORTH WAY (BARNET BY-PASS) J/W A1 30 NODE 127 522430 / 190630

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SLIP RD SLIP ROAD AUTO SIG NO XING FACILITY IN 50M

V2 CHANGING LANES, COLLIDED WITH O/S OF V1. V1 SWERVED, COLLIDING WITH A METAL POLE.

CASUALTY 001 (001) (22 Yrs - F WD5) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (22 Yrs - F WD5)	GOING AHEAD OTHER	NW TO SE	JCT CLEARED
BT - NEGATIVE		O/S HIT FIRST	
LEFT CWY NEARSIDE		HIT OTH OBJECT	

VEHICLE 002 (001) CAR (28 Yrs - M UNKN)	CHANGE LANE TO LEFT	NW TO SE	JCT CLEARED
BT - DRV NOT CONTACTED		N/S HIT FIRST	

V001 A 409 (SWERVED)

V001 A 603 (NERVOUS/UNCERTAIN/ PANIC)

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

103 0115SX20390 MON 05/01/15 20:20 DARK NFL GREAT NORTH WAY 35M SE J.W HILLTOP GARDENS 30 LINK 130-133 522890 / 190420

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 COLLIDED WITH REAR OF STAT V3, V3 COLLIDED REAR STAT V1

CASUALTY 001 (001) (30 Yrs - F IG5) SLIGHT PASSENGER FRONT SEAT

CASUALTY 002 (001) (29 Yrs - F IG5) SLIGHT PASSENGER BACK SEAT

CASUALTY 003 (001) (30 Yrs - F IG5) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (003) CAR (33 Yrs - M IG5)	GOING AHEAD HELD UP	SE TO NW	BACK HIT FIRST
BT - NOT REQUESTED		BACK HIT FIRST	

VEHICLE 002 (003) CAR (31 Yrs - M UB8)	SLOWING OR STOPPING	SE TO NW	FRONT HIT FIRST
BT - NOT REQUESTED		FRONT HIT FIRST	

VEHICLE 003 (002) CAR (26 Yrs - F IG1)	GOING AHEAD HELD UP	SE TO NW	BACK HIT FIRST
BT - NOT REQUESTED		BACK HIT FIRST	

V002 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)										36 MTS TO FEB-2016 SORTED BY DATE	
104	0115SX20057	FRI 23/01/15 12:05	LIGHT	DEANSBROOK ROAD J/W GOLDBEATERS GROVE	30	CELL 521000/191500	521050 / 191580				
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS GIVE WAY/UNCONT NO XING FACILITY IN 50M											
V1 TURNED RIGHT AS PED CROSSED ROAD											
CASUALTY 001 (001) (58 Yrs - F HA8) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) S BOUND FROM DRIVERS O/SIDE											
VEHICLE 001 (000) CAR (36 Yrs - F HA8) TURNING RIGHT N TO W JCT CLEARED											
BT - NOT REQUESTED FRONT HIT FIRST											
V001 A 405 (FAILED TO LOOK PROPERLY)					V001 A 602 (CARELESS/RECKLESS/IN A HURRY)						
105	0115SX20104	SAT 07/02/15 14:30	LIGHT	LAWRENCE STREET J/W VICTORIA ROAD	30	LINK 216-275	521620 / 192380				
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M											
V2 WASN'T LOOKING AND HIT THE REAR OF V1											
CASUALTY 001 (001) (46 Yrs - F HA8) SLIGHT DRIVER/RIDER											
VEHICLE 001 (002) CAR (46 Yrs - F HA8) SLOWING OR STOPPING NW TO SE JCT MID											
BT - DRV NOT CONTACTED BACK HIT FIRST											
VEHICLE 002 (001) CAR (? Yrs - M) GOING AHEAD OTHER NW TO SE JCT MID											
BT - DRV NOT CONTACTED FRONT HIT FIRST											
V002 A 308 (FOLLOWING TOO CLOSE)					V002 A 405 (FAILED TO LOOK PROPERLY)						
V002 A 602 (CARELESS/RECKLESS/IN A HURRY)											
106	0115SX20193	FRI 06/03/15 14:15	LIGHT	GRAHAME PARK WAY 40M NORTH WEST OF J/W CORNER MEAD	30	LINK 655-660	521970 / 190810				
POLICE - AT SCENE ROAD-DRY FINE/HIGH WINDS SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M											
UNINJURED PED OPENED PARKED V1 REAR DOOR SLIGHTLY. THE WIND BLEW THE DOOR INTO PATH OF PASSING V2, CAUSING COLLISION.											
CASUALTY 001 (002) (37 Yrs - F NW11) SLIGHT DRIVER/RIDER											
VEHICLE 001 (002) GDS =< 3.5T (? Yrs - U PARKED) PARKED P TO P											
BT - DRV NOT CONTACTED BACK HIT FIRST											
VEHICLE 002 (001) PEDAL CYCLE (37 Yrs - F NW11) OVERTAKE STAT VEH O/S SE TO NW FOREIGN REG LHD											
BT - NOT APPLICABLE FRONT HIT FIRST											
HIT PARKED VEH											
V001 B 904 (VEHICLE DOOR OPENED OR CLOSED NEGLIGENTLY)					U000 B 808 (CARELESS/RECKLESS/IN A HURRY)						



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

107 0115SX20209 FRI 13/03/15 05:00 LIGHT NEAR ACRE 50M NORTH EAST OF J/W LANACRE AVENUE 30 CELL 521500/190500 521640 / 190560
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 PED AND V1 COLLIDED. PED MAY HAVE JUMPED IN FRONT OF V1.

CASUALTY 001 (001) (23 Yrs - M SW9) SLIGHT PEDESTRIAN UNKNOWN

VEHICLE 001 (000) CAR (23 Yrs - F HA8) GOING AHEAD OTHER E TO W
 BT - NOT REQUESTED FRONT HIT FIRST

C001 B 808 (CARELESS/RECKLESS/IN A HURRY)

V001 B 602 (CARELESS/RECKLESS/IN A HURRY)

V001 B 601 (AGGRESSIVE DRIVING)

108 0115SX20246 WED 25/03/15 17:11 LIGHT PURSLEY RD 47M EAST OF J/W PAGE STREET 30 LINK 173-458 522508 / 191369
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V1'S BRAKES FAILED. V1 HIT A BUS STOP, LAMP POST, WALL AND PARKED V2.

CASUALTY 001 (001) (80 Yrs - M HA8) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (33 Yrs - M HA8) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (80 Yrs - M HA8) GOING AHEAD OTHER E TO W
 BT - NOT REQUESTED OVERTURN N/S HIT FIRST
 LEFT CWY NEARSIDE HIT PARKED VEH HIT BUS STOP

VEHICLE 002 (001) GDS =< 3.5T (? Yrs - U PARKED) PARKED P TO P
 BT - DRV NOT CONTACTED O/S HIT FIRST

FOOTWAY

V001 A 410 (LOSS OF CONTROL)

V001 A 203 (DEFECTIVE BRAKES)

V001 A 603 (NERVOUS/UNCERTAIN/ PANIC)

109 0115SX20278 THU 02/04/15 15:05 LIGHT THE BROADWAY J/W BROCKENHURST GARDENS 30 LINK 212-214 521440 / 192090
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT PELICAN OR SIMILAR

V2 HIT REAR V1

CASUALTY 001 (001) (58 Yrs - M NW7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (58 Yrs - M NW7) GOING AHEAD HELD UP SW TO NE JCT CLEARED
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (18 Yrs - M WD18) GOING AHEAD OTHER SW TO NE JCT CLEARED
 BT - NOT REQUESTED FRONT HIT FIRST

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 605 (INEXPERIENCED OR LEARNER DRIVER/RIDER)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

110 0115SX20438 FRI 24/04/15 07:25 LIGHT GRAHAME PARK WAY J/W AVION CRESCENT 30 LINK 655-660 522030 / 190650
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V1 U TURNED ACROSS PATH V2

CASUALTY 001 (001) (31 Yrs - M KP2) SLIGHT DRIVER/RIDER
 CASUALTY 002 (002) (24 Yrs - F NW10) SLIGHT DRIVER/RIDER
 CASUALTY 003 (002) (28 Yrs - M NW9) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (31 Yrs - M KP2) U-TURNING N TO N JCT MID
 BT - NEGATIVE O/S HIT FIRST

VEHICLE 002 (001) CAR (24 Yrs - F NW10) HIT PARKED VEH
 GOING AHEAD OTHER N TO S JCT MID
 BT - NEGATIVE FRONT HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

111 0115SX20369 THU 30/04/15 16:20 LIGHT EVERSFIELD GARDENS 40M NORTH J/W WOODCROFT AVENUE 30 LINK 146-172 521210 / 191470
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 PED CROSSED ROAD INTO PATH OF V1 MASKED BY STATIONARY VEHICLE

CASUALTY 001 (001) (13 Yrs - M HA8) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) W BOUND FROM DRIVERS O/SIDE MSK
 JOURNEY TO/FROM SCHOOL Sch Attended : TOTTERIDGE ACADEMY

VEHICLE 001 (000) CAR (54 Yrs - M HA8) GOING AHEAD OTHER S TO N
 BT - NEGATIVE O/S HIT FIRST

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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112 0115SX20446 WED 20/05/15 17:45 LIGHT GRAHAME PARK WAY J/W FIELD MEAD	30 LINK 655-660	521700 / 191220
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 TURNED RIGHT ACROSS PATH OF ONCOMING V1, CAUSING COLLISION. V1 THEN HIT STAT V3.

CASUALTY 001 (001) (48 Yrs - F HA8) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (25 Yrs - F HA8) SLIGHT PASSENGER FRONT SEAT

CASUALTY 003 (002) (53 Yrs - F NW4) SLIGHT DRIVER/RIDER

CASUALTY 004 (003) (73 Yrs - F NW9) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (48 Yrs - F HA8)	SLOWING OR STOPPING	SE TO NW	JCT MID
BT - NOT REQUESTED		FRONT HIT FIRST	

VEHICLE 002 (001) CAR (53 Yrs - F NW4)	TURNING RIGHT	NW TO SW	JCT MID
BT - NOT REQUESTED		N/S HIT FIRST	

VEHICLE 003 (001) CAR (72 Yrs - M NW9)	WAITING TO TURN LEFT	SW TO NW	JCT APP
BT - NOT REQUESTED		O/S HIT FIRST	

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

113 0115SX20496 THU 21/05/15 17:50 LIGHT WATFORD WAY, J/W GREAT NORTH WAY (BARNET BY-PASS)	30 NODE 127	522390 / 190580
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY ROUNDABOUT AUTO SIG PEDN PHASE AT ATS

V2 NEXT TO V1 MOVED OFF AT GREEN ATS & STRUCK WING MIRROR OF V1 & RAN OVER V1'S FOOT, V2 F.T.S

CASUALTY 001 (001) (27 Yrs - M AL9) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) M/C > 500CC (27 Yrs - M AL9)	GOING AHEAD HELD UP	SE TO NW	COMM TO/FROM WORK	JCT APP
BT - NOT REQUESTED		O/S HIT FIRST		

VEHICLE 002 (001) CAR (? Yrs - F UNKN)	MOVING OFF	SE TO NW	JCT APP
BT - DRV NOT CONTACTED		N/S HIT FIRST	

V002 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

114 0115SX29250 FRI 22/05/15 13:54 LIGHT THE BROADWAY 30M NORTH EAST J/W MILL WAY 30 LINK 212-214 521390 / 192060
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 DRIVER V1 DROVE OVER PED'S FOOT AS PED WAS ARGUING OVER PARKING SPACE
 CASUALTY 001 (001) (59 Yrs - F HA8) SLIGHT PEDESTRIAN IN ROAD - NOT CROSSING STANDING IN RD NOT CROSSING
 VEHICLE 001 (000) CAR (77 Yrs - M NW9) SLOWING OR STOPPING NE TO SW
 BT - NOT REQUESTED O/S HIT FIRST

V001 A 808 (CARELESS/RECKLESS/IN A HURRY)

V001 B 602 (CARELESS/RECKLESS/IN A HURRY)

115 0115SX20492 THU 04/06/15 08:36 LIGHT GRAHAME PARK WAY J/W FIELD MEAD 30 LINK 655-660 521700 / 191220
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V2 ENTERED THE JUNCTION, COLLIDING WITH N/S OF V1.
 CASUALTY 001 (001) (29 Yrs - F NW4) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (29 Yrs - F NW4) GOING AHEAD OTHER SE TO NW JCT MID
 BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) CAR (28 Yrs - F NW9) GOING AHEAD OTHER SW TO NE JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

V001 B 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

116 0115SX20578 THU 25/06/15 15:30 LIGHT LONG MEAD J/W LONG MEAD 30 CELL 521500/190500 521650 / 190820
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V1 LOST CONTROL AND REVERSED INTO PED. V1 ALSO HIT PARKED V2.
 CASUALTY 001 (001) (8 Yrs - M UNKN) SLIGHT PEDESTRIAN IN ROAD - NOT CROSSING UNKNOWN IN RD NOT CROSSING
 VEHICLE 001 (002) CAR (34 Yrs - M NW9) REVERSING SW TO N JCT APP
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - U PARKED) PARKED P TO P JCT APP
 BT - DRV NOT CONTACTED N/S HIT FIRST
 LEFT CWY OFFSIDE HIT KERB

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 410 (LOSS OF CONTROL)

V001 A 603 (NERVOUS/UNCERTAIN/ PANIC)

V001 A 605 (INEXPERIENCED OR LEARNER DRIVER/RIDER)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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117 0115SX20660 THU 25/06/15 23:40 DARK PAGE STREET, J/W TUDOR CLOSE 30 LINK 173-221 522410 / 191510

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

UNKNOWN VEH HAS TURNED OUT OF JCN WITHOUT INDICATING INTO PATH OF V1, V1 BRAKED TO AVOID & WAS HIT IN REAR BY V2

CASUALTY 001 (001) (40 Yrs - F NW2) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (38 Yrs - M BH4) GOING AHEAD OTHER N TO S JCT APP
BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (44 Yrs - M HA0) GOING AHEAD OTHER N TO S JCT APP
BT - NOT REQUESTED FRONT HIT FIRST

V001 B 408 (SUDDEN BRAKING)

V002 B 308 (FOLLOWING TOO CLOSE)

V002 B 405 (FAILED TO LOOK PROPERLY)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

118 0115SX20657 TUE 07/07/15 09:56 LIGHT M1 J/W M1 SLIP RD 30 LINK 135-318 521930 / 191010

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY SLIP ROAD GIVE WAY/UNCONT FOOTBRIDGE OR SUBWAY

V1 ENTERED FROM SLIP RD CHANGING LANES AND COLLIDING WITH V2.

CASUALTY 001 (001) (45 Yrs - M N22) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (45 Yrs - M N22) CHANGE LANE TO LEFT SE TO NW JCT CLEARED
BT - NEGATIVE SKIDDED O/S HIT FIRST
LEFT CWY ONTO RES/REBOUND HIT CENTRAL BAR

VEHICLE 002 (001) CAR (54 Yrs - M LU6) GOING AHEAD OTHER SE TO NW JCT CLEARED
BT - NEGATIVE N/S HIT FIRST

V001 A 306 (EXCEEDING SPEED LIMIT)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

119 0115SX20605 THU 09/07/15 08:30 LIGHT GRAHAME PARK WAY 50M NORTH WEST OF J/W CORNER MEAD 30 LINK 655-660 521960 / 190820
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 V1 COLLIDED WITH PARKED V2, PUSHING V2 INTO PARKED V3.
 CASUALTY 001 (001) (35 Yrs - F NW9) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (35 Yrs - F NW9) OVERTAKE STAT VEH O/S SE TO NW COMM TO/FROM WORK
 BT - NEGATIVE FRONT HIT FIRST
 HIT PARKED VEH
 VEHICLE 002 (001) CAR (? Yrs - U PARKED) PARKED P TO P
 BT - DRV NOT CONTACTED BACK HIT FIRST
 LEFT CWY NEARSIDE HIT PARKED VEH HIT NR/OFF BAR
 VEHICLE 003 (002) CAR (? Yrs - U PARKED) PARKED P TO P
 BT - DRV NOT CONTACTED BACK HIT FIRST
 HIT PARKED VEH
 V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 602 (CARELESS/RECKLESS/IN A HURRY)
 V001 B 403 (POOR TURN OR MANOEUVRE)

120 0115SX20688 SUN 02/08/15 14:55 LIGHT PAGE STREET J/W PURSLEY RD 30 NODE 173 522450 / 191340
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 AS V1 STOPPED SUDDENLY V2 HIT V1'S REAR.
 CASUALTY 001 (001) (24 Yrs - M NW7) SLIGHT DRIVER/RIDER
 CASUALTY 002 (001) (47 Yrs - F N14) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (002) CAR (24 Yrs - M NW7) SLOWING OR STOPPING S TO N JCT APP
 BT - NOT REQUESTED BACK HIT FIRST
 VEHICLE 002 (001) CAR (45 Yrs - M NW6) GOING AHEAD OTHER S TO N JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST
 V001 A 408 (SUDDEN BRAKING) V002 A 308 (FOLLOWING TOO CLOSE)
 V002 A 405 (FAILED TO LOOK PROPERLY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

121 0115SX20751 THU 20/08/15 23:00 DARK M1 400M NORTH WEST OF J/W M1 SLIP RD 30 LINK 135-318 521810 / 191240

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 CHANGED LANES, COLLIDING WITH REAR OF V1.

CASUALTY 001 (001) (69 Yrs - M N10) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (21 Yrs - F UNKN) SLIGHT PASSENGER BACK SEAT

CASUALTY 003 (002) (15 Yrs - F UNKN) SERIOUS PASSENGER BACK SEAT

VEHICLE 001 (002) CAR (69 Yrs - M N10) GOING AHEAD OTHER NW TO SE
BT - NEGATIVE SKIDDED BACK HIT FIRST
LEFT CWY NEARSIDE HIT NR/OFF BAR

VEHICLE 002 (001) CAR (? Yrs - M UNKN) CHANGE LANE TO LEFT NW TO SE
BT - DRV NOT CONTACTED SKIDDED FRONT HIT FIRST
LEFT CWY ONTO CENTRAL RES HIT CENTRAL BAR

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 601 (AGGRESSIVE DRIVING)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

122 0115SX20747 SAT 22/08/15 01:00 DARK GREAT NORTH WAY (BARNET BY-PASS) 88M SOUTH EAST OF J/W G N W (B BY 30 LINK 130-133 522810 / 190450

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 COLLIDED WITH REAR OF V1. V1 HIT A TREE AND N/S RAILINGS.

CASUALTY 001 (001) (36 Yrs - M NW9) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (36 Yrs - M NW9) GOING AHEAD OTHER SE TO NW JNY PART OF WORK
BT - NOT REQUESTED BACK HIT FIRST
LEFT CWY NEARSIDE HIT TREE

VEHICLE 002 (001) CAR (? Yrs - M UNKN) GOING AHEAD OTHER SE TO NW
BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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123 0115SX20777 WED 26/08/15 18:15 LIGHT PURSLEY RD J/W FEATHERSTONE RD	30 LINK 173-458	522760 / 191410
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POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT ZEBRA

V2 COLLIDED WITH V1'S REAR AS V1 STOPPED.

CASUALTY 001 (001) (37 Yrs - F HA5) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (37 Yrs - F HA5)	SLOWING OR STOPPING	NE TO SW COMM TO/FROM WORK	JCT CLEARED
BT - DRV NOT CONTACTED		BACK HIT FIRST	

VEHICLE 002 (001) CAR (? Yrs - F UNKN)	GOING AHEAD OTHER	NE TO SW	JCT CLEARED
BT - DRV NOT CONTACTED		FRONT HIT FIRST	

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)

124 0115SX20797 MON 31/08/15 21:02 DARK WATFORD WAY (BARNET BY-PASS) J/W THE BROADWAY	30 NODE 216	521610 / 192310
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POLICE - OVER COU ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT AUTO SIG PEDN PHASE AT ATS

V2 CHANGED LANES, COLLIDING WITH V1.

CASUALTY 001 (001) (38 Yrs - F WD6) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (38 Yrs - F WD6)	GOING AHEAD OTHER	SE TO NW	JCT MID
BT - DRV NOT CONTACTED		O/S HIT FIRST	

VEHICLE 002 (001) CAR (? Yrs - M UNKN)	CHANGE LANE TO LEFT	SE TO NW	JCT MID
BT - DRV NOT CONTACTED		N/S HIT FIRST	

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

125 0115SX20851 MON 14/09/15 15:55 LIGHT BUNN'S LANE J/W FLOWER LANE 30 NODE 460 521760 / 191510

POLICE - OVER COU ROAD-WET WEATHER-UNKNOWN SINGLE CWY T/STAG JUN GIVE WAY/UNCONT CENTRAL REFUGE

V2 TURNED LEFT INTO PATH OF V1. V1 BRAKED HARD ON WET RD AND LOST CONTROL.

CASUALTY 001 (001) (20 Yrs - M N3) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) M/C 50-125CC (20 Yrs - M N3) SLOWING OR STOPPING W TO E JCT MID
BT - DRV NOT CONTACTED DID NOT IMPACT

VEHICLE 002 (000) CAR (? Yrs - U UNKN) TURNING LEFT N TO E JCT MID
BT - DRV NOT CONTACTED DID NOT IMPACT

V001 A 408 (SUDDEN BRAKING)

V001 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V002 A 403 (POOR TURN OR MANOEUVRE)

V001 A 410 (LOSS OF CONTROL)

126 0115SX20869 MON 21/09/15 12:47 LIGHT WATFORD WAY (BARNET BY-PASS) 41M NORTH WEST J/W PAGE STREET 30 LINK 126-218 522270 / 190730

POLICE - AT SCENE ROAD-WET WEATHER-OTHER DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V1 CHANGED LANE ACROSS PATH V2 CAUSING V2 TO HIT REAR V1

CASUALTY 001 (002) (56 Yrs - M E7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (30 Yrs - M E1) CHANGE LANE TO LEFT NW TO SE
BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) M/C 50-125CC (56 Yrs - M E7) GOING AHEAD OTHER NW TO SE
BT - NOT REQUESTED FRONT HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 408 (SUDDEN BRAKING)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

127 0115SX20883 SUN 27/09/15 16:03 LIGHT GRAHAME PARK WAY J/W FIELD MEAD 30 LINK 655-660 521700 / 191220

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT CENTRAL REFUGE

V1 TURNED RIGHT ACROSS PATH OF ONCOMING V2, CAUSING COLLISION. V1 OVERTURNED AND HIT STAT V3.

CASUALTY 001 (002) (31 Yrs - F EN3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (61 Yrs - F N12) TURNING RIGHT NW TO SW JCT MID
BT - NOT REQUESTED OVERTURN N/S HIT FIRST

VEHICLE 002 (001) CAR (31 Yrs - F EN3) GOING AHEAD OTHER SE TO NW JCT MID
BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 003 (001) BUS/COACH (34 Yrs - M WD6) WAITING TO TURN LEFT SW TO NW JNY PART OF WORK JCT APP
BT - NOT REQUESTED FRONT HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

128 0115SX21059 THU 01/10/15 09:44 LIGHT GRAHAME PARK WAY, 138M SW OF J/W AVION CRESCENT 30 LINK 655-660 521980 / 190330

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

IT APPEARS V1 HAS TURNED RIGHT ACROSS PATH OF ONCOMING V2 CAUSING V2 TO HIT V1

CASUALTY 001 (002) (45 Yrs - M EN6) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (51 Yrs - M BA14) TURNING RIGHT SW TO SE JNY PART OF WORK JCT APP
BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) M/C 125-500CC (45 Yrs - M EN6) GOING AHEAD OTHER NE TO SW JNY PART OF WORK JCT APP
BT - NEGATIVE FRONT HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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129 0115SX20942 MON 05/10/15 17:30 LIGHT PURSLEY ROAD, 160M EAST OF J/W PAGE STREET	30 LINK 173-458	522610 / 191380
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POLICE - OVER COU ROAD-WET RAINING SINGLE CWY NO JUN IN 20M ZEBRA

CROSS ALLEGATIONS, IT APPEARS C1 HAS RAN INTO ROAD JUST AFTER ZEBRA CROSSING & HIT O/S OF PASSING V1

CASUALTY 001 (001) (39 Yrs - F HA8) SLIGHT PEDESTRIAN CROSSING ROAD WITHIN 50M XING N BOUND FROM DRIVERS O/SIDE

VEHICLE 001 (000) CAR (56 Yrs - F HA7) GOING AHEAD OTHER W TO E COMM TO/FROM WORK

BT - DRV NOT CONTACTED O/S HIT FIRST

V001 B 304 (DISOBEYED PEDESTRIAN CROSSING FACILITY)

V001 B 405 (FAILED TO LOOK PROPERLY)

C001 B 804 (WRONG USE OF PEDESTRIAN CROSSING FACILITY)

C001 B 802 (FAILED TO LOOK PROPERLY)

C001 B 808 (CARELESS/RECKLESS/IN A HURRY)

130 0115SX20912 WED 14/10/15 08:10 LIGHT PAGE STREET, J/W BUNN'S LANE	30 NODE 173	522420 / 191390
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY MINI GIVE WAY/UNCONT ZEBRA

C1 HAS CROSSED THROUGH STOP START TRAFFIC INTO PATH OF V1 & BEEN HIT

CASUALTY 001 (001) (13 Yrs - F NW9) SLIGHT PEDESTRIAN CROSSING ROAD WITHIN 50M XING NE BOUND FROM DRIVERS N/SIDE MSK

JOURNEY TO/FROM SCHOOL Sch Attended : COPTHALL GIRLS SCHOOL

VEHICLE 001 (000) CAR (38 Yrs - M NW7) TURNING RIGHT SE TO N JCT APP

BT - NEGATIVE FRONT HIT FIRST

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

131 0115SX21003 SAT 24/10/15 17:30 DARK PAGE STREET, J/W PURSLEY ROAD	30 NODE 173	522450 / 191360
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POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY MINI GIVE WAY/UNCONT ZEBRA

IT APPEARS V1 HAS FAILED TO GIVE WAY TO A VAN APPROACHING R/A & TURNED RIGHT INTO O/S OF V2 ENTERING R/A

CASUALTY 001 (001) (27 Yrs - M NW7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (27 Yrs - M NW7) TURNING RIGHT S TO E JCT MID

BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (42 Yrs - M N13) GOING AHEAD OTHER N TO S JCT MID

BT - NOT REQUESTED O/S HIT FIRST

V001 B 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

V001 B 306 (EXCEEDING SPEED LIMIT)

V001 B 405 (FAILED TO LOOK PROPERLY)

V002 B 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

V002 B 306 (EXCEEDING SPEED LIMIT)

V002 B 405 (FAILED TO LOOK PROPERLY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

132 0115SX20959 TUE 27/10/15 08:25 LIGHT M1, 566M NW OF J/W WATFORD WAY 30 LINK 135-318 521930 / 191040
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
 V4 WAS DISTRACTED BY MOBILE PHONE RINGING IN HER BAG & HIT REAR OF STATIONARY V3, V3 THEN HIT V2 & V2 HIT V1
 CASUALTY 001 (001) (32 Yrs - M HP2) SLIGHT DRIVER/RIDER
 CASUALTY 002 (002) (58 Yrs - M LU7) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) GDS =< 3.5T (32 Yrs - M HP2) GOING AHEAD HELD UP NW TO SE JNY PART OF WORK
 BT - NEGATIVE BACK HIT FIRST
 VEHICLE 002 (003) CAR (58 Yrs - M LU7) GOING AHEAD HELD UP NW TO SE JNY PART OF WORK
 BT - NEGATIVE BACK HIT FIRST
 VEHICLE 003 (004) GDS =< 3.5T (48 Yrs - M LU5) GOING AHEAD HELD UP NW TO SE JNY PART OF WORK
 BT - NEGATIVE BACK HIT FIRST
 VEHICLE 004 (003) CAR (45 Yrs - F LU2) GOING AHEAD OTHER NW TO SE JNY PART OF WORK
 BT - NEGATIVE FRONT HIT FIRST
 V004 A 509 (DISTRACTION IN VEHICLE) V004 B 508 (DRIVER USING MOBILE PHONE)
 V004 A 405 (FAILED TO LOOK PROPERLY) V004 A 602 (CARELESS/RECKLESS/IN A HURRY)
 V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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133 0115SX21129 FRI 30/10/15 07:14 LIGHT M1, 439M NW OF J/W WATFORD WAY (BARNET BY-PASS)	30 LINK 135-318	522010 / 190920
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POLICE - AT SCENE ROAD-WET RAINING DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

A VAN SWERVED ONTO HARD SHOULDER, FOLLOWING V2 HAS BRAKED HARD, V3 THEN HIT REAR OF V2, PUSHING V2 INTO V1

CASUALTY 001 (001) (30 Yrs - F WD18) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (61 Yrs - M WD24) GOING AHEAD HELD UP NW TO SE JNY PART OF WORK
BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (003) CAR (60 Yrs - M WD18) SLOWING OR STOPPING NW TO SE JNY PART OF WORK
BT - NEGATIVE BACK HIT FIRST

VEHICLE 003 (002) CAR (39 Yrs - M NN1) GOING AHEAD OTHER NW TO SE JNY PART OF WORK
BT - NEGATIVE FRONT HIT FIRST

V003 B 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V003 A 405 (FAILED TO LOOK PROPERLY)

V003 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 B 510 (DISTRACTION OUTSIDE VEHICLE)

V002 B 408 (SUDDEN BRAKING)

134 0115SX21227 MON 16/11/15 18:25 LIGHT NFL - THE BROADWAY, J/W MILL WAY	30 LINK 212-214	521360 / 192040
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POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY T/STAG JUN GIVE WAY/UNCONT PELICAN OR SIMILAR

C1 HAS RUN ACROSS ROAD INTO PATH OF V1 AS V1 HAS MOVED OFF AT GREEN ATS AND BEEN HIT

CASUALTY 001 (001) (60 Yrs - F EN5) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING SE BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (52 Yrs - M HA8) MOVING OFF SW TO NE JCT APP
BT - NOT REQUESTED FRONT HIT FIRST

C001 A 804 (WRONG USE OF PEDESTRIAN CROSSING FACILITY)

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

135 0115SX29007 TUE 24/11/15 07:14 DARK M1, 748M NW OF J/W WATFORD WAY (BARNET BY-PASS) 30 LINK 135-318 521840 / 191190

POLICE - AT SCENE ROAD-WET RAINING DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V5 HAS FAILED TO SEE STATIONARY TRAFFIC AHEAD & HIT REAR OF V4 CAUSING V4 TO HIT V3, V3 TO HIT V2 & V2 TO HIT V1

CASUALTY 001 (002) (35 Yrs - M LU3) SLIGHT DRIVER/RIDER

CASUALTY 002 (003) (54 Yrs - F WD6) SLIGHT DRIVER/RIDER

CASUALTY 003 (004) (61 Yrs - M HP3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (30 Yrs - M HP14) GOING AHEAD HELD UP NW TO SE COMM TO/FROM WORK
BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (003) CAR (35 Yrs - M LU3) GOING AHEAD HELD UP NW TO SE COMM TO/FROM WORK
BT - NEGATIVE BACK HIT FIRST

VEHICLE 003 (004) CAR (54 Yrs - F WD6) GOING AHEAD HELD UP NW TO SE COMM TO/FROM WORK
BT - NEGATIVE BACK HIT FIRST

VEHICLE 004 (005) CAR (61 Yrs - M HP3) GOING AHEAD HELD UP NW TO SE JNY PART OF WORK
BT - NEGATIVE BACK HIT FIRST

VEHICLE 005 (004) CAR (33 Yrs - M NN10) GOING AHEAD OTHER NW TO SE JNY PART OF WORK
BT - NEGATIVE FRONT HIT FIRST

V005 A 103 (SLIPPERY ROAD (DUE TO WEATHER))

V005 A 405 (FAILED TO LOOK PROPERLY)

V005 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V005 A 410 (LOSS OF CONTROL)

V005 A 602 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

136 0115SX21098 FRI 27/11/15 06:45 DARK WATFORD WAY (BARNET BY-PASS) J/W LAWRENCE STREET 30 NODE 216 521600 / 192350

POLICE - OVER COU ROAD-WET RAINING DUAL CWY ROUNDABOUT AUTO SIG PEDN PHASE AT ATS

V2 COLLIDED WITH REAR OF STAT V1.

CASUALTY 001 (001) (23 Yrs - F SG2) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (23 Yrs - F SG2) GOING AHEAD HELD UP NW TO SE COMM TO/FROM WORK JCT APP
BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (? Yrs - M UNKN) GOING AHEAD OTHER NW TO SE COMM TO/FROM WORK JCT APP
BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)

137 0115SX29240 WED 02/12/15 19:30 DARK WATFORD WAY (BARNET BY-PASS) J.W LAWRENCE STREET 30 NODE 217 521640 / 192310

POLICE - OVER COU ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT AUTO SIG PEDN PHASE AT ATS

V2 COLLIDED WITH REAR OF STAT V1

CASUALTY 001 (001) (56 Yrs - F NW2) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (56 Yrs - F NW2) GOING AHEAD OTHER N TO S JCT MID
BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - U UNKN) GOING AHEAD OTHER N TO S JCT MID
BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

138 0115SX21134 WED 09/12/15 08:35 LIGHT WATFORD WAY (BARNET BY PASS) J/W THE BROADWAY 30 NODE 217 521660 / 192300

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY ROUNDABOUT GIVE WAY/UNCONT PELICAN OR SIMILAR

V3 COLLIDED WITH REAR OF STAT V2, V2 COLLIDED WITH REAR OF STAT V1

CASUALTY 001 (001) (20 Yrs - F AL10) SLIGHT DRIVER/RIDER

CASUALTY 002 (003) (32 Yrs - F NW7) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (20 Yrs - F AL10) GOING AHEAD HELD UP NW TO SE JCT CLEARED
BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (003) CAR (47 Yrs - F WD6) GOING AHEAD HELD UP NW TO SE JCT CLEARED
BT - NEGATIVE BACK HIT FIRST

VEHICLE 003 (002) CAR (30 Yrs - M NW7) SLOWING OR STOPPING NW TO SE JCT CLEARED
BT - NEGATIVE FRONT HIT FIRST

V003 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V003 A 405 (FAILED TO LOOK PROPERLY)

139 0115SX21177 TUE 15/12/15 08:45 LIGHT NFL PAGE STREET 65M NE J/W WATFORD WAY 30 LINK 126-173 522310 / 190770

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

PED WALKED INTO THE ROAD NOT LOOKING, V1 HIT PED

CASUALTY 001 (001) (12 Yrs - F NW7) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) NW BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (32 Yrs - M EN5) GOING AHEAD OTHER NE TO SW N/S HIT FIRST
BT - NOT REQUESTED

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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140 0115SX21187 TUE 15/12/15 15:06 LIGHT BUNN'S LANE J/W WOODCROFT AVENUE	30 NODE 172	521440 / 191620
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 FAILED TO GIVE WAY TO V2

CASUALTY 001 (001) (18 Yrs - F WD19) SLIGHT PASSENGER FRONT SEAT

CASUALTY 002 (002) (38 Yrs - M WD19) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (48 Yrs - F WD19)
BT - NOT REQUESTED

TURNING RIGHT SW TO SE
N/S HIT FIRST

JCT MID

VEHICLE 002 (001) CAR (38 Yrs - M WD19)
BT - NOT REQUESTED

GOING AHEAD OTHER NW TO SE
FRONT HIT FIRST

JCT APP

V001 A 103 (SLIPPERY ROAD (DUE TO WEATHER))

V002 A 103 (SLIPPERY ROAD (DUE TO WEATHER))

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)

141 0115SX21204 SUN 20/12/15 20:49 DARK THE BROADWAY 75M SW J/W FLOWER LANE	30 LINK 212-214	521530 / 192150
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POLICE - AT SCENE ROAD-WET WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 PERFORMED U TURN ACROSS PATH OF V1

CASUALTY 001 (001) (24 Yrs - M HA8) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (30 Yrs - F NW10) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (24 Yrs - M HA8)
BT - NOT REQUESTED

GOING AHEAD OTHER SW TO NE
N/S HIT FIRST

VEHICLE 002 (001) CAR (30 Yrs - F NW10)
BT - NOT REQUESTED

U-TURNING SW TO SW
O/S HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

142 0116SX20046 MON 04/01/16 10:41 LIGHT THE BROADWAY J/W MILL WAY	30 LINK 212-214	521380 / 192050
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POLICE - AT SCENE ROAD-WET WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

PED CROSSED ROAD INTO PATH OF V1 MASKED BY PARKED VEHICLE

CASUALTY 001 (001) (73 Yrs - M NW7) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) N BOUND FROM DRIVERS N/SIDE MSK

VEHICLE 001 (000) CAR (36 Yrs - M NW9)
BT - NEGATIVE

GOING AHEAD OTHER NE TO SW
FRONT HIT FIRST

JCT APP

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P) 36 MTS TO FEB-2016 SORTED BY DATE

143 0116SX20052 SUN 10/01/16 09:24 LIGHT WATFORD WAY (BARNET BY PASS) J/W PAGE STREET 30 NODE 126 522290 / 190720

POLICE - AT SCENE ROAD-WET WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG NO XING FACILITY IN 50M

V2 HIT REAR V1

CASUALTY 001 (002) (60 Yrs - M LN6) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (55 Yrs - F LN6) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) BUS/COACH (33 Yrs - M HU13) GOING AHEAD OTHER NW TO SE JNY PART OF WORK JCT APP
BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) CAR (60 Yrs - M LN6) SLOWING OR STOPPING NW TO SE JCT APP
BT - NOT REQUESTED BACK HIT FIRST

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

144 0116SX20067 SUN 10/01/16 10:10 LIGHT LAWRENCE STREET J/W WATFORD WAY (BARNET BY PASS) 30 NODE 216 521640 / 192340

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 HIT REAR V1

CASUALTY 001 (001) (11 Yrs - F HA8) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (50 Yrs - M HA8) GOING AHEAD HELD UP N TO S JCT APP
BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (54 Yrs - M NW7) MOVING OFF N TO S JCT APP
BT - NOT REQUESTED FRONT HIT FIRST

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

145 0116SX20294 WED 20/01/16 12:32 LIGHT WIGGINS MEAD, J/W CORNER MEAD 30 CELL 521500/191000 521670 / 191080

POLICE - AT SCENE ROAD-DRY WEATHER-UNKNOWN SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

APPARENTLY V2 HAS PULLED OUT OF DRIVEWAY INTO PATH OF V1, V1 TRIED TO SWERVE BUT V2 HIT N/S OF V1

CASUALTY 001 (001) (31 Yrs - M NW2) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (31 Yrs - M NW2) GOING AHEAD OTHER NE TO SW JCT MID
BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (45 Yrs - M NW10) MOVING OFF SE TO NW JCT MID
BT - NOT REQUESTED FRONT HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V002 B 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

146 0116SX20074 FRI 22/01/16 07:59 LIGHT HALE LANE J/W BUNN'S LANE 30 NODE 212 521240 / 191980

POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY MINI GIVE WAY/UNCONT NO XING FACILITY IN 50M

PED CROSSED ROAD INTO PATH OF V1

CASUALTY 001 (001) (13 Yrs - M HA9) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) NE BOUND FROM DRIVERS N/SIDE
JOURNEY TO/FROM SCHOOL

VEHICLE 001 (000) CAR (46 Yrs - F NW7) GOING AHEAD OTHER SE TO NW JCT CLEARED
BT - NOT REQUESTED FRONT HIT FIRST

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)							36 MTS TO FEB-2016 SORTED BY DATE	
147	0116SX20099	WED 03/02/16 18:30	DARK	WATFORD WAY (BARNET BY-PASS), J/W DAWS LANE	30	NODE 218	521740 / 192240	
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M								
V2 HAS PULLED OUT OF JCN INTO PATH OF V1 CAUSING COLLISION								
CASUALTY 001 (001) (44 Yrs - M PE14) SLIGHT DRIVER/RIDER								
VEHICLE	001 (002)	M/C > 500CC (44 Yrs - M PE14)		GOING AHEAD OTHER	NW TO SE	COMM TO/FROM WORK	JCT APP	
					FRONT HIT FIRST			
VEHICLE	002 (001)	CAR (35 Yrs - F HA8)		MOVING OFF	NE TO SW		JCT APP	
					FRONT HIT FIRST			
V001	B	701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))			V002	B	701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))	
V002	A	403 (POOR TURN OR MANOEUVRE)			V002	A	405 (FAILED TO LOOK PROPERLY)	
V002	A	406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)			V002	A	602 (CARELESS/RECKLESS/IN A HURRY)	
148	0116SX20075	THU 04/02/16 06:35	DARK	BUNN'S LANE, J/W GRAHAME PARK WAY	30	NODE 655	521500 / 191570	
POLICE - AT SCENE ROAD-DRY WEATHER-UNKNOWN SINGLE CWY ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M								
V2 HAS FAILED TO GIVE WAY AT R/A & HIT N/S OF V1 ALREADY ON R/A								
CASUALTY 001 (002) (6 Yrs - M UNKN) SLIGHT PASSENGER FRONT SEAT								
				JOURNEY TO/FROM SCHOOL Sch Attended : ORION SCHOOL				
VEHICLE	001 (002)	CAR (44 Yrs - M SG17)		TURNING RIGHT	NW TO S		JCT MID	
					N/S HIT FIRST			
VEHICLE	002 (001)	CAR (31 Yrs - F HA3)		TURNING LEFT	SE TO S		JCT MID	
					FRONT HIT FIRST			
V002	A	302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)			V002	A	405 (FAILED TO LOOK PROPERLY)	
V002	A	406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)			V002	A	602 (CARELESS/RECKLESS/IN A HURRY)	
V001	B	404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)						


Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)	36 MTS TO FEB-2016 SORTED BY DATE
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149 0116SX20144 MON 15/02/16 08:40 LIGHT PAGE STREET, J/W BUNN'S LANE	30 NODE 173	522420 / 191390
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY MINI GIVE WAY/UNCONT ZEBRA

IT APPEARS V1 HAS FAILED TO GIVE WAY AT MINI R/A CAUSING V2 ALREADY ON R/A TO HIT V1 & FALL

CASUALTY 001 (002) (25 Yrs - M NW4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (37 Yrs - F WD6)	MOVING OFF	SW TO NE TAKING PUPIL TO/FROM SC	JCT MID
BT - NOT REQUESTED		O/S HIT FIRST	

VEHICLE 002 (001) M/C 50-125CC (25 Yrs - M NW4)	GOING AHEAD OTHER	S TO N JNY PART OF WORK	JCT MID
BT - NOT REQUESTED		FRONT HIT FIRST	

V001 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

V001 B 703 (VISION AFFECTED - ROAD LAYOUT (EG. BEND, WINDING ROAD, HILL CREST) V002 B 307 (TRAVELLING TOO FAST FOR CONDITIONS)

150 0116SX20163 FRI 19/02/16 08:45 LIGHT WATFORD WAY (BARNET BY-PASS), 90M NW OF J/W HALL LANE	30 LINK 126-218	522230 / 190750
---	-----------------	-----------------

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 HAS SLOWED & TURNED LEFT INTO DRIVE & WAS HIT IN REAR BY FOLLOWING V1

CASUALTY 001 (002) (30 Yrs - M NW7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) GDS => 7.5T (45 Yrs - F RM13) ARTIC	GOING AHEAD OTHER	SE TO NW JNY PART OF WORK	JCT APP
BT - NOT REQUESTED		FRONT HIT FIRST	

VEHICLE 002 (001) CAR (30 Yrs - M NW7)	TURNING LEFT	SE TO SW COMM TO/FROM WORK	JCT APP
BT - NOT REQUESTED		BACK HIT FIRST	

V001 B 308 (FOLLOWING TOO CLOSE)

V001 B 405 (FAILED TO LOOK PROPERLY)

V001 B 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 B 408 (SUDDEN BRAKING)

V002 B 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)

V002 B 403 (POOR TURN OR MANOEUVRE)



Mill Hill GIS Area Collisions - 3 years to 29- Feb -2016 (provisional)

MD01 GIS AREA B30_Mill_Hill1 (P)

36 MTS TO FEB-2016 SORTED BY DATE

151 0116SX20197 MON 29/02/16 12:05 LIGHT QUAKERS COURSE, 175M NE OF J/W LANACRE AVENUE 30 CELL 521500/190500 521610 / 190750
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 IT APPEARS C1 HAS WALKED BEHIND V1 AS V1 WAS REVERSING & BEEN HIT CAUSING C1 TO FALL
 CASUALTY 001 (001) (22 Yrs - F NW9) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) NW BOUND FROM DRIVERS O/SIDE
 VEHICLE 001 (000) GDS =< 3.5T (62 Yrs - M HD7) REVERSING NE TO SW JNY PART OF WORK
 BT - NOT REQUESTED BACK HIT FIRST

V001 A 710 (VISION AFFECTED - VEHICLE BLIND SPOT)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 B 403 (POOR TURN OR MANOEUVRE)

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

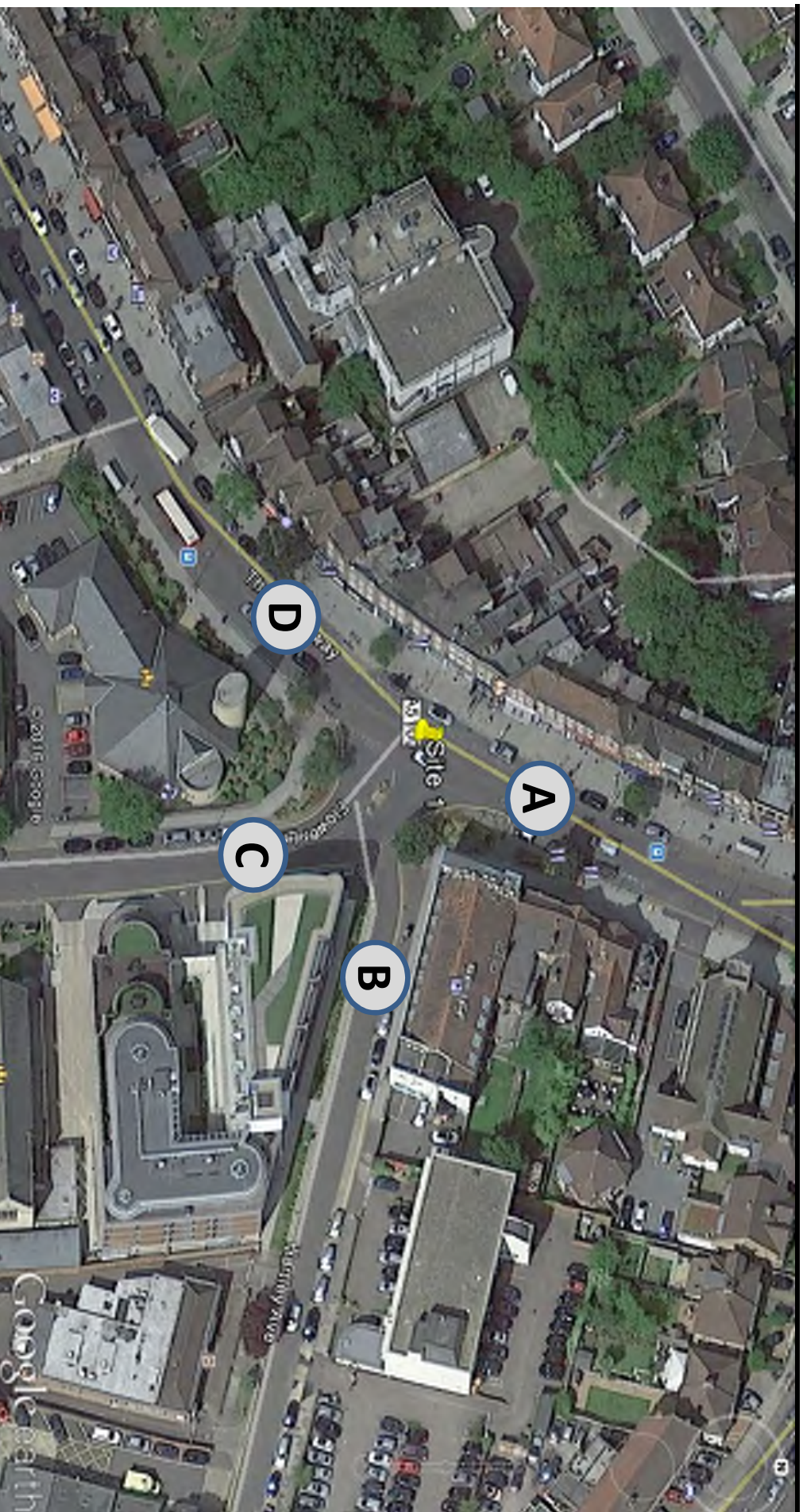
End of Accidents for MD01 GIS AREA B30_Mill_Hill1 (P)

End of Report

Appendix E

MCC JUNCTION SURVEYS

Project Number: TSP12743
Project Name: Pentavia Retail Park, Mill Hill
Survey Type: Manual Classified Traffic Count
Site No: 1
Location: The Broadway / Hartley Ave / Flower Lane



Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	A - A										A - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	1									1	1	1									2	2.5
07:45	1									1	1	2		3	1						5	5
08:00	1									1	1	7		1							7	7
08:15										0	0	5		1							6	6
H/Total	3	0	0	0	0	0	0	0	0	3	3	15	0	4	1	0	0	0	0	0	20	20.5
08:30										0	0	9		1							10	10
08:45										0	0	11		1							12	12
09:00	1									1	1	11		1							12	12
09:15	1									1	1	11							2		13	11.8
H/Total	2	0	0	0	0	0	0	0	0	2	2	42	0	3	0	0	0	0	2	2	47	45.8
Total	5	0	0	0	0	0	0	0	0	5	5	57	0	7	1	0	0	0	2	2	67	66.3

Time	A - A										A - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	1									1	1	6		1							7	7
17:15										0	0	11									11	11
17:30	1									1	1	4									4	4
17:45										0	0	10		1							11	11
H/Total	2	0	0	0	0	0	0	0	0	2	2	31	0	2	0	0	0	0	0	0	33	33
18:00	1									1	1	7									7	7
18:15	1									1	1	1		1							2	2
18:30										0	0	3			1						4	4
18:45	1									1	1	6		1							7	7
H/Total	3	0	0	0	0	0	0	0	0	3	3	17	0	2	1	0	0	0	0	0	20	20.5
Total	5	0	0	0	0	0	0	0	0	5	5	48	0	4	1	0	0	0	0	0	53	53.5

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	A - C										A - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	18		6	2						26	27	68		16	1		7				95	100.1
07:45	24		7	1				1		33	32.9	71		10	3		6	3		2	95	104.3
08:00	24		1	1						26	26.5	98		9	3	1	4	1			116	123.8
08:15	26		4							30	30	98		14	2		5		1		120	125.4
H/Total	92	0	18	4	0	0	0	1	0	115	116.4	335	0	49	9	1	22	4	3	3	426	453.6
08:30	15		4							20	21	113		9	2		3	1		3	132	134.4
08:45	20		1							21	21	91		12	2	1	6	1	1		114	114
09:00	29		2	1						32	32.5	96		11	1		3	2	1		114	118.9
09:15	17		1							19	20	68		4	1	1	4				78	83.8
H/Total	81	0	8	1	0	0	0	0	0	92	94.5	368	0	36	6	2	16	4	5	1	438	459.8
Total	173	0	26	5	0	0	2	1	0	207	210.9	703	0	85	15	3	38	8	8	4	864	913.4

Time	A - C										A - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	16		1							17	17	82		11			3				97	101
17:15	9									9	9	92		9			8		1		110	117.4
17:30	14		1							15	15	99	1	12			3		2		117	118.8
17:45	18		2			1	1			22	24	118		7		4	4		1		130	133.4
H/Total	57	0	4	0	0	1	1	0	0	63	65	391	1	39	0	0	18	1	4	0	454	470.6
18:00	14		1							16	15.4	84		12			4		3		105	106.4
18:15	17									17	17	99	1	13	1		5		2	1	122	125.5
18:30	16		1							18	17.4	106		5			4		3		118	120.2
18:45	20		2							24	23.4	99	1	6		4	4		3		113	115.2
H/Total	67	1	4	0	0	0	0	3	0	75	73.2	388	3	36	1	0	17	0	11	2	458	467.3
Total	124	1	8	0	0	1	1	3	0	138	138.2	779	4	75	1	0	35	1	15	2	912	937.9

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	B - C										B - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	1									1	1	1									0	0
07:45										1	1	1	1		1					1	3	2.9
08:00	1		1							1	1	1		1						1	1	1
08:15	2									2	2	1									1	1
H/Total	4	0	1	0	0	0	0	0	0	5	5	2	0	1	0	0	0	0	1	0	5	4.9
08:30	3									4	4	1									2	1.2
08:45	3		1							4	4	2									2	2
09:00	3									3	3	3									4	3.2
09:15	3									3	3	5									5	5
H/Total	12	0	1	0	0	0	0	0	0	13	13	11	0	0	0	0	0	0	0	1	13	11.4
Total	16	0	2	0	0	0	0	0	0	18	18	13	0	1	0	0	0	0	1	2	18	16.3

Time	B - C										B - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	4									4	4	2									2	2
17:15	5									5	5	9									11	10.2
17:30	4									4	4	6	1	1							7	7
17:45	4		1							5	5	3									3	3
H/Total	17	0	1	0	0	0	0	0	0	18	18	20	0	2	0	0	0	0	0	1	23	22.2
18:00	4									4	4	3									3	3
18:15	4									4	4	4									4	4
18:30	4									4	4	4									4	4
18:45	3									3	3	3							1		6	3.8
H/Total	15	0	0	0	0	0	0	0	0	15	15	14	0	0	0	0	0	0	1	2	17	14.8
Total	32	0	1	0	0	0	0	0	0	33	33	34	0	2	0	0	0	0	1	3	40	37

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	C - A										C - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	28		1				1			30	31	2									2	2
07:45	31		2							33	33	1		1							2	2
08:00	39		8		3					51	53.5	2									2	2
08:15	50		5		1					57	58.5	6									6	6
H/Total	148	0	16		4	0		0	0	171	176	11	0	1	0	0	0	0	0	0	12	12
08:30	46		5		1					54	54.7	3									3	3
08:45	25		2						1	29	27.6	3									3	3
09:00	33		3							37	38	8									8	8
09:15	23		6							29	29	4		1							5	5
H/Total	127	0	16		1	0		0	0	149	149.3	18	0	1	0	0	0	0	0	0	19	19
Total	275	0	32		5	0		0	0	320	325.3	29	0	2	0	0	0	0	0	0	31	31

Time	C - A										C - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	41		7							48	48	2									2	2
17:15	35		3		1					39	40.3	5									5	5
17:30	37		3						1	41	40.2	3		1							5	4.4
17:45	42		5							47	47	5		2					1		7	7
H/Total	155	0	18		1	0		0	1	175	175.5	15	0	3	0	0	0	0	1	0	19	18.4
18:00	54		2							58	56.8	2									2	2
18:15	35		3							38	38	3									3	3
18:30	27		1							28	28	2									2	2
18:45	30		1							33	31.8	1									1	1
H/Total	146	0	7		0	0		4	0	157	154.6	8	0	0	0	0	0	0	0	0	8	8
Total	301	0	25		0	0		4	1	332	330.1	23	0	3	0	0	0	0	1	0	27	26.4

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	C - C										C - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30										0	0	5					2				7	9
07:45										0	0	13					2	1			16	19
08:00										0	0	11		1	1		2				15	17.5
08:15										0	0	13		1			1				15	16
H/Total	0	0	0	0	0	0	0	0	0	0	0	42	0	2	1	0	7	1	0	0	53	61.5
08:30										0	0	4		2			2				8	10
08:45										0	0	5		1	1		1				8	9.5
09:00										0	0	8					1	1			9	10
09:15										0	0	9					2				11	13
H/Total	0	0	0	0	0	0	0	0	0	0	0	26	0	3	1	0	5	1	0	0	36	42.5
Total	0	0	0	0	0	0	0	0	0	0	0	68	0	5	2	0	12	2	0	0	89	104

Time	C - C										C - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00										0	0	18		1			2				19	19
17:15										0	0	4		1			1				7	7
17:30										0	0	5		2	2		1				10	12
17:45										0	0	15		1			1				17	18
H/Total	0	0	0	0	0	0	0	0	0	0	0	42	0	5	2	0	4	0	0	0	53	58
18:00										0	0	14		1			2				17	19
18:15										0	0	9					1				10	11
18:30										0	0	5		1			1				7	8
18:45										0	0	10					2				12	14
H/Total	0	0	0	0	0	0	0	0	0	0	0	38	0	2	0	0	6	0	0	0	46	52
Total	0	0	0	0	0	0	0	0	0	0	0	80	0	7	2	0	10	0	0	0	99	110

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	D - A										D - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30	84		20	1		5	1	1		112	117.9	3									3	3	3
07:45	97	1	12	1		4		3	1	119	120.9	1									1	1	1
08:00	104		5			4		2		115	117.8	4		1							5	5	5
08:15	95	1	7	2		6	1			113	122.3	3									3	3	3
H/Total	380	2	44	4	1	19	2	6	1	459	478.9	11	0	1	0	0	0	0	0	0	12	12	12
08:30	107		5	1		4		3		120	122.7	1		2	1						5	5	4.7
08:45	99		8	2	1	5		2		117	123.1	4									4	4	4
09:00	90		9	2		3				104	108	7									7	7	7
09:15	70	2	5	1	1	4				83	88.8	3									3	3	3
H/Total	366	2	27	6	2	16	0	5	0	424	442.6	15	0	2	1	0	0	0	0	0	19	19	18.7
Total	746	4	71	10	3	35	2	11	1	883	921.5	26	0	3	1	0	0	0	0	0	31	31	30.7

Time	D - A										D - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
17:00	99		6			4	1	2	2	114	116.2	4									5	5	4.2
17:15	79		7			4	1	6		97	98.4	4		1							5	5	5
17:30	94		8			2		1	1	106	106.6	4									4	4	4
17:45	105		7			5		4		121	123.6	2									2	2	2
H/Total	377	0	28	0	0	15	2	13	3	438	444.8	14	0	1	0	0	0	0	0	1	16	16	15.2
18:00	97		6			5	1	2		111	115.8	3									3	3	3
18:15	102		8			4		1	1	115	118.2	1									1	1	1
18:30	89		5			2		5	1	105	106.2	2		1							3	3	3
18:45	87		8			2		2	1	100	100	1									1	1	1
H/Total	375	0	27	0	0	16	1	9	3	431	440.2	7	0	1	0	0	0	0	0	0	8	8	8
Total	752	0	55	0	0	31	3	22	6	869	885	21	0	2	0	0	0	0	0	0	24	24	23.2

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	D - C										D - D												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30	6					2				8	10	1									1	1	1
07:45	2		1			1				4	5										0	0	0
08:00	3		1			2				6	8										0	0	0
08:15	3					1				4	5										0	0	0
H/Total	14	0	2	0	0	6	0	0	0	22	28	1	0	0	0	0	0	0	0	0	1	1	1
08:30	6					1				7	8										0	0	0
08:45	4					2				6	8	1									1	1	1
09:00	7					1				8	9	1		1							2	2	2
09:15	4		1			1				6	7	2									2	2	2
H/Total	21	0	1	0	0	5	0	0	0	27	32	4	0	1	0	0	0	0	0	0	5	5	5
Total	35	0	3	0	0	11	0	0	0	49	60	5	0	1	0	0	0	0	0	0	6	6	6

Time	D - C										D - D												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
17:00	8					1				9	10	1									1	1	1
17:15	9					2				11	13										0	0	0
17:30	7		2			9				9	9	2									2	2	2
17:45	9		1			1				11	12										0	0	0
H/Total	33	0	3	0	0	4	0	0	0	40	44	3	0	0	0	0	0	0	0	0	3	3	3
18:00	7					1				8	9										0	0	0
18:15	9					2				11	13										0	0	0
18:30	8		1			1				10	11	1							1		2	2	1.4
18:45	6					1				7	8	2									2	2	2
H/Total	30	0	1	0	0	5	0	0	0	36	41	3	0	0	0	0	0	0	1	0	4	4	3.4
Total	63	0	4	0	0	9	0	0	0	76	85	6	0	0	0	0	0	0	1	0	7	7	6.4

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	From A											To A										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	88	0	22	4	0	7	0	0	3	124	130.6	114	0	21	1	0	5	2	1	0	144	150.9
07:45	98	0	20	4	0	6	3	3	0	134	143.2	131	1	14	1	0	4	0	3	1	155	156.9
08:00	130	0	10	4	1	4	1	0	0	150	158.3	144	0	14	3	0	4	1	2	0	168	173.3
08:15	129	0	19	2	0	5	0	1	0	156	161.4	148	1	13	3	1	6	2	0	174	184.8	
H/Total	445	0	71	14	1	22	4	4	3	564	593.5	537	2	62	8	1	19	5	6	1	641	665.9
08:30	137	0	14	2	0	3	2	3	1	162	165.4	153	0	11	3	0	4	1	3	1	176	179.9
08:45	122	0	14	2	1	6	1	1	0	147	155.7	127	0	12	2	1	5	0	3	1	151	155.7
09:00	137	0	14	2	0	3	2	1	0	159	164.4	126	0	13	2	0	3	1	0	145	150	
09:15	97	0	5	1	1	4	1	2	0	111	116.6	102	2	13	2	1	4	0	0	124	130.3	
H/Total	493	0	47	7	2	16	6	7	1	579	602.1	508	2	49	9	2	16	2	6	2	596	615.9
Total	938	0	118	21	3	38	10	11	4	1143	1195.6	1045	4	111	17	3	35	7	12	3	1237	1281.8

Time	From A											To A										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	105	0	13	0	0	3	1	0	0	122	126	155	0	16	0	0	4	1	2	2	180	182.2
17:15	112	0	9	0	0	8	0	1	0	130	137.4	124	0	10	0	1	4	1	6	0	146	148.7
17:30	118	1	13	0	0	3	0	2	0	137	138.8	142	0	11	0	2	2	0	1	2	158	157.8
17:45	146	0	10	0	0	5	1	1	0	163	168.4	151	0	13	0	5	5	0	4	0	173	175.6
H/Total	481	1	45	0	0	19	2	4	0	552	570.6	572	0	50	0	1	15	2	13	4	657	664.3
18:00	106	1	13	0	0	4	0	4	1	129	129.8	158	0	9	0	0	5	1	4	0	177	180.6
18:15	118	1	14	1	0	5	0	2	1	142	145.5	142	0	12	0	0	4	0	0	1	159	162.2
18:30	125	0	6	1	0	4	0	4	0	140	142.1	127	0	6	0	0	5	0	5	1	144	145.2
18:45	126	2	9	0	0	4	0	4	0	145	146.6	123	0	9	1	0	2	0	4	1	140	139.3
H/Total	475	4	42	2	0	17	0	14	2	556	564	550	0	36	1	0	16	1	13	3	620	627.3
Total	956	5	87	2	0	36	2	18	2	1108	1134.6	1122	0	86	1	1	31	3	26	7	1277	1291.6

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	From B										To B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	2	0	0	0	0	0	0	0	0	2	2	6	0	0	1	0	0	0	0	0	7	7.5
07:45	3	0	1	1	0	0	0	1	0	6	5.9	4	0	4	0	0	0	0	0	0	8	8
08:00	1	0	2	0	0	0	0	0	0	3	3	13	0	1	0	0	0	0	0	0	14	14
08:15	6	0	1	0	0	0	0	0	0	7	7	14	0	1	0	0	0	0	0	0	15	15
H/Total	12	0	4	1	0	0	0	1	0	18	17.9	37	0	6	1	0	0	0	0	0	44	44.5
08:30	4	0	2	1	0	0	0	0	1	8	7.7	13	0	3	1	0	0	0	0	1	18	17.7
08:45	8	0	2	0	0	0	0	0	0	10	10	18	0	1	0	0	0	0	0	0	19	19
09:00	8	0	1	0	0	0	0	0	1	10	9.2	26	0	1	0	0	0	0	0	0	27	27
09:15	16	0	2	1	0	0	0	0	0	19	19.5	18	0	1	0	0	0	0	2	0	21	19.8
H/Total	36	0	7	2	0	0	0	0	2	47	46.4	75	0	6	1	0	0	0	2	1	85	83.5
Total	48	0	11	3	0	0	0	1	2	65	64.3	112	0	12	2	0	0	0	2	1	129	128

Time	From B										To B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	20	0	3	0	0	0	0	0	0	23	23	12	0	1	0	0	0	0	0	1	14	13.2
17:15	24	0	1	0	0	0	0	0	1	26	25.2	20	0	1	0	0	0	0	0	0	21	21
17:30	20	0	1	0	0	0	0	0	0	21	21	11	0	1	0	0	0	0	1	0	13	12.4
17:45	11	0	2	0	0	0	0	0	0	13	13	17	0	3	0	0	0	0	0	0	20	20
H/Total	75	0	7	0	0	0	0	0	1	83	82.2	60	0	6	0	0	0	0	1	1	68	66.6
18:00	13	0	1	0	0	0	0	0	0	14	14	12	0	0	0	0	0	0	0	0	12	12
18:15	12	0	1	0	0	0	0	0	0	13	13	5	0	1	0	0	0	0	0	0	6	6
18:30	19	0	0	0	0	0	0	0	0	19	19	7	0	1	0	0	0	0	0	0	9	9.5
18:45	11	0	0	1	0	0	0	1	2	15	13.3	8	0	1	0	0	0	0	0	0	9	9
H/Total	55	0	2	1	0	0	0	1	2	61	59.3	32	0	3	0	0	0	0	0	0	36	36.5
Total	130	0	9	1	0	0	0	1	3	144	141.5	92	0	9	1	0	0	0	1	1	104	103.1

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	From C										To C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	35	0	1	0	0	2	1	0	0	39	42	25	0	6	2	0	2	0	0	0	35	38
07:45	45	0	3	0	0	2	1	0	0	51	54	26	0	9	1	0	1	0	1	0	38	38.9
08:00	52	0	9	4	0	2	1	0	0	68	73	28	0	2	1	0	2	0	0	0	33	35.5
08:15	69	0	6	1	0	1	1	0	0	78	80.5	31	0	4	0	0	1	0	0	0	36	37
H/Total	201	0	19	5	0	7	4	0	0	236	249.5	110	0	21	4	0	6	0	1	0	142	149.4
08:30	53	0	7	1	0	2	1	0	1	65	67.7	24	0	5	0	0	1	1	0	0	31	33
08:45	33	0	3	1	0	1	0	1	1	40	40.1	27	0	1	0	0	2	0	0	0	30	32
09:00	49	0	3	0	0	0	2	0	0	54	56	39	0	2	1	0	1	0	0	0	43	44.5
09:15	36	0	7	0	0	2	0	0	0	45	47	24	0	2	0	0	1	1	0	0	28	30
H/Total	171	0	20	2	0	5	3	1	2	204	210.8	114	0	10	1	0	5	2	0	0	132	139.5
Total	372	0	39	7	0	12	7	1	2	440	460.3	224	0	31	5	0	11	2	1	0	274	288.9

Time	From C										To C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	61	0	8	0	0	0	0	0	0	69	69	28	0	1	0	0	1	0	0	0	30	31
17:15	44	0	4	0	1	2	0	0	0	51	54.3	23	0	0	0	0	2	0	0	0	25	27
17:30	45	0	6	2	0	1	0	1	1	56	56.6	25	0	3	0	0	0	0	0	0	28	28
17:45	62	0	8	0	0	1	0	0	0	71	72	31	0	4	0	0	2	1	0	0	38	41
H/Total	212	0	26	2	1	4	0	1	1	247	251.9	107	0	8	0	0	5	1	0	0	121	127
18:00	70	0	3	0	0	2	0	2	0	77	77.8	25	0	1	0	0	1	0	1	0	28	28.4
18:15	47	0	3	0	0	1	0	0	0	51	52	30	0	0	0	0	2	0	0	0	32	34
18:30	34	0	2	0	0	1	0	0	0	37	38	28	0	2	0	0	1	0	1	0	32	32.4
18:45	41	0	1	0	0	2	0	2	0	46	46.8	29	1	2	0	0	1	0	0	0	34	34.4
H/Total	192	0	9	0	0	6	0	4	0	211	214.6	112	1	5	0	0	5	0	3	0	126	129.2
Total	404	0	35	2	1	10	0	5	1	458	466.5	219	1	13	0	0	10	1	3	0	247	256.2

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	From D										To D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	94	0	20	1	0	7	1	1	0	124	131.9	74	0	16	1	0	9	0	0	3	103	110.1
07:45	100	1	13	1	0	5	0	3	1	124	126.9	85	0	10	4	0	8	4	3	0	114	126.2
08:00	111	0	7	0	0	6	0	2	0	126	130.8	109	0	11	4	1	6	1	0	0	132	142.3
08:15	101	1	7	2	1	7	1	0	0	120	130.3	112	0	15	2	0	6	0	1	0	136	142.4
H/Total	406	2	47	4	1	25	2	6	1	494	519.9	380	0	52	11	1	29	5	4	3	485	521
08:30	114	0	7	2	0	5	0	3	1	132	135.4	118	0	11	2	0	5	1	3	2	142	145.6
08:45	108	0	8	2	1	7	0	2	0	128	136.1	99	0	13	3	1	7	1	1	0	125	125
09:00	105	0	10	2	0	4	0	0	0	121	126	108	0	12	1	0	3	3	1	1	129	134.1
09:15	79	2	6	1	1	5	0	0	0	94	100.8	84	0	4	1	1	6	0	0	0	96	103.8
H/Total	406	2	31	7	2	21	0	5	1	475	498.3	409	0	40	7	2	21	5	5	3	492	518.7
Total	812	4	78	11	3	46	2	11	2	969	1018.2	789	0	92	18	3	50	10	9	6	977	1039.7

Time	From D										To D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	112	0	6	0	0	5	1	2	3	129	131.4	103	0	12	0	0	3	1	0	0	119	123
17:15	92	0	8	0	0	6	1	6	0	113	116.4	105	0	11	0	0	10	0	1	1	128	136.6
17:30	107	0	10	0	0	2	0	1	1	121	121.6	112	1	15	2	0	4	0	2	0	136	139.8
17:45	116	0	8	0	0	6	0	4	0	134	137.6	136	0	8	0	0	5	0	1	0	150	154.4
H/Total	427	0	32	0	0	19	2	13	4	497	507	456	1	46	2	0	22	1	4	1	533	553.8
18:00	107	0	6	0	0	6	1	2	0	122	127.8	101	1	13	0	0	6	0	3	1	125	128.4
18:15	112	0	8	0	0	6	0	0	1	127	132.2	112	1	13	1	0	6	0	2	1	136	140.5
18:30	100	0	7	0	0	6	0	6	1	120	121.6	116	0	6	0	0	5	0	4	0	131	133.6
18:45	96	0	8	0	0	3	0	2	1	110	111	114	1	6	0	0	6	0	4	2	133	135
H/Total	415	0	29	0	0	21	1	10	3	479	492.6	443	3	38	1	0	23	0	13	4	525	537.5
Total	842	0	61	0	0	40	3	23	7	976	999.6	899	4	84	3	0	45	1	17	5	1058	1091.3

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **1**
 Location: **The Broadway / Hartley Ave / Flower Lane**
 Date: **16 June 2016, Thursday**



Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	PCU		
07:30	219	0	43	5	0	16	2	1	3	289	306.5		
07:45	246	1	37	6	0	13	4	7	1	315	330		
08:00	294	0	28	8	1	12	2	2	0	347	365.1		
08:15	305	1	33	5	1	13	2	1	0	361	379.2		
H/Total	1064	2	141	24	2	54	10	11	4	1312	1380.8		
08:30	308	0	30	6	0	10	3	6	4	367	376.2		
08:45	271	0	27	5	2	14	1	4	1	325	341.9		
09:00	299	0	28	4	0	7	4	1	1	344	355.6		
09:15	228	2	20	3	2	11	1	2	0	269	283.9		
H/Total	1106	2	105	18	4	42	9	13	6	1305	1357.6		
Total	2170	4	246	42	6	96	19	24	10	2617	2738.4		

Peak Hours	Totals
07:30 08:30	1312
07:45 08:45	1390
08:00 09:00	1400
08:15 09:15	1397

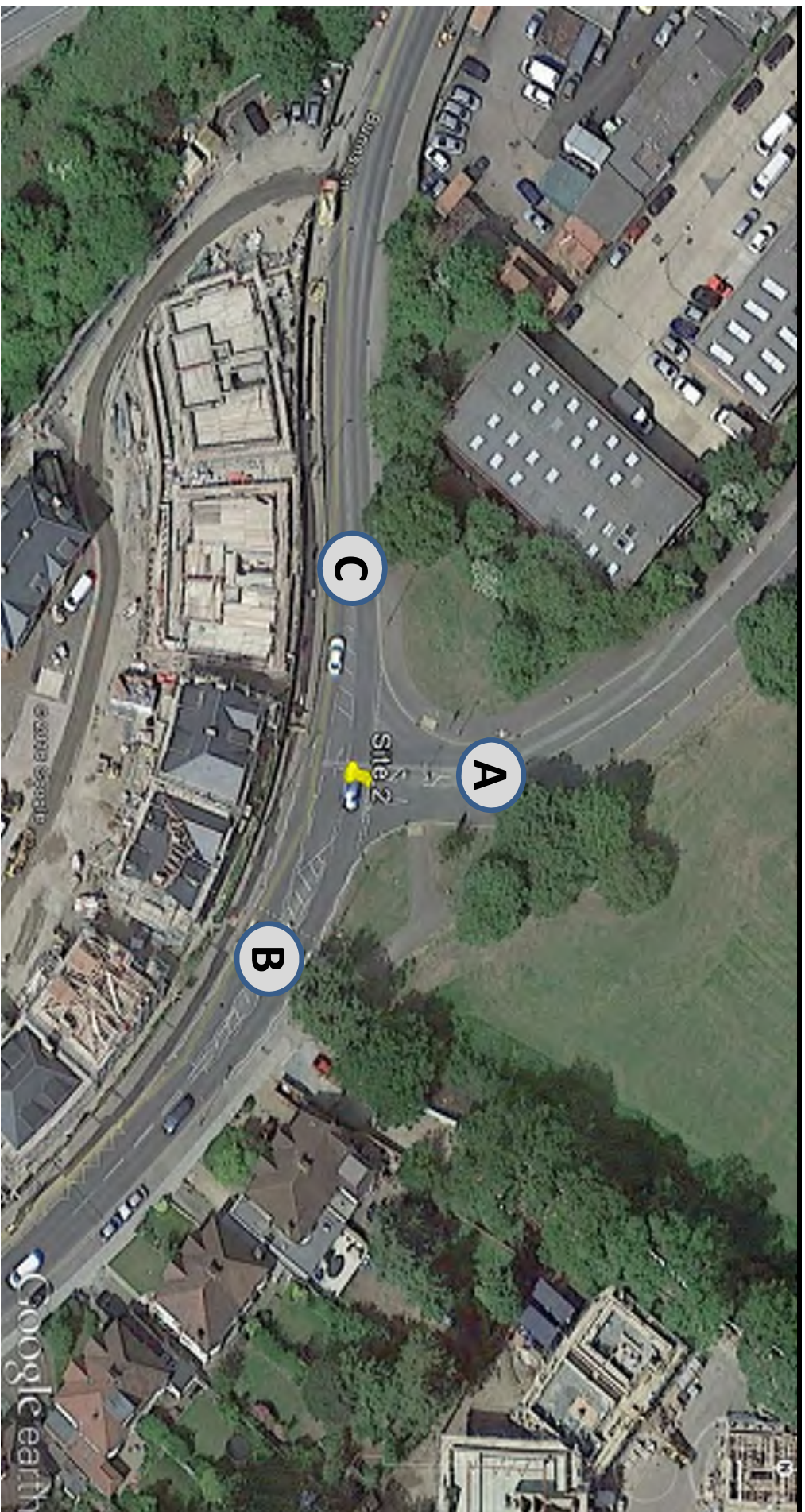
Peak Hours	Totals
08:30 09:30	1305

Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	PCU		
17:00	298	0	30	0	0	8	2	2	3	343	349.4		
17:15	272	0	22	0	1	16	1	7	1	320	333.3		
17:30	290	1	30	2	0	6	0	4	2	335	338		
17:45	335	0	28	0	0	12	1	5	0	381	391		
H/Total	1195	1	110	2	1	42	4	18	6	1379	1411.7		
18:00	296	1	23	0	0	12	1	8	1	342	349.4		
18:15	289	1	26	1	0	12	0	2	2	333	342.7		
18:30	278	0	15	1	0	11	0	10	1	316	320.7		
18:45	274	2	18	1	0	9	0	9	3	316	317.7		
H/Total	1137	4	82	3	0	44	1	29	7	1307	1330.5		
Total	2332	5	192	5	1	86	5	47	13	2686	2742.2		

Peak Hours	Totals
17:00 18:00	1379
17:15 18:15	1378
17:30 18:30	1391
17:45 18:45	1372

Peak Hours	Totals
18:00 19:00	1307

Project Number: TSP12743
Project Name: Pentavia Retail Park, Mill Hill
Survey Type: Manual Classified Traffic Count
Site No: 2
Location: Flower Lane / Bunns Lane



Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **2**
 Location: **Flower Lane / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	A - A										A - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30										0	0	33		4	1		1				39	40.5
07:45										0	0	33		3			2		1		39	40.4
08:00			1							1	1	21		1			2				24	26
08:15										0	0	23		3			2				28	30
H/Total	0	0	1	0	0	0	0	0	0	1	1	110	0	11	1	0	7	0	1	0	130	136.9
08:30										0	0	22		2			1				25	26
08:45										0	0	24		2			2	1			29	32
09:00										0	0	25		3			1				29	30
09:15										0	0	25		2			1	1			29	31
H/Total	0	0	0	0	0	0	0	0	0	0	0	96	0	9	0	0	5	2	0	0	112	119
Total	0	0	1	0	0	0	0	0	0	1	1	206	0	20	1	0	12	2	1	0	242	255.9

Time	A - A										A - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00										0	0	35		4			1				40	41
17:15										0	0	30		2			1				33	34
17:30										0	0	30		2			1				35	34.4
17:45										0	0	20		3			1	1			25	27
H/Total	0	0	0	0	0	0	0	0	0	0	0	115	0	11	0	0	4	1	0	2	133	136.4
18:00										0	0	41		2			2				45	47
18:15										0	0	26		1	1		1				29	30.5
18:30										0	0	27					2			1	31	31.6
18:45										0	0	21		1			1		1		24	24.4
H/Total	0	0	0	0	0	0	0	0	0	0	0	115	0	4	1	0	6	0	2	1	129	133.5
Total	0	0	0	0	0	0	0	0	0	0	0	230	0	15	1	0	10	1	2	3	262	269.9

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **2**
 Location: **Flower Lane / Bunn Lane**
 Date: **16 June 2016, Thursday**



Time	A - C										B - A											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	10		1							11	11	25					1	2			30	32.7
07:45	8		4							12	12	52	1	3	1		2	1			60	63.5
08:00	12									12	12	64		2	1		1	1			69	71.5
08:15	16								1	17	16.2	53		2			1	1			57	59
H/Total	46	0	5	0	0	0	0	0	1	52	51.2	194	1	7	3	0	5	5	0	1	216	226.7
08:30	12		1							13	13	57		6	2		2				67	70
08:45	7		1							8	8	39		2	1		1				43	44.5
09:00	12		1							13	13	45		3			1				49	50
09:15	4		2							6	6	42		8	1		1				52	53.5
H/Total	35	0	5	0	0	0	0	0	0	40	40	183	0	19	4	0	5	0	0	0	211	218
Total	81	0	10	0	0	0	0	0	1	92	91.2	377	1	26	7	0	10	5	0	1	427	444.7

Time	A - C										B - A											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	5								1	6	5.2	36		5							41	41
17:15	1							1		2	1.4	38		5			2				45	47
17:30	7		1							8	8	38		6	1		2		1		48	49.9
17:45	5									5	5	41		5			2				46	46
H/Total	18	0	1	0	0	0	0	1	1	21	19.6	153	0	21	1	0	4	0	1	0	180	183.9
18:00	9							1		10	9.4	50		2			2				54	56
18:15	6									6	6	33		3			1				37	38
18:30	10		1						1	12	11.2	33					1				34	35
18:45	8		1							9	9	36		1			2		2		41	41.8
H/Total	33	0	2	0	0	0	0	1	1	37	35.6	152	0	6	0	0	6	0	2	0	166	170.8
Total	51	0	3	0	0	0	0	2	2	58	55.2	305	0	27	1	0	10	0	3	0	346	354.7

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **2**
 Location: **Flower Lane / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	B - B							TOTAL	TOTAL (PCU)	B - C							TOTAL	TOTAL (PCU)		
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH			MCY	PCY	CAR	TAXI	LGV	OGV 1	OGV 2			BUS	COACH
07:30								0	0	113		17				5	3	3	141	141.8
07:45								0	0	170		19	1				2	1	191	190.7
08:00								0	0	193		15					2	2	212	209.2
08:15								0	0	195		15					2	2	212	210.8
H/Total	0	0	0	0	0	0	0	0	0	671	0	66	1	0	0	5	7	6	756	752.5
08:30	1							1	1	151	1	12						1	165	164.2
08:45								0	0	181		14	1			2		1	199	200.7
09:00	1							1	1	145		11	1	1			1	2	161	160.6
09:15								0	0	120		18			1	2		4	141	144
H/Total	2	0	0	0	0	0	0	2	2	597	1	55	2	1	1	4	1	4	666	669.5
Total	2	0	0	0	0	0	0	2	2	1268	1	121	3	1	1	9	8	10	1422	1422

Time	B - B							TOTAL	TOTAL (PCU)	B - C							TOTAL	TOTAL (PCU)		
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH			MCY	PCY	CAR	TAXI	LGV	OGV 1	OGV 2			BUS	COACH
17:00								0	0	140	1	10				3	4		158	158.6
17:15								0	0	147	1	18	1				1	1	168	167.9
17:30								0	0	126		8					1	1	136	134.6
17:45								0	0	161		16					3	1	181	178.4
H/Total	0	0	0	0	0	0	0	0	0	574	2	52	1	0	0	3	9	2	643	639.5
18:00								0	0	116		11					1	1	129	127.6
18:15								0	0	120	1	17					2	1	141	139
18:30								0	0	125		13					3		141	139.2
18:45								0	0	135		12					1		148	147.4
H/Total	0	0	0	0	0	0	0	0	0	496	1	53	0	0	0	0	7	2	559	553.2
Total	0	0	0	0	0	0	0	0	0	1070	3	105	1	0	0	3	16	4	1202	1192.7

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **2**
 Location: **Flower Lane / Bunn Lane**
 Date: **16 June 2016, Thursday**



Time	C - A										C - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30	13									14	13.4	174	1	31							3	209	206.6
07:45	23		1							24	24	177		21							2	200	198.4
08:00	22		9			1				32	33	174		9				1		1	185	185.4	
08:15	25		2							28	29	168		19	1					1	190	189.1	
H/Total	83	0	12	0	0	1	1	1	0	98	99.4	693	1	80	1	0	0	1	2	6	784	779.5	
08:30	13		2							15	15	158		14	1	1				1	175	176.2	
08:45	18		4						3	27	25	134		10							144	144	
09:00	14		2							16	16	113		19	1			2			135	137.5	
09:15	11		3							14	14	109	1	10	2	1					123	125.3	
H/Total	56	0	11	0	0	0	1	1	3	72	70	514	1	53	4	2	0	2	1	0	577	583	
Total	139	0	23	0	0	1	2	2	3	170	169.4	1207	2	133	5	2	0	3	3	6	1361	1362.5	

Time	C - A										C - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
17:00	27		2							29	29	152	2	9							3	167	164.4
17:15	20		2							22	22	138	1	15	1						2	160	160.3
17:30	26		2							28	28	170		12				2			3	186	183.4
17:45	35		6							41	41	163		13					1	2	179	176.8	
H/Total	108	0	12	0	0	0	0	0	0	120	120	623	3	49	1	0	0	2	8	6	692	684.9	
18:00	31		1							34	32.8	179	1	7						2	191	188.2	
18:15	11									11	11	166		12							178	178	
18:30	9									9	9	131		8					2		141	139.8	
18:45	15							1		16	15.4	118		10						2	130	128.4	
H/Total	66	0	1	0	0	0	0	3	0	70	68.2	594	1	37	0	0	0	0	4	4	640	634.4	
Total	174	0	13	0	0	0	0	3	0	190	188.2	1217	4	86	1	0	0	2	12	10	1332	1319.3	

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **2**
 Location: **Flower Lane / Bunn Lane**
 Date: **16 June 2016, Thursday**



Time	From A										To A											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	43	0	5	1	0	1	0	0	0	50	51.5	38	0	0	1	0	1	2	1	0	44	46.1
07:45	41	0	7	0	0	2	0	1	0	51	52.4	75	1	4	1	0	2	1	0	84	87.5	
08:00	33	0	2	0	0	2	0	0	0	37	39	86	0	12	1	0	2	1	0	102	105.5	
08:15	39	0	3	0	0	2	0	0	1	45	46.2	78	0	4	0	0	1	2	0	85	88	
H/Total	156	0	17	1	0	7	0	1	1	183	189.1	277	1	20	3	0	6	6	1	315	327.1	
08:30	34	0	3	0	0	1	0	0	0	38	39	70	0	8	2	0	2	0	0	82	85	
08:45	31	0	3	0	0	2	1	0	0	37	40	57	0	6	1	0	1	1	1	70	69.5	
09:00	37	0	4	0	0	1	0	0	0	42	43	59	0	5	0	0	1	0	0	65	67	
09:15	29	0	4	0	0	1	1	0	0	35	37	53	0	11	1	0	1	0	0	66	67.5	
H/Total	131	0	14	0	0	5	2	0	0	152	159	239	0	30	4	0	5	1	1	283	288	
Total	287	0	31	1	0	12	2	1	1	335	348.1	516	1	50	7	0	11	7	2	598	615.1	

Time	From A										To A										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL
17:00	40	0	4	0	0	1	0	0	1	46	46.2	63	0	7	0	0	0	0	0	70	70
17:15	31	0	2	0	0	1	0	1	0	35	35.4	58	0	7	0	0	2	0	0	67	69
17:30	37	0	3	0	0	1	0	0	2	43	42.4	64	0	8	1	0	2	0	1	76	77.9
17:45	25	0	3	0	0	1	1	0	0	30	32	76	0	11	0	0	0	0	0	87	87
H/Total	133	0	12	0	0	4	1	1	3	154	156	261	0	33	1	0	4	0	1	300	303.9
18:00	50	0	2	0	0	2	0	1	0	55	56.4	81	0	3	0	0	2	0	2	88	88.8
18:15	32	0	1	1	0	1	0	0	0	35	36.5	44	0	3	0	0	1	0	0	48	49
18:30	37	0	1	0	0	2	0	1	2	43	42.8	42	0	0	0	0	1	0	0	43	44
18:45	29	0	2	0	0	1	0	1	0	33	33.4	51	0	1	0	2	2	0	3	57	57.2
H/Total	148	0	6	1	0	6	0	3	2	166	169.1	218	0	7	0	0	6	0	5	236	239
Total	281	0	18	1	0	10	1	4	5	320	325.1	479	0	40	1	0	10	0	6	536	542.9

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **2**
 Location: **Flower Lane / Bunn Lane**
 Date: **16 June 2016, Thursday**



Time	From B											To B										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	138	0	17	1	0	1	7	3	4	171	174.5	207	1	35	1	0	1	0	0	3	248	247.1
07:45	222	1	22	2	0	2	1	0	1	251	254.2	210	0	24	0	0	2	0	1	2	239	238.8
08:00	257	0	17	1	0	1	1	2	2	281	280.7	195	0	10	0	0	2	1	1	0	209	211.4
08:15	248	0	17	0	0	1	1	2	0	269	269.8	191	0	22	1	0	2	0	1	1	218	219.1
H/Total	865	1	73	4	0	5	10	7	7	972	979.2	803	1	91	2	0	7	1	3	6	914	916.4
08:30	209	1	18	2	0	2	0	0	1	233	235.2	181	0	16	1	1	1	0	1	0	201	203.2
08:45	220	0	16	2	0	1	2	0	1	242	245.2	158	0	12	0	0	2	1	0	0	173	176
09:00	191	0	14	1	1	1	0	1	2	211	211.6	139	0	22	1	0	1	2	0	0	165	168.5
09:15	162	0	26	1	0	2	2	0	0	193	197.5	134	1	12	2	1	1	1	0	0	152	156.3
H/Total	782	1	74	6	1	6	4	1	4	879	889.5	612	1	62	4	2	5	4	1	0	691	704
Total	1647	2	147	10	1	11	14	8	11	1851	1868.7	1415	2	153	6	2	12	5	4	6	1605	1620.4

Time	From B											To B										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	176	1	15	0	0	0	3	4	0	199	199.6	187	2	13	0	0	1	0	3	1	207	205.4
17:15	185	1	23	1	0	2	0	1	0	213	214.9	168	1	17	1	0	1	2	1	2	193	194.3
17:30	164	0	14	1	0	2	0	2	1	184	184.5	200	0	14	0	0	1	0	3	3	221	217.8
17:45	202	0	21	0	0	0	0	3	1	227	224.4	183	0	16	0	0	1	1	1	2	204	203.8
H/Total	727	2	73	2	0	4	3	10	2	823	823.4	738	3	60	1	0	4	3	8	8	825	821.3
18:00	166	0	13	0	0	2	0	1	1	183	183.6	220	1	9	0	0	2	0	2	2	236	235.2
18:15	153	1	20	0	0	1	0	2	1	178	177	192	0	13	1	0	1	0	0	0	207	208.5
18:30	158	0	13	0	0	1	0	3	0	175	174.2	158	0	8	0	0	2	0	3	1	172	171.4
18:45	171	0	13	0	0	2	0	3	0	189	189.2	139	0	11	0	0	1	0	1	2	154	152.8
H/Total	648	1	59	0	0	6	0	9	2	725	724	709	1	41	1	0	6	0	6	5	769	767.9
Total	1375	3	132	2	0	10	3	19	4	1548	1547.4	1447	4	101	2	0	10	3	14	13	1594	1589.2

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **2**
 Location: **Flower Lane / Bunn Lane**
 Date: **16 June 2016, Thursday**



Time	From C										To C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	187	1	31	0	0	0	0	1	3	223	220	123	0	18	0	0	0	5	3	3	152	152.8
07:45	200	0	22	0	0	0	0	0	2	224	222.4	178	0	23	1	0	0	0	0	0	203	202.7
08:00	196	0	18	0	0	1	1	1	0	217	218.4	205	0	15	0	0	0	0	2	2	224	221.2
08:15	193	0	21	1	0	0	1	1	1	218	218.1	211	0	15	0	0	0	0	2	1	229	227
H/Total	776	1	92	1	0	1	2	3	6	882	878.9	717	0	71	1	0	0	5	7	7	808	803.7
08:30	171	0	16	1	1	0	0	1	0	190	191.2	163	1	13	0	0	0	0	0	1	178	177.2
08:45	152	0	14	0	0	0	1	1	3	171	169	188	0	15	1	0	0	2	0	1	207	208.7
09:00	127	0	21	1	0	0	2	0	0	151	153.5	157	0	12	1	1	0	0	1	2	174	173.6
09:15	120	1	13	2	1	0	0	0	0	137	139.3	124	0	20	0	0	1	2	0	0	147	150
H/Total	570	1	64	4	2	0	3	2	3	649	653	632	1	60	2	1	1	4	1	4	706	709.5
Total	1346	2	156	5	2	1	5	5	9	1531	1531.9	1349	1	131	3	1	1	9	8	11	1514	1513.2

Time	From C										To C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	179	2	11	0	0	0	0	3	1	196	193.4	145	1	10	0	0	0	3	4	1	164	163.8
17:15	158	1	17	1	0	0	2	1	2	182	182.3	148	1	18	1	0	0	0	2	2	170	169.3
17:30	196	0	14	0	0	0	0	3	1	214	211.4	133	0	9	0	0	0	0	1	1	144	142.6
17:45	198	0	19	0	0	0	0	1	2	220	217.8	166	0	16	0	0	0	0	3	1	186	183.4
H/Total	731	3	61	1	0	0	2	8	6	812	804.9	592	2	53	1	0	0	3	10	3	664	659.1
18:00	210	1	8	0	0	0	0	4	2	225	221	125	0	11	0	0	0	0	2	1	139	137
18:15	177	0	12	0	0	0	0	0	0	189	189	126	1	17	0	0	0	0	2	1	147	145
18:30	140	0	8	0	0	0	0	2	0	150	148.8	135	0	14	0	0	0	0	3	1	153	150.4
18:45	133	0	10	0	0	0	0	1	2	146	143.8	143	0	13	0	0	0	0	1	0	157	156.4
H/Total	660	1	38	0	0	0	0	7	4	710	702.6	529	1	55	0	0	0	0	8	3	596	588.8
Total	1391	4	99	1	0	0	2	15	10	1522	1507.5	1121	3	108	1	0	0	3	18	6	1260	1247.9

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **2**
 Location: **Flower Lane / Bunn Lane**
 Date: **16 June 2016, Thursday**

Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)		
07:30	368	1	53	2	0	2	7	4	7	444	446		
07:45	463	1	51	2	0	4	1	1	3	526	529		
08:00	486	0	37	1	0	4	2	3	2	535	538.1		
08:15	480	0	41	1	0	3	2	3	2	532	534.1		
H/Total	1797	2	182	6	0	13	12	11	14	2037	2047.2		
08:30	414	1	37	3	1	3	0	1	1	461	465.4		
08:45	403	0	33	2	0	3	4	1	4	450	454.2		
09:00	355	0	39	2	1	2	2	1	2	404	408.1		
09:15	311	1	43	3	1	3	3	0	0	365	373.8		
H/Total	1483	2	152	10	3	11	9	3	7	1680	1701.5		
Total	3280	4	334	16	3	24	21	14	21	3717	3748.7		

Peak Hours	Totals
07:30 08:30	2037
07:45 08:45	2054
08:00 09:00	1978
08:15 09:15	1847

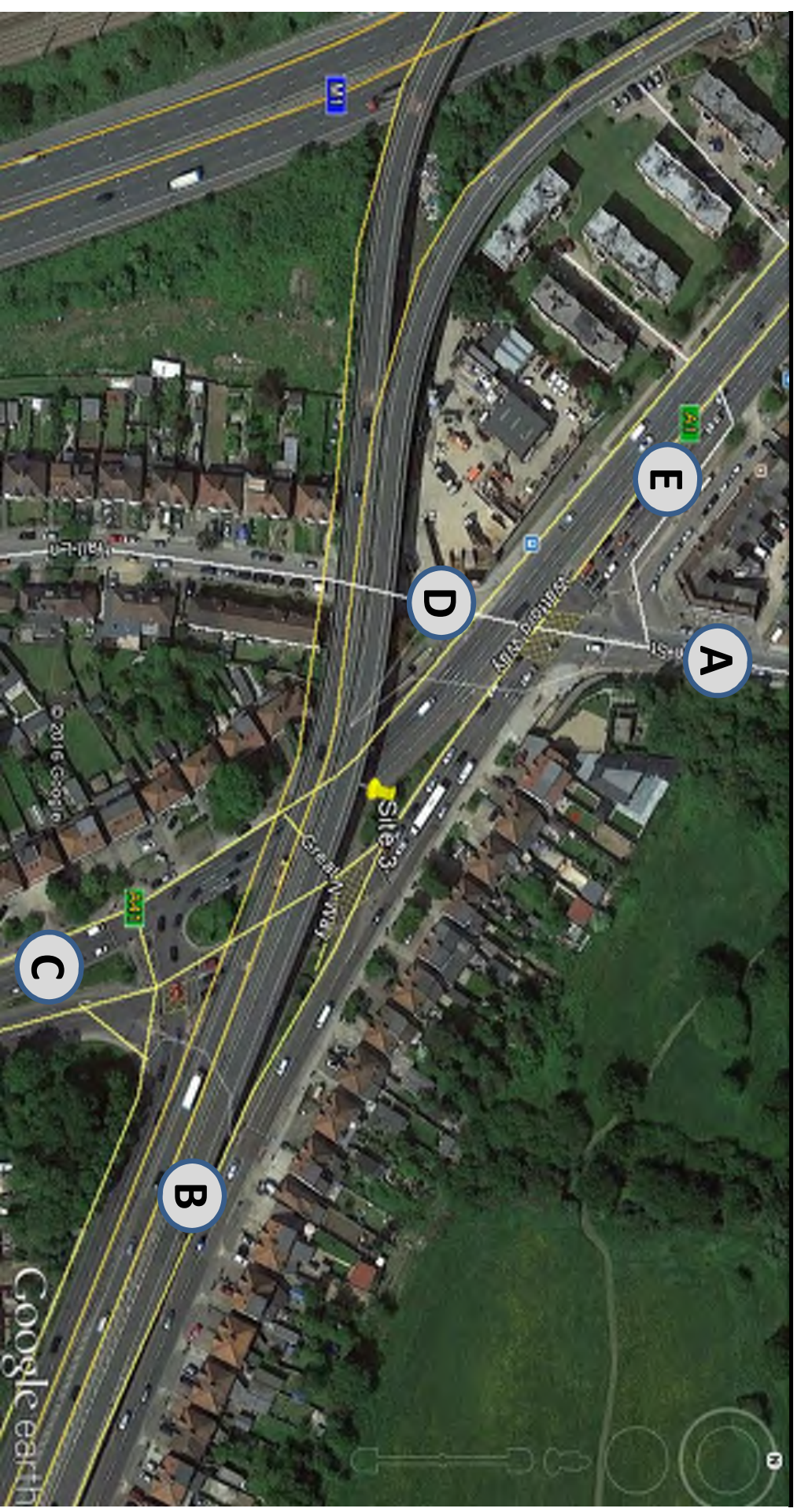
08:30 09:30	1680
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Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)		
17:00	395	3	30	0	0	1	3	7	2	441	439.2		
17:15	374	2	42	2	0	3	2	3	2	430	432.6		
17:30	397	0	31	1	0	3	0	5	4	441	438.3		
17:45	425	0	43	0	0	1	1	4	3	477	474.2		
H/Total	1591	5	146	3	0	8	6	19	11	1789	1784.3		
18:00	426	1	23	0	0	4	0	6	3	463	461		
18:15	362	1	33	1	0	2	0	2	1	402	402.5		
18:30	335	0	22	0	0	3	0	6	2	368	365.8		
18:45	333	0	25	0	0	3	0	5	2	368	366.4		
H/Total	1456	2	103	1	0	12	0	19	8	1601	1595.7		
Total	3047	7	249	4	0	20	6	38	19	3390	3380		

Peak Hours	Totals
17:00 18:00	1789
17:15 18:15	1811
17:30 18:30	1783
17:45 18:45	1710

18:00 19:00	1601
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Project Number: TSP12743
Project Name: Pentavia Retail Park, Mill Hill
Survey Type: Manual Classified Traffic Count
Site No: 3
Location: Page Street / Great N Way / Watford Way / Hall Lane



Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **3**
 Location: **Page Street / Great N Way / Watford Way / Hall Lane**
 Date: **16 June 2016, Thursday**



Time	A - A										A - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30									0	0	27										35	35
07:45					1				1	1.5	38			1							39	39
08:00									0	0	54			6						2	64	63.8
08:15									0	0	56			4		1				1	62	61.9
H/Ttotal	0	0	0	1	0	0	0	0	1	1.5	175	1	19	1	0	0	0	1	3	0	200	199.7
08:30									0	0	68		6		1					1	77	78.2
08:45	1								1	1	47		4								51	51
09:00									0	0	36		7								43	43
09:15									0	0	26		7								33	33
H/Ttotal	1	0	0	0	0	0	0	0	1	1	177	0	24	1	1	0	0	0	1	0	204	205.2
Total	1	0	0	1	0	0	0	0	2	2.5	352	1	43	2	1	0	0	1	4	0	404	404.9

Time	A - A										A - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00									0	0	43										44	45
17:15									0	0	33		4								37	37
17:30									0	0	44		2						1		47	46.4
17:45									0	0	27		3		1						32	33.5
H/Ttotal	0	0	0	0	0	0	0	0	0	0	147	0	9	1	0	0	0	2	1	0	160	161.9
18:00									0	0	41		2								44	43.4
18:15									0	0	22		3		1						26	26.5
18:30									0	0	33		4						1		38	37.4
18:45									0	0	40		3								43	43
H/Ttotal	0	0	0	0	0	0	0	0	0	0	136	0	12	1	0	0	0	0	2	0	151	150.3
Total	0	0	0	0	0	0	0	0	0	0	283	0	21	2	0	0	0	2	3	0	311	312.2

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **3**
 Location: **Page Street / Great N Way / Watford Way / Hall Lane**
 Date: **16 June 2016, Thursday**



Time	A - E										B - A												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30	1		1							2	2	13		6			1					20	21
07:45	4									4	4	30		1				1				32	33
08:00	8									8	8	32		4					1			37	36.4
08:15	2									2	2	41		3								44	44
H/T/total	15	0	1	0	0	0	0	0	0	16	16	116	0	14	0	0	1	1	1	0	0	133	134.4
08:30	6									7	8	47		2								49	49
08:45	6		1							7	7	42		2					1			45	44.4
09:00	5									5	5	28		4								32	32
09:15	3	1								4	4	17		3								20	20
H/T/total	20	1	1	0	0	0	0	0	0	23	24	134	0	11	0	0	0	0	1	0	0	146	145.4
Total	35	1	2	0	0	0	0	0	0	39	40	250	0	25	0	0	1	1	2	0	0	279	279.8

Time	A - E										B - A												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
17:00	4		2							6	6	37		3				1				42	42.4
17:15	3									3	3	31		3					1			35	34.4
17:30	7		1							8	8	30		3					2			35	33.8
17:45	3									3	3	45		4					2			51	49.8
H/T/total	17	0	3	0	0	0	0	0	0	20	20	143	0	13	0	0	0	1	6	0	0	163	160.4
18:00	4									4	4	26		4					1		1	32	30.6
18:15	9									9	9	30		5								35	35
18:30	4									4	4	25		5								30	30
18:45	6									6	6	29		4					1			34	33.4
H/T/total	23	0	0	0	0	0	0	0	0	23	23	110	0	18	0	0	0	0	2	2	1	131	129
Total	40	0	3	0	0	0	0	0	0	43	43	253	0	31	0	0	0	1	8	1	0	294	289.4

Project Number: **TSP12743**
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 Site No: **3**
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 Date: **16 June 2016, Thursday**



Time	B - B										B - C												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30										0	0	4		2						1		8	6.6
07:45										0	0	1		3								4	4
08:00										0	0	1		2	1							4	4.5
08:15										0	0	4		1	1							5	5.5
H/Ttotal	0	0	0	0	0	0	0	0	0	0	10	0	7	2	0	0	0	0	1	1	21	20.6	
08:30										0	0	4		2								7	7.5
08:45	3									3	3	1		1	1						2	2	2
09:00	2									2	2	6		3						1	10	9.4	
09:15	5									5	5	4		2							6	6	
H/Ttotal	10	0	0	0	0	0	0	0	0	10	10	15	0	8	1	0	0	0	1	0	25	24.9	
Total	10	0	0	0	0	0	0	0	0	10	10	25	0	15	3	0	0	0	2	1	46	45.5	

Time	B - B										B - C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	4		2							6	6	4									4	4
17:15	3		4							7	7	5									7	8.3
17:30	2		1							3	3	4		1	1						5	5
17:45	4		1							5	5	2									2	2
H/Ttotal	13	0	8	0	0	0	0	0	0	21	21	15	0	2	1	0	0	0	0	0	18	19.3
18:00	7									7	7	6		1							7	7
18:15	6		4							11	10.4	8									8	8
18:30	3									3	3	5									5	5
18:45	3									3	3	6		2							8	8
H/Ttotal	19	0	4	0	0	0	0	1	0	24	23.4	25	0	3	0	0	0	0	0	0	28	28
Total	32	0	12	0	0	0	0	1	0	45	44.4	40	0	5	0	1	0	0	0	0	46	47.3

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 Location: **Page Street / Great N Way / Watford Way / Hall Lane**
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Time	B - D										B - E												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30	3									3	3	124		23	7			2	7		1	164	164.5
07:45										0	0	130		18	2	1		12	2		165	178.1	
08:00	3		1							4	4	155		25		1		2	4		187	187.9	
08:15	2									2	2	145		17	3						165	166.5	
H/T/total	8	0	1	0	0	0	0	0	0	9	9	554	0	83	12	2	0	16	13	1	681	697	
08:30	1									1	1	159		22	2	2			3		188	189.8	
08:45	5									5	5	131		19	7	2		1	3		163	168.3	
09:00	16									16	16	162		25	5	1		1			195	199	
09:15	2									2	2	117		32	3	3			2		157	161.2	
H/T/total	24	0	0	0	0	0	0	0	0	24	24	569	0	98	17	8	0	2	8	1	703	718.3	
Total	32	0	1	0	0	0	0	0	0	33	33	1123	0	181	29	10	0	18	21	2	1384	1415.3	

Time	B - D										B - E											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	4									4	4	179	1	42	1	2		1	14		241	237.7
17:15	6									6	6	176		33	3	2		1	14		230	227.7
17:30	3							1		4	3.4	165		28	1	4		3	9		210	213.3
17:45	6									6	6	218	1	28					8		256	250.4
H/T/total	19	0	0	0	0	0	0	1	0	20	19.4	738	2	131	5	8	2	5	45	1	937	929.9
18:00	8		1							9	9	183	1	27		1		1	6		219	217.7
18:15	8		2							10	10	194		24	2	1		1	9		232	229.1
18:30	5									5	5	192	2	21	2				8		225	221.2
18:45	5		1							6	6	204	3	27	3				4		241	240.1
H/T/total	26	0	4	0	0	0	0	0	0	30	30	773	6	99	7	2	0	2	27	1	917	908.1
Total	45	0	4	0	0	0	0	1	0	50	49.4	1511	8	230	12	10	2	7	72	2	1854	1837.2

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 Date: **16 June 2016, Thursday**



Time	C - A										C - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	34		5							40	39.4	22		7							29	29
07:45	63		4							69	69.4	33		2		1					36	36.5
08:00	73		5							78	78	25		1							27	28.3
08:15	64		8		1					73	73.5	37		4							41	41
H/Ttotal	234	0	22	1	0	0	1	2	0	260	260.3	117	0	14	1	1	0	0	0	0	133	134.8
08:30	27		7							36	36.4	32		1		1					38	41.2
08:45	34		4		1					39	39.5	32		4		1					37	37.5
09:00	22		6		1					31	33.8	21		4				1			26	27
09:15	38		2		2					43	45	25		3							28	28
H/Ttotal	121	0	19	4	1	0	3	1	0	149	154.7	110	0	12	2	1	0	3	1	0	129	133.7
Total	355	0	41	5	1	0	4	3	0	409	415	227	0	26	3	2	0	3	1	0	262	268.5

Time	C - A										C - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	48	3	4				1			56	57	24		6							30	30
17:15	62		3				1			66	67	30		3							33	33
17:30	51		6					1		58	57.4	34		4							38	38
17:45	50		5							55	55	48		1							49	49
H/Ttotal	211	3	18	0	0	0	2	1	0	235	236.4	136	0	14	0	0	0	0	0	0	150	150
18:00	61		7					1		69	68.4	29		5							34	34
18:15	41		4					1		46	45.4	27		1							28	28
18:30	67	2	4					1		74	73.4	26		1		1			1		29	28.9
18:45	47		6							53	53	23		5		1					29	29.5
H/Ttotal	216	2	21	0	0	0	0	3	0	242	240.2	105	0	12	2	0	0	0	1	0	120	120.4
Total	427	5	39	0	0	0	2	4	0	477	476.6	241	0	26	2	0	0	0	1	0	270	270.4

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 Date: **16 June 2016, Thursday**



Time	C - C										C - D												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30	6		1							7	7										0	0	0
07:45	15		2				1	1		19	19.4	1									1	1	1
08:00	5		1							7	6.4										0	0	0
08:15	15		1	1						17	17.5	1									1	1	1
H/T/total	41	0	5	1	0	0	1	2	0	50	50.3	2	0	0	0	0	0	0	0	0	2	2	2
08:30	20	1	3							24	24	2									2	2	2
08:45	13							1		14	13.4	1			1						2	2	3.3
09:00	8		1							9	9				1						1	1	2.3
09:15	10		1							11	11										0	0	0
H/T/total	51	1	5	0	0	0	0	1	0	58	57.4	3	0	0	2	2	0	0	0	0	5	5	7.6
Total	92	1	10	1	0	0	1	3	0	108	107.7	5	0	0	0	2	0	0	0	0	7	7	9.6

Time	C - C										C - D												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
17:00	6									6	6	3									4	4	4
17:15	10									10	10	1		1	1						4	4	5.8
17:30	8		1							9	9	3		1	1						6	6	7.8
17:45	6		1							7	7				1	1					0	0	0
H/T/total	30	0	2	0	0	0	0	0	0	32	32	7	0	3	2	2	0	0	0	0	14	14	17.6
18:00	8		2							10	10	1			1						3	3	4.8
18:15	8		2		1					11	12.3										0	0	0
18:30	15		1	1						17	17.5	1									1	1	1
18:45	13									13	13	1									1	1	1
H/T/total	44	0	5	1	1	0	0	0	0	51	52.8	3	0	0	1	1	0	0	0	0	5	5	6.8
Total	74	0	7	1	1	0	0	0	0	83	84.8	10	0	3	3	3	0	0	0	0	19	19	24.4

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 Date: **16 June 2016, Thursday**



Time	D - B							D - C																		
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)				
07:30										0	0	0											0	0	0	
07:45										0	0	0												0	0	0
08:00										0	0	0												0	0	0
08:15										0	0	0												0	0	0
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30										0	0	0												0	0	0
08:45										0	0	0												0	0	0
09:00										0	0	0												0	0	0
09:15										0	0	0												0	0	0
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time	D - B							D - C																		
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)				
17:00										0	0	0											0	0	0	
17:15										0	0	0												0	0	0
17:30										0	0	0												0	0	0
17:45										0	0	0												0	0	0
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00										0	0	0												0	0	0
18:15										0	0	0												0	0	0
18:30										0	0	0												0	0	0
18:45										0	0	0												0	0	0
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project Number: **TSP12743**
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 Site No: **3**
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Time	D - D										D - E													
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)		
07:30										0	0	1										3	0	5.6
07:45										0	0	1										0	0	0
08:00										0	0	1					2					3	3	5.6
08:15										0	0	1				1					2	2	3.3	
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5	0	0	0	0	8	8	14.5	
08:30										0	0				1	1					2	0	3.8	
08:45										0	0					2					0	0	0	
09:00										0	0					3				1	3	5	5	
09:15										0	0					3					3	3	6.9	
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0	0	1	0	8	8	15.7	
Total	0	0	0	0	0	0	0	0	0	0	0	3	0	0	11	11	0	0	1	0	16	16	30.2	

Time	D - D										D - E												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
17:00										0	0	1									0	0	0
17:15										0	0	1									1	1	1
17:30										0	0	1									1	1	1
17:45										0	0	1		1							2	2	2
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	4	4	4
18:00										0	0										0	0	0
18:15										0	0	1									1	1	1
18:30										0	0										0	0	0
18:45										0	0	1		1							2	2	2
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	3	3	3
Total	0	0	0	0	0	0	0	0	0	0	0	5	0	2	0	0	0	0	0	0	7	7	7

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Time	E - A										E - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	4		1							5	5	124		41	3	2	1	2	10		181	179.5
07:45	11	1	4							16	16	167	1	42	4	2		1	5		222	224.6
08:00	5		3	1						9	9.5	159		28	5	3	1	1	8		206	208.8
08:15	9			1						10	10.5	155		24	3	5		3	7		197	203.8
H/T/total	29	1	8	2	0	0	0	0	0	40	41	605	1	135	15	10	2	7	30		806	816.7
08:30	16		2		1					19	19.5	154		19	1	2		5	8		190	192.5
08:45	11		2							13	13	175		39	4	1		1	3		224	225.7
09:00	8		2		1				1	12	12.7	146	2	26	6	3		2	2		187	194.7
09:15	6		2							8	8	126	1	25	3	3			2		160	164.2
H/T/total	41	0	8	1	1	0	0	0	0	52	53.2	601	3	109	14	9	0	8	15		761	777.1
Total	70	1	16	3	1	0	0	0	0	92	94.2	1206	4	244	29	19	2	15	45		1567	1593.8

Time	E - A										E - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	9		1							10	10	116		13	2	2			4		137	138.2
17:15	13									13	13	158		14	1	1			10		185	180
17:30	5									5	5	142	1	8		1			2		154	154.1
17:45	8									8	8	138		10	1			1	8		158	154.7
H/T/total	35	0	1	0	0	0	0	0	0	36	36	554	1	45	4	4	0	1	24		634	627
18:00	9									9	9	138		15				1	1		156	156.9
18:15	10		1							11	11	131		10					6		147	143.4
18:30	13		1							14	14	162		15	1	1	1		3		183	184
18:45	10									10	10	149		10	1	1			3		164	164
H/T/total	42	0	2	0	0	0	0	0	0	44	44	580	0	50	3	2	1	1	13		650	648.3
Total	77	0	3	0	0	0	0	0	0	80	80	1134	1	95	7	6	1	2	37		1284	1275.3

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **3**
 Location: **Page Street / Great N Way / Watford Way / Hall Lane**
 Date: **16 June 2016, Thursday**



Time	E - C											E - D										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	256	8	106	21	6	4	1	17	1	420	432.3	2									6	10.4
07:45	278	3	78	13	11	2		24		409	417.4	7		1							9	10.3
08:00	200	4	54	13	5	2		12	1	291	298	4			1						4	4
08:15	266	2	76	16	3	1	1	15	1	381	385.1	6			1						7	8.3
H/Ttotal	1000	17	314	63	25	9	2	68	3	1501	1532.8	19	0	1	1	5	0	0	0	0	26	33
08:30	192		51	5	10	2		15	1	276	283.7	3		1							5	6
08:45	225	2	70	6	8	1	1	8	1	322	331.8	7			1					1	8	9.3
09:00	192	1	71	7	7	1	2	7		288	299.4	4									4	4
09:15	269	1	66	4	6	2	5	4	1	358	371.6	5									5	5
H/Ttotal	878	4	258	22	31	6	8	34	3	1244	1286.5	19	0	1	0	1	0	0	0	0	22	24.3
Total	1878	21	572	85	56	15	10	102	6	2745	2819.3	38	0	2	1	6	0	1	0	0	48	57.3

Time	E - C											E - D										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	291	2	28	7	2	3		2		328	332.4	7									7	7
17:15	260	8	37	7	1	1	2	6		322	326.2	7		1							8	8
17:30	278	2	13	3	4	2		1		303	311.1	8									8	8
17:45	290	3	22	1	1	3	3	3	1	327	332.2	3									3	3
H/Ttotal	1119	15	100	11	8	9	5	12	1	1280	1301.9	25	0	1	0	0	0	0	0	0	26	26
18:00	294	1	21	1	1	2		5		325	325.8	3									3	3
18:15	316	2	30	3	2	2		3		358	362.3	2									2	2
18:30	305	1	21	3	3	2		5		340	344.4	4									4	4
18:45	261	2	33	6	1	1	1	3		308	312.5	3									3	3
H/Ttotal	1176	6	105	13	7	7	1	16	0	1331	1345	12	0	0	0	0	0	0	0	0	12	12
Total	2295	21	205	24	15	16	6	28	1	2611	2646.9	37	0	1	0	0	0	0	0	0	38	38

Project Number: **TSP12743**
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 Site No: **3**
 Location: **Page Street / Great N Way / Watford Way / Hall Lane**
 Date: **16 June 2016, Thursday**

Time	E - E										TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL		
07:30	1		1								2	2
07:45	5		1								6	6
08:00	4										4	4
08:15	5		1								6	6
H/Ttotal	15	0	3	0	0	0	0	0	0	0	18	18
08:30	6			1							7	7.5
08:45	2										2	2
09:00	3										3	3
09:15	9										9	9
H/Ttotal	20	0	0	1	0	0	0	0	0	0	21	21.5
Total	35	0	3	1	0	0	0	0	0	0	39	39.5

Time	E - E										TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL		
17:00	5		1								6	6
17:15	1		1								2	2
17:30	6										6	6
17:45	4										4	4
H/Ttotal	16	0	2	0	0	0	0	0	0	0	18	18
18:00	2					1					3	4
18:15	7										7	7
18:30	9		1								10	10
18:45											0	0
H/Ttotal	18	0	1	0	0	1	0	0	0	0	20	21
Total	34	0	3	0	0	1	0	0	0	0	38	39

Project Number: **TSP12743**
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 Survey Type: **Manual Classified Traffic Count**
 Site No: **3**
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 Date: **16 June 2016, Thursday**



Time	From A										To A											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
07:30	86	0	19	1	0	0	1	1	0	108	108.9	51	0	12	0	0	1	0	1	0	65	65.4
07:45	103	0	10	1	0	0	0	0	0	114	114.5	104	1	9	0	0	0	2	1	0	118	119.9
08:00	120	2	17	0	1	0	3	3	0	146	148.5	110	0	12	1	0	0	0	1	0	124	123.9
08:15	126	2	10	3	0	0	0	1	0	142	142.9	114	0	11	2	0	0	0	0	0	127	128
H/T/total	435	4	56	5	1	0	4	5	0	510	514.8	379	1	44	4	0	1	2	3	0	434	437.2
08:30	134	0	11	1	1	0	1	2	0	150	151.6	90	0	11	1	0	0	1	1	0	104	104.9
08:45	96	1	8	0	0	0	0	0	0	105	105	88	0	8	1	0	0	0	1	0	98	97.9
09:00	99	0	12	0	0	0	0	0	0	111	111	58	0	12	2	0	0	1	1	0	75	78.5
09:15	64	2	15	1	0	0	0	0	0	82	82.5	61	0	7	2	0	0	1	0	0	71	73
H/T/total	393	3	46	2	1	0	1	2	0	448	450.1	297	0	38	5	2	0	3	3	0	348	354.3
Total	828	7	102	7	2	0	5	7	0	958	964.9	676	1	82	9	2	1	5	6	0	782	791.5

Time	From A										To A											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
17:00	102	2	7	0	0	0	1	0	0	112	113	94	3	8	0	0	0	2	1	0	108	109.4
17:15	80	2	11	0	0	0	0	0	0	93	93	106	0	6	0	0	0	1	1	0	114	114.4
17:30	108	0	8	0	0	0	0	1	0	117	116.4	86	0	9	0	0	0	0	3	0	98	96.2
17:45	78	0	5	1	0	0	1	0	0	85	86.5	103	0	9	0	0	0	0	2	0	114	112.8
H/T/total	368	4	31	1	0	0	2	1	0	407	408.9	389	3	32	0	0	0	3	7	0	434	432.8
18:00	94	1	6	0	0	0	0	1	0	102	101.4	96	0	11	0	0	0	0	2	0	110	108
18:15	92	0	4	1	0	0	0	0	0	97	97.5	81	0	10	0	0	0	0	1	0	92	91.4
18:30	99	0	8	0	0	0	0	1	0	108	107.4	105	2	10	0	0	0	0	1	0	118	117.4
18:45	98	0	6	0	0	0	0	0	0	104	104	86	0	10	0	0	0	0	1	0	97	96.4
H/T/total	383	1	24	1	0	0	0	2	0	411	410.3	368	2	41	0	0	0	0	5	1	417	413.2
Total	751	5	55	2	0	0	2	3	0	818	819.2	757	5	73	0	0	0	3	12	1	851	846

Project Number: **TSP12743**
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 Survey Type: **Manual Classified Traffic Count**
 Site No: **3**
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 Date: **16 June 2016, Thursday**



Time	From B										To B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	144	0	31	7	0	1	2	8	2	195	195.1	173	0	56	3	0	1	2	10	0	245	243.5
07:45	161	0	22	2	1	0	13	2	0	201	215.1	238	1	45	5	2	0	1	5	0	297	300.1
08:00	191	0	32	1	1	0	2	5	0	232	232.8	238	1	35	5	4	1	2	10	1	297	300.9
08:15	192	0	20	4	0	0	0	0	0	216	218	248	0	32	4	5	0	3	8	0	300	306.7
H/Ttotal	688	0	105	14	2	1	17	15	2	844	861	897	2	168	17	11	2	8	33	1	1139	1151.2
08:30	211	0	26	3	2	0	0	3	0	245	247.3	254	0	26	3	4	0	7	10	1	305	311.9
08:45	182	0	22	7	2	0	1	4	0	218	222.7	257	0	47	5	1	0	1	3	1	315	317.2
09:00	214	0	32	5	1	0	1	1	1	255	258.4	205	2	37	6	3	0	3	2	0	258	266.7
09:15	145	0	37	3	3	0	0	2	0	190	194.2	182	1	35	3	3	0	0	2	0	226	230.2
H/Ttotal	752	0	117	18	8	0	2	10	1	908	922.6	898	3	145	17	11	0	11	17	2	1104	1126
Total	1440	0	222	32	10	1	19	25	3	1752	1783.6	1795	5	313	34	22	2	19	50	3	2243	2277.2

Time	From B										To B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	228	1	47	1	2	1	2	15	0	297	294.1	187	0	21	2	2	0	1	4	0	217	219.2
17:15	221	0	41	3	3	1	1	15	0	285	283.4	224	0	25	1	1	0	0	10	1	262	257
17:30	204	0	33	1	4	0	3	12	0	257	258.5	222	1	15	0	1	0	0	3	0	242	241.5
17:45	275	1	33	0	0	0	0	10	1	320	313.2	217	0	15	2	0	0	2	8	0	244	242.2
H/Ttotal	928	2	154	5	9	2	6	52	1	1159	1149.2	850	1	76	5	4	0	3	25	1	965	959.9
18:00	230	1	33	0	1	0	1	7	1	274	271.3	215	0	22	1	0	0	1	2	0	241	241.3
18:15	246	0	35	2	1	0	1	10	1	296	292.5	186	0	18	1	0	0	0	7	0	212	208.3
18:30	230	2	26	2	0	0	0	8	0	268	264.2	224	0	20	2	1	1	0	5	0	253	253.3
18:45	247	3	34	3	0	0	0	5	0	292	290.5	215	0	18	2	1	0	0	3	0	239	239.5
H/Ttotal	953	6	128	7	2	0	2	30	2	1130	1118.5	840	0	78	6	2	1	1	17	0	945	942.4
Total	1881	8	282	12	11	2	8	82	3	2289	2267.7	1690	1	154	11	6	1	4	42	1	1910	1902.3

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 Date: **16 June 2016, Thursday**



Time	From C										To C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	292	0	62	5	4	0	0	7	0	370	373.5	321	8	119	22	6	4	2	19	2	503	514.8
07:45	360	0	46	4	3	2	2	6	0	423	429.3	350	3	92	13	11	2	1	25	0	497	505.8
08:00	291	0	27	4	3	4	2	7	0	338	345.7	260	5	68	14	6	2	2	14	1	372	381.6
08:15	368	0	45	6	2	2	0	2	0	425	431.4	350	4	83	20	3	1	1	15	1	478	484.1
H/Total	1311	0	180	19	12	8	4	22	0	1556	1579.9	1281	20	362	69	26	9	6	73	4	1850	1886.3
08:30	262	2	35	10	3	2	3	4	0	321	332.5	272	1	60	6	10	2	0	16	1	368	375.6
08:45	246	3	59	11	5	2	3	5	0	334	348	278	3	74	6	8	1	1	9	1	381	390.2
09:00	184	0	44	9	10	1	2	1	0	251	270.9	261	1	80	7	7	1	2	8	0	367	377.8
09:15	223	0	44	11	5	1	1	1	1	287	299.6	313	2	77	5	6	2	5	4	1	415	429.1
H/Total	915	5	182	41	23	6	9	11	1	1193	1251	1124	7	291	24	31	6	8	37	3	1531	1572.7
Total	2226	5	362	60	35	14	13	33	1	2749	2830.9	2405	27	653	93	57	15	14	110	7	3381	3459

Time	From C										To C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	358	10	104	2	5	2	1	7	0	489	495.3	351	4	33	0	2	3	0	2	0	395	399.4
17:15	366	6	91	6	4	3	5	13	0	494	502.4	318	10	45	7	2	1	2	6	0	391	396.5
17:30	362	3	104	1	5	1	1	16	0	493	492.4	345	2	20	3	4	2	0	1	0	377	385.1
17:45	377	2	57	2	3	1	1	17	0	460	456.7	345	3	25	1	1	3	3	3	1	385	390.2
H/Total	1463	21	356	11	17	7	8	53	0	1936	1946.8	1359	19	123	11	9	9	5	12	1	1548	1571.2
18:00	376	9	67	4	4	1	1	16	0	478	477.6	350	2	28	1	1	2	0	5	0	389	389.8
18:15	359	6	50	3	4	1	0	17	0	440	437.5	389	2	33	3	3	2	0	3	0	435	440.6
18:30	407	11	63	9	1	1	0	12	0	504	503.6	384	1	26	4	3	2	0	5	0	425	429.9
18:45	354	6	38	3	2	3	1	10	0	417	419.1	328	2	38	6	1	1	1	3	0	380	384.5
H/Total	1496	32	218	19	11	6	2	55	0	1839	1837.8	1451	7	125	14	8	7	1	16	0	1629	1644.8
Total	2959	53	574	30	28	13	10	108	0	3775	3784.6	2810	26	248	25	17	16	6	28	1	3177	3216

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 Site No: **3**
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 Date: **16 June 2016, Thursday**



Time	From D										To D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	1	0	0	0	2	0	0	0	0	3	5.6	8	0	0	1	3	0	0	0	0	12	16.4
07:45	0	0	0	0	0	0	0	0	0	0	0	13	0	1	0	1	0	0	0	0	15	16.3
08:00	1	0	0	0	2	0	0	0	0	0	5.6	11	0	0	0	0	0	0	0	0	12	12
08:15	1	0	0	0	1	0	0	0	0	1	3.3	12	0	0	1	0	0	0	0	0	13	14.3
H/Ttotal	3	0	0	0	5	0	0	0	0	5	14.5	44	0	2	1	5	0	0	0	0	52	59
08:30	0	0	0	1	1	0	0	0	0	0	3.8	10	0	2	0	0	1	0	0	0	13	14
08:45	0	0	0	0	0	0	0	0	0	2	0	16	0	0	2	0	0	0	0	0	18	20.6
09:00	0	0	0	0	2	0	0	1	0	0	5	23	0	0	1	0	0	0	0	0	24	25.3
09:15	0	0	0	0	3	0	0	0	0	0	6.9	12	0	0	0	0	0	0	0	0	12	12
H/Ttotal	0	0	0	1	6	0	0	1	0	3	15.7	61	0	2	3	0	0	1	0	0	67	71.9
Total	3	0	0	1	11	0	0	1	0	8	30.2	105	0	4	1	8	0	1	0	0	119	130.9

Time	From D										To D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	0	0	0	0	0	0	0	0	0	0	0	19	0	1	0	0	0	0	0	0	20	20
17:15	1	0	0	0	0	0	0	0	0	0	1	15	0	2	1	1	0	0	0	0	19	20.8
17:30	1	0	0	0	0	0	0	0	0	0	1	16	0	1	1	0	0	1	0	0	20	21.2
17:45	1	0	1	0	0	0	0	0	0	2	2	10	0	0	0	0	0	0	0	0	10	10
H/Ttotal	3	0	1	0	0	0	0	0	0	4	4	60	0	4	2	2	0	0	1	0	69	72
18:00	0	0	0	0	0	0	0	0	0	0	0	19	0	1	1	0	0	0	0	0	22	23.8
18:15	1	0	0	0	0	0	0	0	0	0	1	14	0	2	0	0	0	0	0	0	16	16
18:30	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	13	13
18:45	1	0	1	0	0	0	0	0	0	2	2	13	0	1	0	0	0	0	0	0	14	14
H/Ttotal	2	0	1	0	0	0	0	0	0	3	3	59	0	4	1	1	0	0	0	0	65	66.8
Total	5	0	2	0	0	0	0	0	0	7	7	119	0	8	3	3	0	1	0	0	134	138.8

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **3**
 Location: **Page Street / Great N Way / Watford Way / Hall Lane**
 Date: **16 June 2016, Thursday**



Time	From E											To E										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
07:30	387	8	149	25	9	5	3	27	1	614	629.2	357	0	74	12	6	0	2	13	1	465	472.2
07:45	468	5	126	17	14	2	1	29	0	662	674.3	387	0	57	5	4	2	12	6	0	473	491.1
08:00	372	4	85	19	8	3	1	20	2	514	524.3	356	0	45	4	5	4	4	10	0	428	438.5
08:15	441	2	101	20	9	1	4	22	1	601	613.7	404	0	50	7	3	2	0	2	0	468	476.2
H/Total	1668	19	461	81	40	11	9	98	4	2391	2441.5	1504	0	226	28	18	8	18	31	1	1834	1878
08:30	371	0	73	8	12	2	6	23	2	497	509.2	352	1	46	13	5	2	1	5	0	425	438
08:45	420	2	111	10	10	1	2	11	2	569	581.8	305	3	71	16	6	2	4	7	0	414	431.6
09:00	353	3	99	13	11	1	4	10	0	494	513.8	303	0	58	13	11	1	1	2	1	390	410.8
09:15	415	2	93	7	9	2	5	6	1	540	557.8	279	1	70	12	11	1	0	3	1	378	396.7
H/Total	1559	7	376	38	42	6	17	50	5	2100	2162.6	1239	5	245	54	33	6	6	17	2	1607	1677.1
Total	3227	26	837	119	82	17	26	148	9	4491	4604.1	2743	5	471	82	51	14	24	48	3	3441	3555.1

Time	From E											To E										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
17:00	428	2	43	2	4	3	0	6	0	488	493.6	465	8	138	3	7	3	1	21	0	646	648
17:15	439	8	53	8	2	1	2	16	1	530	529.2	444	6	118	8	5	4	5	27	0	617	620.3
17:30	439	3	21	3	5	2	0	3	0	476	484.2	445	3	121	1	8	1	4	24	0	607	608.5
17:45	443	3	32	2	1	3	4	11	1	500	501.9	499	3	79	2	3	1	1	25	1	614	605.1
H/Total	1749	16	149	15	12	9	6	36	2	1994	2008.9	1853	20	456	14	23	9	11	97	1	2484	2481.9
18:00	446	1	36	2	1	3	1	6	0	496	498.7	466	10	80	3	4	2	2	21	0	588	586.1
18:15	466	2	41	3	2	2	0	9	0	525	525.7	494	6	67	5	4	1	1	25	1	604	597.9
18:30	493	1	38	4	4	3	0	8	0	551	556.4	503	11	79	9	1	1	0	18	0	622	618
18:45	423	2	43	7	2	1	1	6	0	485	489.5	481	9	55	5	2	3	1	14	0	570	570.7
H/Total	1828	6	158	16	9	9	2	29	0	2057	2070.3	1944	36	281	22	11	7	4	78	1	2384	2372.7
Total	3577	22	307	31	21	18	8	65	2	4051	4079.2	3797	56	737	36	34	16	15	175	2	4868	4854.6

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **3**
 Location: **Page Street / Great N Way / Watford Way / Hall Lane**
 Date: **16 June 2016, Thursday**

Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)		
07:30	910	8	261	38	15	6	6	43	3	1290	1312.3		
07:45	1092	5	204	24	18	4	16	37	0	1400	1433.2		
08:00	975	6	161	24	15	7	8	35	2	1233	1256.9		
08:15	1128	4	176	33	12	3	4	25	1	1386	1409.3		
H/Ttotal	4105	23	802	119	60	20	34	140	6	5309	5411.7		
08:30	978	2	145	23	19	4	10	32	2	1215	1244.4		
08:45	944	6	200	28	17	3	6	20	2	1226	1257.5		
09:00	850	3	187	27	24	2	7	13	1	1114	1159.1		
09:15	847	4	189	22	20	3	6	9	2	1102	1141		
H/Ttotal	3619	15	721	100	80	12	29	74	7	4657	4802		
Total	7724	38	1523	219	140	32	63	214	13	9966	10214		

Peak Hours	Totals
07:30 08:30	5309
07:45 08:45	5234
08:00 09:00	5060
08:15 09:15	4941

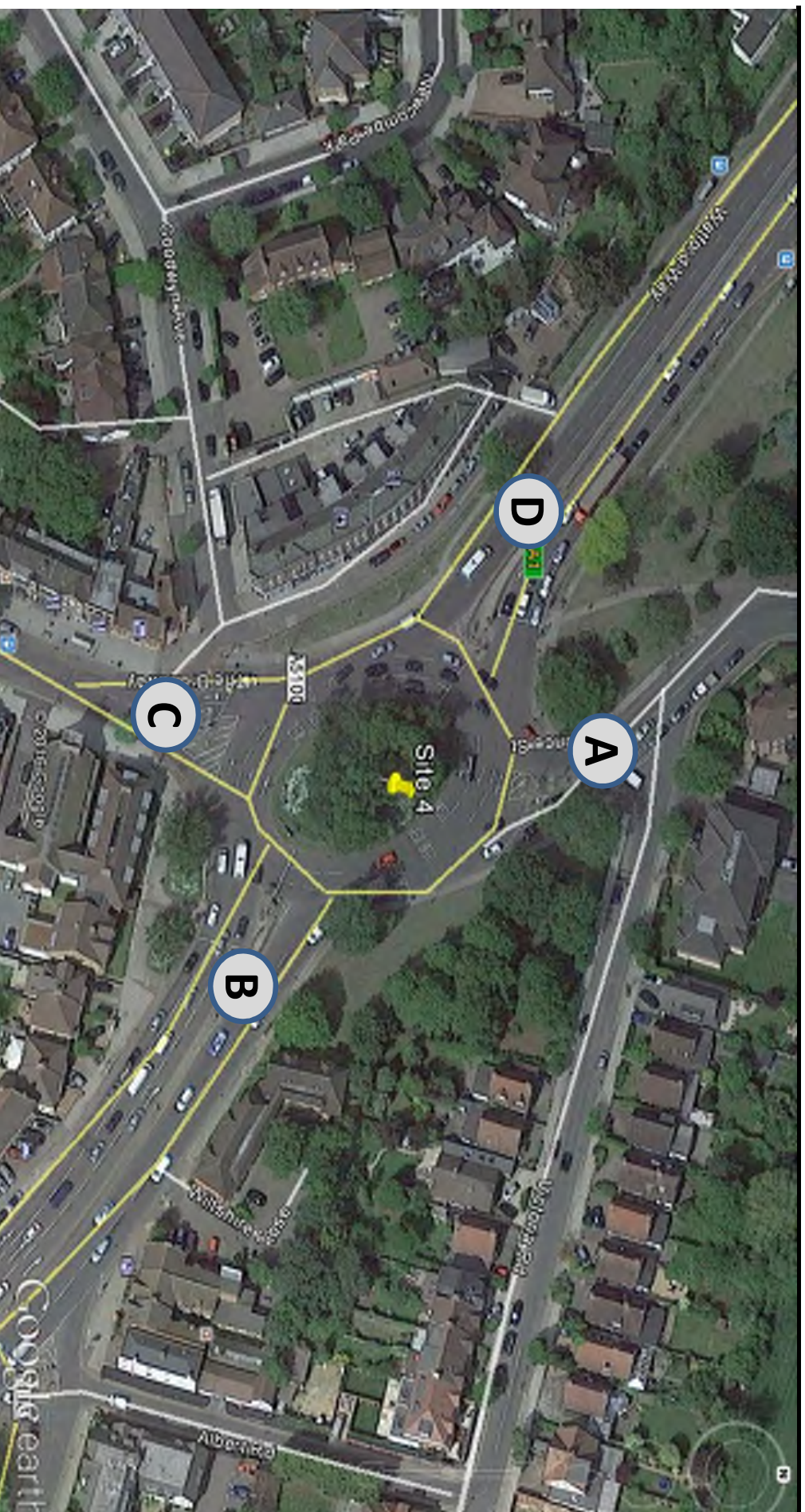
08:30 09:30	4657
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Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)		
17:00	1116	15	201	5	11	6	4	28	0	1386	1396		
17:15	1107	16	196	17	9	5	8	44	1	1403	1409		
17:30	1114	6	166	5	14	3	4	32	0	1344	1352.5		
17:45	1174	6	128	5	4	4	6	38	2	1367	1360.3		
H/Ttotal	4511	43	691	32	38	18	22	142	3	5500	5517.8		
18:00	1146	12	142	6	6	4	3	30	1	1350	1349		
18:15	1164	8	130	9	7	3	1	36	1	1359	1354.2		
18:30	1229	14	135	15	5	4	0	29	0	1431	1431.6		
18:45	1123	11	122	13	4	4	2	21	0	1300	1305.1		
H/Ttotal	4662	45	529	43	22	15	6	116	2	5440	5439.9		
Total	9173	88	1220	75	60	33	28	258	5	10940	10958		

Peak Hours	Totals
17:00 18:00	5500
17:15 18:15	5464
17:30 18:30	5420
17:45 18:45	5507

18:00 19:00	5440
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Project Number: TSP12743
Project Name: Pentavia Retail Park, Mill Hill
Survey Type: Manual Classified Traffic Count
Site No: 4
Location: A1/ Lawrence Street / The Broadway / Watford Way



Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**



Time	A - A										A - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30	1									1	1	60	1	13	1				1		1	76	75.9
07:45										0	0	54		10					1		1	66	64.6
08:00										0	0	59	1	6							1	67	66.2
08:15										0	0	49		8								57	57
H/Ttotal	1	0	0	0	0	0	0	0	0	1	1	222	2	37	1	0	0	0	2		2	266	263.7
08:30										0	0	38		4								42	42
08:45										0	0	45	1	7	1		1		1		2	58	57.6
09:00	1									1	1	40		2							42	42	42
09:15										0	0	59		5						1		65	64.4
H/Ttotal	1	0	0	0	0	0	0	0	0	1	1	182	1	18	1	1	0	0	2	2	2	207	206
Total	2	0	0	0	0	0	0	0	0	2	2	404	3	55	2	1	0	0	4	4	4	473	469.7

Time	A - A										A - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
17:00	1									1	1	60		8		1			1		1	70	69.9
17:15	2									2	2	48	1	6					3		3	58	56.2
17:30	2									2	2	45	1	3					1		1	51	49.6
17:45	3									3	3	56	1	5					2		1	64	62.8
H/Ttotal	8	0	0	0	0	0	0	0	0	8	8	209	3	22	1	0	0	0	7		1	243	238.5
18:00	2									2	2	60		5								65	65
18:15	4									4	4	72		3					1			76	75.4
18:30	2									2	2	51		5					2			58	56.8
18:45	2									2	2	38		2					1			41	40.4
H/Ttotal	10	0	0	0	0	0	0	0	0	10	10	221	0	15	0	0	0	0	4		0	240	237.6
Total	18	0	0	0	0	0	0	0	0	18	18	430	3	37	1	0	0	0	11		1	483	476.1

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**



Time	A - C											A - D										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	40		9			6	1		1	57	63.2	12		2							14	14
07:45	52		5	1		4	1			63	68.5	15		3							18	18
08:00	80		2	1		3				86	89.5	16		1							17	17
08:15	54		3	1		3				61	64.5	19		1							20	20
H/Ttotal	226	0	19	3	0	16	2	0	1	267	285.7	62	0	7	0	0	0	0	0	0	69	69
08:30	67		6			2		1		76	77.4	14		3	1						18	18.5
08:45	71		5			3		1		80	82.4	13		1							14	14
09:00	61		4			3	1			69	73	12	1	1							14	14
09:15	58		3	1		2	1			65	68.5	17		1							18	18
H/Ttotal	257	0	18	1	0	10	2	2	0	290	301.3	56	1	6	1	0	0	0	0	0	64	64.5
Total	483	0	37	4	0	26	4	2	1	557	587	118	1	13	1	0	0	0	0	0	133	133.5

Time	A - C											A - D										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	55		6			3	1			65	69	20		2					1		23	22.4
17:15	52		3			4				59	63	19		4							23	23
17:30	50		8			3				61	64	20		3							23	23
17:45	60		2			2				64	66	14		2							16	16
H/Ttotal	217	0	19	0	0	12	1	0	0	249	262	73	0	11	0	0	0	0	1	0	85	84.4
18:00	57		2			3			1	63	65.2	15		1							16	16
18:15	56		3	1		3		1	1	65	67.1	18		1							18	18
18:30	64		3			3				70	73	17		1							18	18
18:45	46	1	1			3				51	54	18		1							19	19
H/Ttotal	223	1	9	1	0	12	0	1	2	249	259.3	68	0	3	0	0	0	0	0	0	71	71
Total	440	1	28	1	0	24	1	1	2	498	521.3	141	0	14	0	0	0	0	1	0	156	155.4

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**



Time	B - C										B - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	18		7	2						27	28	342	2	56	9	2		2	12		425	426.9
07:45	18		2	1						24	24.3	263		41	7	3	1	9	3		327	342.6
08:00	25		4		1					30	31.3	391		48	2	6	3	9	10		469	483.8
08:15	31		5	1		1				38	39.5	355		47	6	4	2		2		416	425
H/Ttotal	92	0	18	4	1	1				119	123.1	1351	2	192	24	15	6	20	27	0	1637	1678.3
08:30	40		5	2						50	50.8	319	1	35	10	5	2		3		375	386.7
08:45	34		5				1			40	41	258	3	48	14	4	2	2	7		338	350
09:00	40		4	1				1		46	45.9	200		64	11	9	1	2	1		288	307.6
09:15	29		4							33	33	250		65	12	9	2		2		340	358.5
H/Ttotal	143	0	18	3	0	0				169	170.7	1027	4	212	47	27	7	4	13	0	1341	1402.8
Total	235	0	36	7	1	1	3	5	0	288	293.8	2378	6	404	71	42	13	24	40	0	2978	3081.1

Time	B - C										B - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	32		5							37	37	412	9	128	2	4	2	1	19		577	574.8
17:15	48		4			1				53	54	371	4	123	8	4	1	6	14		531	538.8
17:30	44	1	3					2		50	48.8	356	4	109	5	10	3	2	23		512	518.7
17:45	48		5							53	53	406	3	75	3	5	2	3	23		521	519.4
H/Ttotal	172	1	17	0	0	1		2	0	193	192.8	1545	20	435	18	23	8	12	79	1	2141	2151.7
18:00	31	1	8							40	40	414	8	70	2	4	2	2	15		517	518.2
18:15	38	1	10							49	49	412	5	60	2	3	1	1	18		502	498.1
18:30	42		2					1		45	44.4	430	7	67	13	2	2	1	19		540	539.7
18:45	53	1	7					1		62	61.4	410	8	48	4	2	2	1	14	1	490	488.4
H/Ttotal	164	3	27	0	0	0		2	0	196	194.8	1666	28	245	21	11	7	4	66	1	2049	2044.4
Total	336	4	44	0	0	1	0	4	0	389	387.6	3211	48	680	39	34	15	16	145	2	4190	4196.1

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**



Time	C - A											C - B										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	40		5			1				46	47	52		9	1		4				66	70.5
07:45	60		7			1			1	70	71.2	53	1	9	1		1		2		67	67.3
08:00	47		6			2				56	59	70		5	1		1		1		78	78.9
08:15	33	1	4			3	1			42	46	78		6	1	1	1	1	1		89	92.2
H/Ttotal	180	1	22	0	0	7	3	0	1	214	223.2	253	1	29	4	1	7	1	4	0	300	308.9
08:30	40		4			1		1		47	46.6	73		1	2		1		2		80	81.8
08:45	40		4		1	2			1	48	49.7	55		3		1	2		2		63	65.1
09:00	34			1		1				36	37.5	63		8	1		1				73	74.5
09:15	27		2			2				31	33	39	2	4		1	1				46	47
H/Ttotal	141	0	10	2	0	6	0	1	2	162	166.8	230	2	16	3	1	5	1	4	0	262	268.4
Total	321	1	32	2	0	13	3	1	3	376	390	483	3	45	7	2	12	2	8	0	562	577.3

Time	C - A											C - B										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	55		3					1		59	58.4	37		4			1				42	43
17:15	60		3			3		2		68	69.8	25		4					2		31	29.8
17:30	62		6			2				70	72	30		1							31	31
17:45	54		1			1				56	57	27		1			3		1		32	34.4
H/Ttotal	231	0	13	0	0	6	0	3	0	253	257.2	119	0	10	0		4	0	3	0	136	138.2
18:00	60		3			2	1	2		68	69.8	47		2			1		1		51	51.4
18:15	53		4			1			1	59	59.2	48		4			1				53	54
18:30	44		2			2		1	1	50	50.6	39		2			2				43	45
18:45	52		1			1		2		56	55.8	38		2	1		1			1	43	43.7
H/Ttotal	209	0	10	0	0	6	1	5	2	233	235.4	172	0	10	1	0	5	0	1	1	190	194.1
Total	440	0	23	0	0	12	1	8	2	486	492.6	291	0	20	1	0	9	0	4	1	326	332.3

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**



Time	C - C										C - D												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30										0	0	27		7			2					35	36
07:45										0	0	34		1			2			1		38	39.4
08:00										0	0	25		4	2		1					32	34
08:15										0	0	35		2	2		1					40	42
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	121	0	14	4	0	4	1	1	1	0	145	151.4
08:30										0	0	36		6	1		1					44	45.5
08:45						1				1	1	28		5	1		2		1			37	38.9
09:00										0	0	29		5			1	1				36	38
09:15										0	0	25		5	2	1	1					34	37.3
H/Ttotal	0	0	0	0	0	1	0	0	0	1	1	118	0	21	4	1	5	1	1	1	0	151	159.7
Total	0	0	0	0	0	1	0	0	0	1	2	239	0	35	8	1	9	2	2	2	0	296	311.1

Time	C - C										C - D												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
17:00										0	0	50		7			2					61	63.2
17:15										0	0	52		2		1	1		1			57	60.3
17:30										0	0	46		3			1					50	51
17:45										0	0	54		6			1					61	62
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	202	0	18	0	1	5	2	0	1	1	229	236.5
18:00										0	0	60		7			2					69	71
18:15										0	0	46		6			2					54	56
18:30										0	0	45		2			1					48	49
18:45										0	0	36		6					1			43	42.4
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	187	0	21	0	0	5	0	1	1	0	214	218.4
Total	0	0	0	0	0	0	0	0	0	0	0	389	0	39	0	1	10	2	1	1	443	454.9	

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**



Time	D - A										D - B										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL
07:30	1		1						2	2	333	8	130	15	11	2	3	27		530	539.8
07:45	2		2						4	4	331	5	102	17	9	3	1	26		494	502.6
08:00	7		2						9	9	309	1	70	16	9	2	1	15		424	436.9
08:15	3								3	3	351		72	15	7	1	5	17		469	480.6
H/T/total	13	0	5	0	0	0	0	0	18	18	1324	14	374	63	36	8	10	85		1917	1959.9
08:30	1								1	1	303	1	74	4	13	1	3	24		425	431.9
08:45									0	0	304	4	90	12	9	2	3	4		428	448.3
09:00	2		1						3	3	305		93	12	6	3	3	9		428	439.4
09:15	4		3						7	7	285		71	8	8	3	5	9		389	406
H/T/total	7	0	4	0	0	0	0	0	11	11	1197	5	328	36	36	6	14	46		1670	1725.6
Total	20	0	9	0	0	0	0	0	29	29	2521	19	702	99	72	14	24	131	5	3587	3685.5

Time	D - A										D - B										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL
17:00	4								4	4	349	3	45	2	5	2	2	5		413	421.5
17:15	1								1	1	366	5	29	6	2	2	2	10		421	421.8
17:30	2								2	2	381	2	26	3	6	2	2	1		421	431.7
17:45	3		1						4	4	365	3	29	2	2	2	3	8		412	413.2
H/T/total	10	0	1	0	0	0	0	0	11	11	1461	13	129	13	13	8	5	24		1667	1688.2
18:00			2		1				3	3.5	334	2	30	3	2	3	1	7		382	385.9
18:15	2		1						3	3	336	1	32	3	3	2	1	5		383	388.4
18:30	2								2	2	380	2	28	5	3	3	5	5		426	432.4
18:45	1								1	1	362	1	39	7	2	1	1	7		420	423.9
H/T/total	5	0	3	1	0	0	0	0	9	9.5	1412	6	129	18	10	9	3	24		1611	1630.6
Total	15	0	4	1	0	0	0	0	20	20.5	2873	19	258	31	23	17	8	48	1	3278	3318.8

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**



Time	D - C										D - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	23		6	1		1				31	32.5	2		1							3	3
07:45	20		12	2		2	1			37	41	4		1							5	5
08:00	26		5	3		1				35	37.5	6									6	6
08:15	36		7	1		1		1		46	46.9	4									4	4
H/Ttotal	105	0	30	7	0	5	1	1	0	149	157.9	16	0	2	0	0	0	0	0	0	18	18
08:30	21		5	1		1	1			29	31.5	8		1							9	9
08:45	28		4	1		2				36	39.8	4		1							5	5
09:00	31		5	1		1	1			39	41.5	4		1							5	5
09:15	28		1			1		2		33	34.1	3									3	3
H/Ttotal	108	0	15	3	2	5	2	2	0	137	146.9	19	0	3	0	0	0	0	0	0	22	22
Total	213	0	45	10	2	10	3	3	0	286	304.8	35	0	5	0	0	0	0	0	0	40	40

Time	D - C										D - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	17					1				18	19	2									2	2
17:15	13		2			2				17	19										0	0
17:30	18		3			1				22	23	5									5	5
17:45	24		3			2	1			30	33	5									5	5
H/Ttotal	72	0	8	0	0	6	1	0	0	87	94	12	0	0	0	0	0	0	0	0	12	12
18:00	24		2			2				28	30	4									4	4
18:15	21		2			1				24	25	3									3	3
18:30	27		2	1		1				31	32.5	5									5	5
18:45	36		3			1				40	41	5									5	5
H/Ttotal	108	0	9	1	0	5	0	0	0	123	128.5	17	0	0	0	0	0	0	0	0	17	17
Total	180	0	17	1	0	11	1	0	0	210	222.5	29	0	0	0	0	0	0	0	0	29	29

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**



Time	From A											To A										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
07:30	113	1	24	1	0	6	1	1	1	148	154.1	65	0	11	0	0	1	0	0	77	78	
07:45	121	0	18	1	0	4	1	1	1	147	151.1	95	0	13	0	0	1	1	2	113	113	
08:00	155	1	9	1	0	3	0	0	1	170	172.7	93	0	12	0	1	2	1	1	110	113.7	
08:15	122	0	12	1	0	3	0	0	0	138	141.5	61	1	8	0	0	3	1	0	74	78	
H/T/total	511	2	63	4	0	16	2	2	3	603	619.4	314	1	44	0	1	7	3	3	374	382.7	
08:30	119	0	13	1	0	2	0	1	0	136	137.9	68	0	13	0	0	1	0	1	84	83.6	
08:45	129	1	13	1	1	3	0	2	2	152	154	62	0	11	1	0	2	0	0	77	78.7	
09:00	114	1	7	0	0	3	1	0	0	126	130	63	0	3	1	0	1	0	0	68	69.5	
09:15	134	0	9	1	0	2	1	1	0	148	150.9	56	0	9	0	0	2	0	0	67	69	
H/T/total	496	2	42	3	1	10	2	4	2	562	572.8	249	0	36	2	0	6	0	1	296	300.8	
Total	1007	4	105	7	1	26	4	6	5	1165	1192.2	563	1	80	2	1	13	3	4	670	683.5	

Time	From A											To A										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
17:00	136	0	16	1	0	3	1	2	0	159	162.3	94	0	9	0	0	0	0	1	104	103.4	
17:15	121	1	13	0	0	4	0	3	0	142	144.2	109	0	8	0	0	3	0	2	122	123.8	
17:30	117	1	14	0	0	3	0	1	1	137	138.6	96	1	9	0	0	2	0	0	108	110	
17:45	133	1	9	0	0	2	0	2	0	147	147.8	104	0	12	0	0	1	0	0	117	118	
H/T/total	507	3	52	1	0	12	1	8	1	585	592.9	403	1	38	0	0	6	0	3	451	455.2	
18:00	134	0	8	0	0	3	0	0	1	146	148.2	116	0	7	0	0	2	1	2	129	131.3	
18:15	150	0	6	1	0	3	0	2	1	163	164.5	111	1	7	0	0	1	0	2	123	122	
18:30	134	0	9	0	0	3	0	2	0	148	149.8	88	1	6	0	0	2	0	1	99	99.6	
18:45	104	1	4	0	0	3	0	1	0	113	115.4	107	1	4	0	0	1	0	2	115	114.8	
H/T/total	522	1	27	1	0	12	0	5	2	570	577.9	422	3	24	0	0	6	1	7	466	467.7	
Total	1029	4	79	2	0	24	1	13	3	1155	1170.8	825	4	62	1	0	12	1	10	917	922.9	

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**



Time	From B										To B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	386	2	70	12	4	0	2	12	0	488	494	448	9	154	18	13	6	3	28	1	680	697.3
07:45	317	0	47	8	4	1	10	7	0	394	410	441	6	121	18	10	4	1	29	1	631	639.8
08:00	461	0	59	2	8	3	9	11	0	553	569.8	444	2	84	17	9	3	1	16	2	578	591
08:15	420	0	58	9	4	3	0	2	0	496	507.5	487	0	88	18	8	2	6	18	1	628	643.8
H/Ttotal	1584	2	234	31	20	7	21	32	0	1931	1981.3	1820	17	447	71	40	15	11	91	5	2517	2571.9
08:30	390	1	50	13	5	2	1	5	0	467	480	418	1	80	7	13	2	4	26	2	553	562.2
08:45	318	3	60	14	4	2	3	7	0	411	424	408	5	100	13	11	4	3	7	2	553	575
09:00	272	0	71	12	12	1	2	2	0	372	395.4	414	0	104	13	9	1	3	9	0	553	569.8
09:15	307	0	74	13	10	2	0	2	0	408	428.3	386	2	81	9	9	4	5	10	0	506	525.2
H/Ttotal	1287	4	255	52	31	7	6	16	0	1658	1727.7	1626	8	365	42	42	11	15	52	4	2165	2232.2
Total	2871	6	489	83	51	14	27	48	0	3589	3709	3446	25	812	113	82	26	26	143	9	4682	4804.1

Time	From B										To B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	480	9	139	2	4	2	1	19	0	656	653.8	448	3	57	3	5	3	2	6	0	527	536.4
17:15	468	4	132	8	4	2	6	14	0	638	646.8	442	6	39	6	2	2	0	15	1	513	510.8
17:30	433	6	116	5	10	3	2	25	0	600	605.5	459	3	31	3	6	2	0	2	1	507	516.3
17:45	501	3	90	3	5	2	3	23	1	631	629.4	451	4	35	2	0	5	3	11	0	511	513.4
H/Ttotal	1882	22	477	18	23	9	12	81	1	2525	2535.5	1800	16	162	14	13	12	5	34	2	2058	2076.9
18:00	503	9	80	2	4	2	2	15	0	617	618.2	445	2	37	3	2	4	1	8	0	502	506.3
18:15	504	7	72	2	3	1	1	20	0	610	604.9	458	1	39	3	3	3	1	6	0	514	519.8
18:30	516	8	73	13	2	2	0	20	0	634	633.1	474	2	35	5	3	5	0	7	0	531	538.2
18:45	518	10	58	4	2	2	1	15	1	611	608.8	441	1	43	8	2	2	1	8	1	507	511
H/Ttotal	2041	34	283	21	11	7	4	70	1	2472	2465	1818	6	154	19	10	14	3	29	1	2054	2075.3
Total	3923	56	760	39	34	16	16	151	2	4997	5000.5	3618	22	316	33	23	26	8	63	3	4112	4152.2

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**



Time	From C										To C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
07:30	119	0	21	1	0	5	1	0	0	147	153.5	81	0	22	3	0	7	1	0	1	115	123.7
07:45	147	1	17	1	0	4	1	1	1	175	177.9	90	0	19	4	0	6	3	2	0	124	133.8
08:00	142	0	15	3	0	4	1	0	0	166	171.9	131	0	11	4	1	4	0	0	151	158.3	
08:15	146	1	12	3	1	5	1	0	0	171	180.2	121	0	15	3	0	5	0	1	145	150.9	
H/Ttotal	554	2	65	8	1	18	5	1	1	659	683.5	423	0	67	14	1	22	4	3	535	566.7	
08:30	149	0	11	3	0	3	1	1	1	171	173.9	128	0	16	3	0	3	2	3	155	159.7	
08:45	126	0	12	2	1	7	0	1	1	149	155.7	133	0	14	1	1	6	1	1	157	165.2	
09:00	126	0	13	2	0	3	1	0	0	145	150	132	0	13	2	0	4	2	1	154	160.4	
09:15	91	2	11	2	1	4	0	0	0	111	117.3	115	0	8	1	1	3	1	2	131	135.6	
H/Ttotal	489	2	47	9	2	17	2	2	2	576	596.9	508	0	51	7	2	16	6	7	597	620.9	
Total	1043	4	112	17	3	35	7	11	3	1235	1280.4	931	0	118	21	3	38	10	10	1132	1187.6	

Time	From C										To C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
17:00	142	0	14	0	0	3	1	1	1	162	164.6	104	0	11	0	0	4	1	0	0	120	125
17:15	137	0	9	0	1	4	1	4	0	156	159.9	113	0	9	0	0	7	0	0	0	129	136
17:30	138	0	10	0	0	3	0	0	0	151	154	112	1	14	0	0	4	0	2	133	135.8	
17:45	135	0	8	0	0	5	0	1	0	149	153.4	132	0	10	0	0	4	1	0	147	152	
H/Ttotal	552	0	41	0	1	15	2	6	1	618	631.9	461	1	44	0	0	19	2	2	529	548.8	
18:00	167	0	12	0	0	5	1	3	0	188	192.2	112	1	12	0	0	5	0	0	131	135.2	
18:15	147	0	14	0	0	4	0	0	1	166	169.2	115	1	15	1	0	4	0	1	138	141.1	
18:30	128	0	6	0	0	5	0	1	1	141	144.6	133	0	7	1	0	4	0	1	146	149.9	
18:45	126	0	9	1	0	2	0	3	1	142	141.9	135	2	11	0	4	0	1	153	156.4		
H/Ttotal	568	0	41	1	0	16	1	7	3	637	647.9	495	4	45	2	0	17	0	3	568	582.6	
Total	1120	0	82	1	1	31	3	13	4	1255	1279.8	956	5	89	2	0	36	2	5	1097	1131.4	

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**



Time	From D											To D										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	359	8	138	16	11	3	3	27	1	566	577.3	383	2	66	9	2	0	3	12	0	477	479.9
07:45	357	5	117	19	9	5	2	26	0	540	552.6	316	0	46	7	3	3	9	4	0	388	405
08:00	348	1	77	19	9	3	1	15	1	474	489.4	438	0	53	4	6	4	9	10	0	524	540.8
08:15	394	0	79	16	7	2	5	18	1	522	534.5	413	0	50	8	4	3	0	2	0	480	491
H/T/total	1458	14	411	70	36	13	11	86	3	2102	2153.8	1550	2	215	28	15	10	21	28	0	1869	1916.7
08:30	333	1	80	5	13	2	4	24	2	464	473.4	377	1	45	12	5	3	0	3	0	446	459.7
08:45	336	4	95	13	10	4	3	4	0	469	493.1	303	3	55	15	4	4	2	8	0	394	407.9
09:00	342	0	100	13	6	1	4	9	0	475	488.9	245	1	71	11	9	2	3	1	0	343	364.6
09:15	320	0	75	8	9	4	5	11	0	432	450.1	295	0	71	14	10	3	0	2	0	395	416.8
H/T/total	1331	5	350	39	38	11	16	48	2	1840	1905.5	1220	5	242	52	28	12	5	14	0	1578	1649
Total	2789	19	761	109	74	24	27	134	5	3942	4059.3	2770	7	457	80	43	22	26	42	0	3447	3565.7

Time	From D											To D										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	372	3	45	2	5	3	2	5	0	437	446.5	484	9	137	2	4	4	2	20	1	663	662.4
17:15	380	5	31	6	2	4	0	10	1	439	441.8	442	4	129	8	5	2	7	14	0	611	622.1
17:30	406	2	29	3	6	3	0	1	0	450	461.7	427	4	115	5	10	4	2	23	0	590	597.7
17:45	397	3	33	2	0	4	4	8	0	451	455.2	479	3	83	3	5	3	3	23	1	603	602.4
H/T/total	1555	13	138	13	13	14	6	24	1	1777	1805.2	1832	20	464	18	24	13	14	80	2	2467	2484.6
18:00	362	2	34	4	2	5	1	7	0	417	423.4	493	8	78	2	4	4	2	15	0	606	609.2
18:15	362	1	35	3	3	3	1	5	0	413	419.4	479	5	66	2	3	3	1	18	0	577	575.1
18:30	414	2	30	6	3	4	0	5	0	464	471.9	497	7	70	13	2	3	0	19	0	611	611.7
18:45	404	1	42	7	2	2	1	7	0	466	470.9	469	8	55	4	2	2	1	15	1	557	554.8
H/T/total	1542	6	141	20	10	14	3	24	0	1760	1785.6	1938	28	269	21	11	12	4	67	1	2351	2350.8
Total	3097	19	279	33	23	28	9	48	1	3537	3590.8	3770	48	733	39	35	25	18	147	3	4818	4835.4

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **4**
 Location: **A1/ Lawrence Street / The Broadway / Watford Way**
 Date: **16 June 2016, Thursday**

Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)		
07:30	977	11	253	30	15	14	7	40	2	1349	1378.9		
07:45	942	6	199	29	13	14	14	37	2	1256	1291.6		
08:00	1106	2	160	25	17	13	11	27	2	1363	1403.8		
08:15	1082	1	161	29	12	13	7	21	1	1327	1363.7		
H/Ttotal	4107	20	773	113	57	54	39	125	7	5295	5438		
08:30	991	2	154	22	18	9	6	33	3	1238	1265.2		
08:45	906	8	180	30	16	16	6	16	3	1181	1226.8		
09:00	854	1	191	27	18	8	8	11	0	1118	1164.3		
09:15	852	2	169	24	20	12	6	14	0	1099	1146.6		
H/Ttotal	3603	13	694	103	72	45	26	74	6	4636	4802.9		
Total	7710	33	1467	216	129	99	65	199	13	9931	10241		

Peak Hours	Totals
07:30 08:30	5295
07:45 08:45	5184
08:00 09:00	5109
08:15 09:15	4864

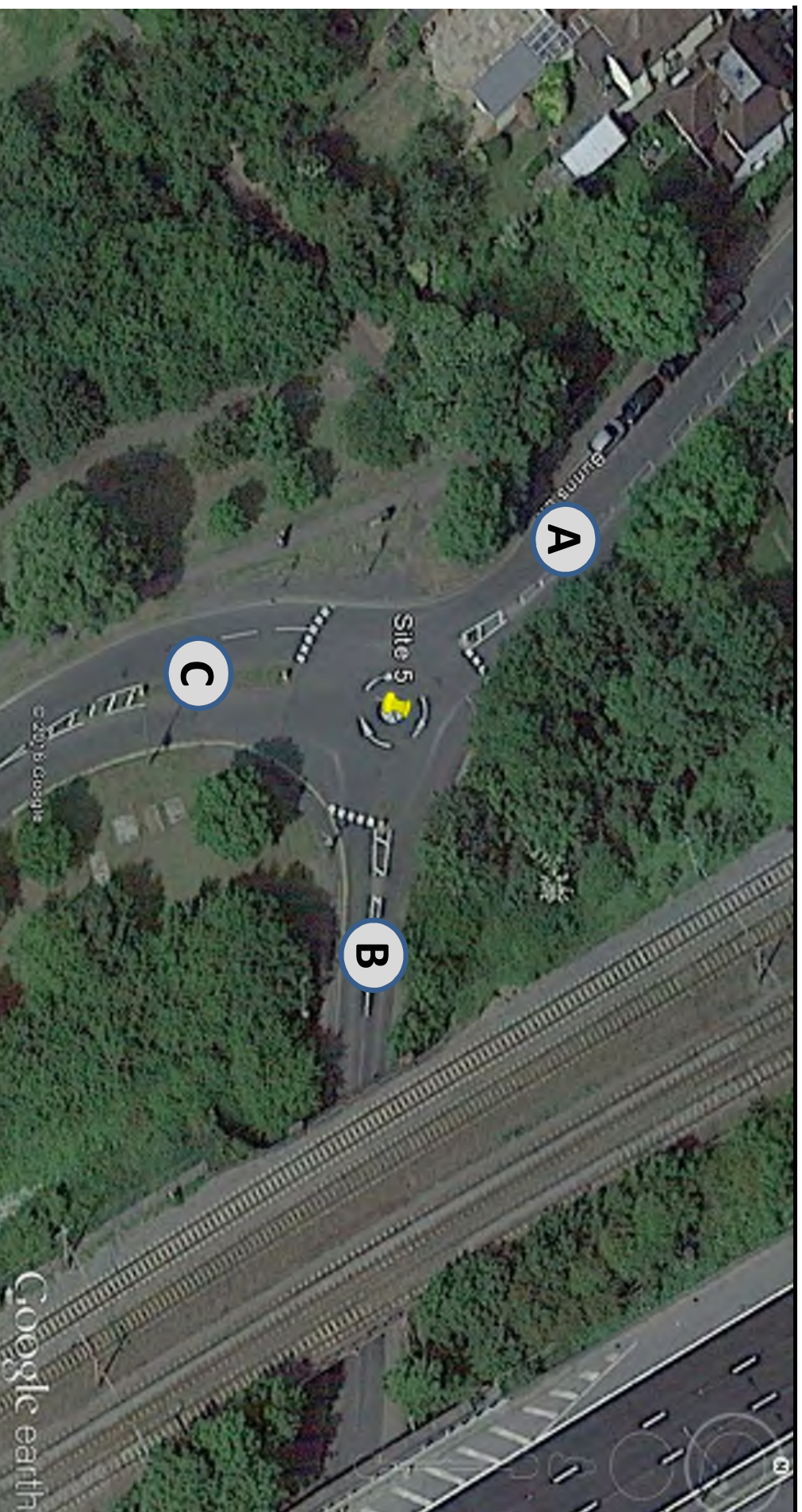
Peak Hours	Totals
08:30 09:30	4636

Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)		
17:00	1130	12	214	5	9	11	5	27	1	1414	1427.2		
17:15	1106	10	185	14	7	14	7	31	1	1375	1392.7		
17:30	1094	9	169	8	16	12	2	27	1	1338	1359.8		
17:45	1166	7	140	5	5	13	7	34	1	1378	1385.8		
H/Ttotal	4496	38	708	32	37	50	21	119	4	5505	5565.5		
18:00	1166	11	134	6	6	15	4	25	1	1368	1382		
18:15	1163	8	127	6	6	11	2	27	2	1352	1358		
18:30	1192	10	118	19	5	14	0	28	1	1387	1399.4		
18:45	1152	12	113	12	4	9	2	26	2	1332	1337		
H/Ttotal	4673	41	492	43	21	49	8	106	6	5439	5476.4		
Total	9169	79	1200	75	58	99	29	225	10	10944	11042		

Peak Hours	Totals
17:00 18:00	5505
17:15 18:15	5459
17:30 18:30	5436
17:45 18:45	5485

Peak Hours	Totals
18:00 19:00	5439

Project Number: TSP12743
Project Name: Pentavia Retail Park, Mill Hill
Survey Type: Manual Classified Traffic Count
Site No: 5
Location: Bunns Lane / Grahame Park Way



Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site NO: **5**
 Location: **Bunns Lane / Graham Park Way**
 Date: **16 June 2016, Thursday**



Time	A - A										A - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30										1	1	155		29						1	4	189	185.2
07:45			1							0	0	155		17						1	1	173	172.2
08:00										0	0	154		9			1	1	1	1	1	166	167.4
08:15										0	0	118		16					1	1	1	136	134.6
H/T/total	0	0	1	0	0	0	0	0	0	1	1	582	0	71	0	0	1	1	3	6	6	664	659.4
08:30						1				1	2	115		13	1				1	1	2	130	129.9
08:45										0	0	97	1	13					1	1	1	113	111.6
09:00	1									1	1	102		17	1			1			1	121	122.5
09:15										0	0	96	1	8	2	1					1	108	110.3
H/T/total	1	0	0	0	0	1	0	0	0	2	3	410	2	51	4	1	0	1	2	1	1	472	474.3
Total	1	0	1	0	0	1	0	0	0	3	4	992	2	122	4	1	1	2	5	7	7	1136	1133.7

Time	A - A										A - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
17:00										0	0	116	1	9					2	2	2	130	127.2
17:15										0	0	113	1	13	1			2	1	2	2	133	133.3
17:30										0	0	148		10					2	1	1	161	159
17:45										0	0	157		10	1				2	1	1	169	168.7
H/T/total	0	0	0	0	0	0	0	0	0	0	0	534	2	42	2	0	0	2	5	6	6	593	588.2
18:00	1									1	1	152	1	5					2	2	2	162	159.2
18:15										0	0	128		9					1	1	1	137	137
18:30	1									1	1	116		7					1	1	1	124	123.4
18:45										0	0	96		8					3	1	1	105	104.2
H/T/total	2	0	0	0	0	0	0	0	0	2	2	492	1	29	0	0	0	0	3	3	3	528	523.8
Total	2	0	0	0	0	0	0	0	0	2	2	1026	3	71	2	0	0	2	8	9	9	1121	1112

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site NO: **5**
 Location: **Bunns Lane / Graham Park Way**
 Date: **16 June 2016, Thursday**



Time	A - C										B - A											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	86		13	3	1	1	1	2	3	110	111.2	86		11				5	2	1	105	108
07:45	69	1	10	2			1	4	1	87	86.6	135		15	1				2	2	153	151.9
08:00	57		5	2		1		1	1	67	67.6	162		15					2	1	180	178
08:15	57		7	3	1	1		1	1	71	73.4	141		13					1	1	155	154.4
H/Ttotal	269	1	35	10	2	3	2	8	5	335	338.8	524	0	54	1	0	0	5	5	4	593	592.3
08:30	55		6	1		1	1	1	1	66	67.1	125	1	10						1	137	136.2
08:45	69		10	3	1		1	1	1	84	86.2	126		11	1				1	1	138	138.5
09:00	79		11			1	3	1	1	96	98.6	102		6	1				1	1	111	110.1
09:15	78		6					3	1	87	85.2	98		10				2		1	110	112
H/Ttotal	281	0	33	4	1	2	4	6	2	333	337.1	451	1	37	2	0	0	2	1	2	496	496.8
Total	550	1	68	14	3	5	6	14	7	668	675.9	975	1	91	3	0	0	7	6	6	1089	1089.1

Time	A - C										B - A											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	54		8			1				63	64	114		11				1	2		128	127.8
17:15	60		3			1		1		65	65.4	119	1	18	1			1	2		142	142.3
17:30	58		6			1	1		1	67	68.2	94		6					1	1	101	100.4
17:45	69		5			1		1	1	77	76.6	126		10					2	1	139	137
H/Ttotal	241	0	22	0	0	4	1	2	2	272	274.2	453	1	45	1	0	0	2	7	1	510	507.5
18:00	68		4			1		2	1	76	75	126		10					1	1	138	136.6
18:15	68	1		1		1		1		72	72.9	102	1	16					2		121	119.8
18:30	88		2			1		1		92	92.4	104		12					2		118	116.8
18:45	62		6			1		1		70	70.4	116		10					1		127	126.4
H/Ttotal	286	1	12	1	0	4	0	5	1	310	310.7	448	1	48	0	0	0	0	6	1	504	499.6
Total	527	1	34	1	0	8	1	7	3	582	584.9	901	2	93	1	0	0	2	13	2	1014	1007.1

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site NO: **5**
 Location: **Bunns Lane / Graham Park Way**
 Date: **16 June 2016, Thursday**



Time	B - B										B - C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30									0	0	33										38	38
07:45									0	0	36			5							43	43
08:00									0	0	47			7							52	51.2
08:15									0	0	60			4						1	65	63.6
H/Ttotal	0	0	0	0	0	0	0	0	0	0	176	0	19	0	0	0	0	0	1	2	198	195.8
08:30									0	0	49			5							55	54.2
08:45									0	0	58			4				2			64	66
09:00									0	0	52			4	1					1	58.5	58.5
09:15									0	0	32			7							39	39
H/Ttotal	0	0	0	0	0	0	0	0	0	0	191	0	20	0	1	0	0	2	0	2	216	217.7
Total	0	0	0	0	0	0	0	0	0	0	367	0	39	0	1	0	0	2	1	4	414	413.5

Time	B - B										B - C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00									0	0	29	1						1			32	32.2
17:15									0	0	28										28	28
17:30	2								2	2	23		2							1	26	25.2
17:45									0	0	24		1						1		26	25.4
H/Ttotal	2	0	0	0	0	0	0	0	2	2	104	1	3	0	0	0	0	1	1	2	112	110.8
18:00	1								1	1	32		3						1		36	35.4
18:15									0	0	23		3								26	26
18:30									0	0	23		1						1		26	24.6
18:45									0	0	33		2								35	35
H/Ttotal	1	0	0	0	0	0	0	0	1	1	111	0	9	0	0	0	0	0	2	1	123	121
Total	3	0	0	0	0	0	0	0	3	3	215	1	12	0	0	0	0	1	3	3	235	231.8

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site NO: **5**
 Location: **Bunns Lane / Graham Park Way**
 Date: **16 June 2016, Thursday**



Time	C - A										C - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	38		6			2		1		47	48.4	37	1	3							41	41
07:45	46		3			2		1	1	53	53.6	49		6					1		56	55.4
08:00	58		2	2	2	1				65	69.6	52		4							56	56
08:15	50	1	6	2	1	1				61	64.3	61		5	1			1			69	69.7
H/T/total	192	1	17	4	3	6	0	2	1	226	235.9	199	1	18	1	0	0	1	1	1	222	222.1
08:30	57		5			1		1		64	64.4	54		2		1		1			58	60.3
08:45	58	1	6			1				65	65	51		3					1	2	57	54.8
09:00	44		4	1	1	2				52	55.8	30		3				1			34	35
09:15	41		7	2	1	1		8		62	62.5	19		6							25	25
H/T/total	200	1	22	3	2	4	2	9	0	243	247.7	154	0	14	0	1	0	2	1	2	174	175.1
Total	392	2	39	7	5	10	2	11	1	469	483.6	353	1	32	1	1	0	3	2	3	396	397.2

Time	C - A										C - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	70		5			1		2	2	80	78.2	59		2							61	61
17:15	48	1	3	1		1		1	1	55	55.9	48		2							50	50
17:30	58		8			1		1	1	69	68.6	46		4					1		51	50.4
17:45	60		3			1		2		66	65.4	42		7							50	49.2
H/T/total	236	1	19	1	0	4	0	4	5	270	268.1	195	0	15	0	0	0	0	1	1	212	210.6
18:00	63	1	7			1		1	1	74	73.6	52		6					1		59	58.4
18:15	79		5			1		1	1	87	86.6	45		4							49	49
18:30	67		3			1		2	1	74	73	32									32	32
18:45	74		3			1				78	79	34		1					1	1	37	35.6
H/T/total	283	1	18	0	0	4	0	4	3	313	312.2	163	0	11	0	0	0	0	2	1	177	175
Total	519	2	37	1	0	8	0	8	8	583	580.3	358	0	26	0	0	0	0	3	2	389	385.6

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **5**
 Location: **Bunns Lane / Graham Park Way**
 Date: **16 June 2016, Thursday**

Time	C - C										TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL		
07:30				1							1	1.5
07:45											0	0
08:00	1										1	1
08:15	1										1	1
H/Ttotal	2	0	0	1	0	0	0	0	0	0	3	3.5
08:30	12										12	12
08:45	4										4	4
09:00	1										1	1
09:15	1										1	1
H/Ttotal	18	0	0	0	0	0	0	0	0	0	18	18
Total	20	0	0	1	0	0	0	0	0	0	21	21.5

Time	C - C										TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL		
17:00								1			1	0.4
17:15											0	0
17:30											0	0
17:45	1										1	1
H/Ttotal	1	0	0	0	0	0	0	1	0	0	2	1.4
18:00											0	0
18:15											0	0
18:30											0	0
18:45											0	0
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	1	0	0	2	1.4

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **5**
 Location: **Bunns Lane / Graham Park Way**
 Date: **16 June 2016, Thursday**



Time	From A											To A										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)
07:30	241	0	43	3	1	1	1	3	7	300	297.4	124	0	18	0	0	2	5	3	1	153	157.4
07:45	224	1	27	2	0	0	1	4	1	260	258.8	181	0	18	1	0	2	0	1	3	206	205.5
08:00	211	0	14	2	0	2	1	2	1	233	235	220	0	17	2	2	1	0	2	1	245	247.6
08:15	175	0	23	3	1	1	0	2	2	207	208	191	1	19	1	1	1	0	1	0	216	218.7
H/Total	851	1	107	10	2	4	3	11	11	1000	999.2	716	1	72	5	3	6	5	7	5	820	829.2
08:30	170	0	19	2	0	2	1	2	1	197	199	182	1	15	0	0	2	0	1	1	202	202.6
08:45	166	1	23	3	1	1	0	2	1	197	197.8	184	1	17	1	0	0	0	0	1	203	203.5
09:00	182	0	28	1	0	0	4	1	1	218	222.1	147	0	10	2	1	2	0	1	1	164	166.9
09:15	174	1	14	2	1	0	0	3	0	195	195.5	139	0	17	2	1	1	4	8	0	172	174.5
H/Total	692	2	84	8	2	3	5	8	3	807	814.4	652	2	59	5	2	5	4	10	2	741	747.5
Total	1543	3	191	18	4	7	8	19	14	1807	1813.6	1368	3	131	10	5	11	9	17	7	1561	1576.7

Time	From A											To A										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)
17:00	170	1	17	0	0	1	0	2	2	193	191.2	184	0	16	0	0	1	1	4	2	208	206
17:15	173	1	16	1	0	1	2	2	2	198	198.7	167	2	21	2	0	1	1	3	3	197	198.2
17:30	206	0	16	0	0	1	1	2	2	228	227.2	152	0	14	0	0	1	0	2	2	170	169
17:45	226	0	15	1	0	1	0	1	2	246	245.3	186	0	13	0	0	1	0	2	3	205	202.4
H/Total	775	2	64	2	0	4	3	7	8	865	862.4	689	2	64	2	0	4	2	11	6	780	775.6
18:00	221	1	9	0	0	1	0	4	3	239	235.2	190	1	17	0	0	1	0	2	2	213	211.2
18:15	196	1	9	1	0	1	0	1	0	209	209.9	181	1	21	0	0	1	0	3	1	208	206.4
18:30	205	0	9	0	0	1	0	2	0	217	216.8	172	0	15	0	0	1	0	4	1	193	190.8
18:45	158	0	14	0	0	1	0	1	1	175	174.6	190	0	13	0	0	1	0	1	0	205	205.4
H/Total	780	2	41	1	0	4	0	8	4	840	836.5	733	2	66	0	0	4	0	10	4	819	813.8
Total	1555	4	105	3	0	8	3	15	12	1705	1698.9	1422	4	130	2	0	8	2	21	10	1599	1589.4

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site NO: **5**
 Location: **Bunns Lane / Graham Park Way**
 Date: **16 June 2016, Thursday**



Time	From B										To B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	119	0	16	0	0	0	5	2	1	143	146	192	1	32	0	0	0	0	1	4	230	226.2
07:45	171	0	22	1	0	0	0	0	2	196	194.9	204	0	23	0	0	0	0	1	1	229	227.6
08:00	209	0	19	0	0	0	0	2	2	232	229.2	206	0	13	0	0	1	1	1	0	222	223.4
08:15	201	0	16	0	0	0	0	2	1	220	218	179	0	21	1	0	0	1	1	2	205	204.3
H/Ttotal	700	0	73	1	0	0	5	6	6	791	788.1	781	1	89	1	0	1	2	4	7	886	881.5
08:30	174	1	15	0	0	0	0	0	2	192	190.4	169	0	15	1	1	0	1	1	0	188	190.2
08:45	184	0	15	1	0	0	2	0	0	202	204.5	148	1	16	0	0	0	2	2	3	170	166.4
09:00	154	0	10	1	1	0	0	1	2	169	168.6	132	0	20	1	0	0	2	0	0	155	157.5
09:15	130	0	17	0	0	0	2	0	0	149	151	115	1	14	2	1	0	0	0	0	133	135.3
H/Ttotal	642	1	57	2	1	0	4	1	4	712	714.5	564	2	65	4	2	0	3	3	3	646	649.4
Total	1342	1	130	3	1	0	9	7	10	1503	1502.6	1345	3	154	5	2	1	5	7	10	1532	1530.9

Time	From B										To B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	143	1	11	0	0	0	2	2	1	160	160	175	1	11	0	0	0	0	2	2	191	188.2
17:15	147	1	18	1	0	0	1	2	0	170	170.3	161	1	15	1	0	0	2	1	2	183	183.3
17:30	119	0	8	0	0	0	0	1	1	129	127.6	196	0	14	0	0	0	0	3	1	214	211.4
17:45	150	0	11	0	0	0	0	3	1	165	162.4	199	0	17	1	0	0	0	0	2	219	217.9
H/Ttotal	559	2	48	1	0	0	3	8	3	624	620.3	731	2	57	2	0	0	2	6	7	807	800.8
18:00	159	0	13	0	0	0	0	2	1	175	173	205	1	11	0	0	0	0	3	2	222	218.6
18:15	125	1	19	0	0	0	0	2	0	147	145.8	173	0	13	0	0	0	0	0	0	186	186
18:30	127	0	13	0	0	0	0	3	1	144	141.4	148	0	7	0	0	0	0	1	0	156	155.4
18:45	149	0	12	0	0	0	0	1	0	162	161.4	130	0	9	0	0	0	0	1	2	142	139.8
H/Ttotal	560	1	57	0	0	0	0	8	2	628	621.6	656	1	40	0	0	0	0	5	4	706	699.8
Total	1119	3	105	1	0	0	3	16	5	1252	1241.9	1387	3	97	2	0	0	2	11	11	1513	1500.6

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site NO: **5**
 Location: **Bunns Lane / Graham Park Way**
 Date: **16 June 2016, Thursday**



Time	From C										To C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
07:30	75	1	9	1	0	2	0	1	0	89	90.9	119	0	18	4	1	1	1	2	3	149	150.7
07:45	95	0	9	0	0	2	0	2	1	109	109	105	1	17	2	0	0	1	4	0	130	129.6
08:00	111	0	6	2	2	1	0	0	0	122	126.6	105	0	9	0	0	1	0	1	120	119.8	
08:15	112	1	11	3	1	1	1	0	1	131	135	118	0	10	3	1	1	0	2	137	138	
H/T/total	393	2	35	6	3	6	1	3	2	451	461.5	447	1	54	11	2	3	2	9	536	538.1	
08:30	123	0	7	0	1	1	1	1	0	134	136.7	116	0	11	1	0	1	1	1	133	133.3	
08:45	113	1	9	0	0	0	0	1	2	126	123.8	131	0	14	3	1	0	2	1	152	156.2	
09:00	75	0	7	1	1	2	1	0	0	87	91.8	132	0	15	0	1	1	3	1	155	158.1	
09:15	61	0	13	2	1	1	2	8	0	88	88.5	111	0	13	0	0	0	0	3	127	125.2	
H/T/total	372	1	36	3	3	4	4	10	2	435	440.8	490	0	53	4	2	2	6	6	567	572.8	
Total	765	3	71	9	6	10	5	13	4	886	902.3	937	1	107	15	4	5	8	15	11	1103	1110.9

Time	From C										To C										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL
17:00	129	0	7	0	0	1	0	3	2	142	139.6	83	1	8	0	0	1	1	1	96	96.6
17:15	96	1	5	1	0	1	0	1	0	105	105.9	88	0	3	0	0	1	0	1	93	93.4
17:30	104	0	12	0	0	1	0	2	1	120	119	81	0	8	0	0	1	1	0	93	93.4
17:45	103	0	10	0	0	1	0	3	1	117	115.6	94	0	6	0	0	1	0	2	104	103
H/T/total	432	1	34	1	0	4	0	6	6	484	480.1	346	1	25	0	0	4	2	4	386	386.4
18:00	115	1	13	0	0	1	0	2	1	133	132	100	0	7	0	0	1	0	3	112	110.4
18:15	124	0	9	0	0	1	0	1	1	136	135.6	91	1	3	1	0	1	0	1	98	98.9
18:30	99	0	3	0	0	1	0	2	1	106	105	111	0	3	0	0	1	0	2	118	117
18:45	108	0	4	0	0	1	0	1	1	115	114.6	95	0	8	0	0	1	0	1	105	105.4
H/T/total	446	1	29	0	0	4	0	6	4	490	487.2	397	1	21	1	0	4	0	7	433	431.7
Total	878	2	63	1	0	8	0	12	10	974	967.3	743	2	46	1	0	8	2	11	819	818.1

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **5**
 Location: **Bunns Lane / Graham Park Way**
 Date: **16 June 2016, Thursday**



Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY				
07:30	435	1	68	4	1	3	6	6	8	532	534.3		
07:45	490	1	58	3	0	2	1	6	4	565	562.7		
08:00	531	0	39	4	2	3	1	4	3	587	590.8		
08:15	488	1	50	6	2	2	1	4	4	558	561		
H/Ttotal	1944	3	215	17	5	10	9	20	19	2242	2248.8		
08:30	467	1	41	2	1	3	2	3	3	523	526.1		
08:45	463	2	47	4	1	0	2	3	3	525	526.1		
09:00	411	0	45	3	2	3	5	2	3	474	482.5		
09:15	365	1	44	4	2	1	4	11	0	432	435		
H/Ttotal	1706	4	177	13	6	7	13	19	9	1954	1969.7		
Total	3650	7	392	30	11	17	22	39	28	4196	4218.5		

Peak Hours	Totals
07:30 08:30	2242
07:45 08:45	2233
08:00 09:00	2193
08:15 09:15	2080

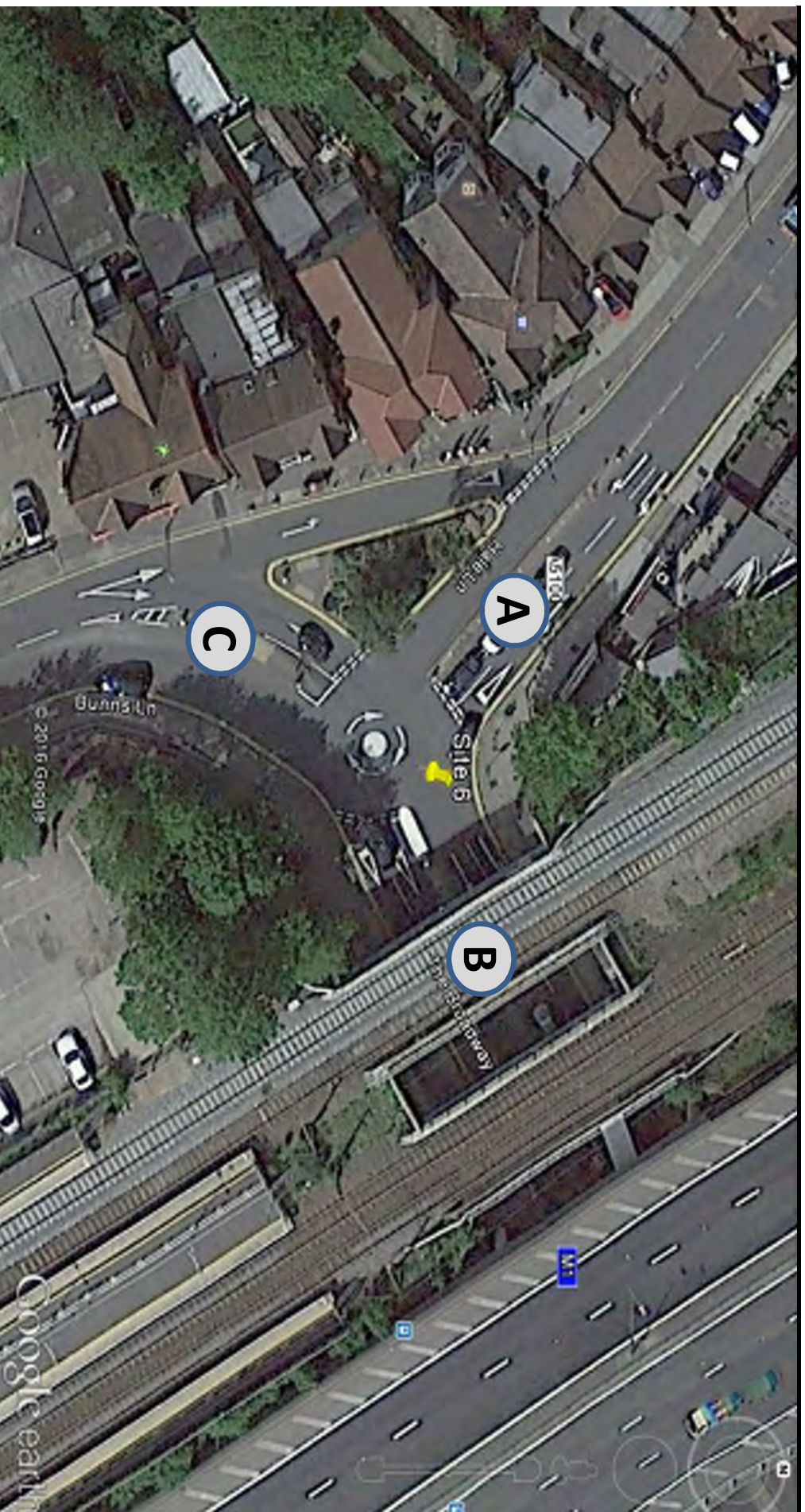
08:30 09:30	1954
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Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY				
17:00	442	2	35	0	0	2	2	7	5	495	490.8		
17:15	416	3	39	3	0	2	3	5	2	473	474.9		
17:30	429	0	36	0	0	2	1	5	4	477	473.8		
17:45	479	0	36	1	0	2	0	4	6	528	523.3		
H/Ttotal	1766	5	146	4	0	8	6	21	17	1973	1962.8		
18:00	495	2	35	0	0	2	0	8	5	547	540.2		
18:15	445	2	37	1	0	2	0	4	1	492	491.3		
18:30	431	0	25	0	0	2	0	7	2	467	463.2		
18:45	415	0	30	0	0	2	0	3	2	452	450.6		
H/Ttotal	1786	4	127	1	0	8	0	22	10	1958	1945.3		
Total	3552	9	273	5	0	16	6	43	27	3931	3908.1		

Peak Hours	Totals
17:00 18:00	1973
17:15 18:15	2025
17:30 18:30	2044
17:45 18:45	2034

18:00 19:00	1958
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Project Number: TSP12743
Project Name: Pentavia Retail Park, Mill Hill
Survey Type: Manual Classified Traffic Count
Site No: 6
Location: Hale Lane / The Broadway / Bunn's Lane



Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **6**
 Location: **Hale Lane / The Broadway / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	A - A										A - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30									0	0	69						5	1	1		86	91.4
07:45									0	73		1			1	3			1		86	89.4
08:00									0	83						3			1		90	92.4
08:15									0	53		1				3					60	63
H/T/total	0	0	0	0	0	0	0	0	0	278		2	21	1	1	14		1	3	1	322	336.2
08:30									0	61			6			2			2		72	73.3
08:45	1								1	85			5	1		2					93	95.5
09:00									0	79		2	9			2				1	93	94.2
09:15	2								2	72		1	5			2					80	82
H/T/total	3	0	0	0	0	0	0	0	3	297		3	25	2	0	8		0	2	1	338	345
Total	3	0	0	0	0	0	0	0	3	575		5	46	3	1	22		1	5	2	660	681.2

Time	A - A										A - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00									0	58			3			4		1	1		68	71.6
17:15									0	60			4			3			3		70	71.2
17:30	1								1	63			8			1			2	1	75	74
17:45									0	60			3			3			4		70	70.6
H/T/total	1	0	0	0	0	0	0	0	1	241		0	18	0	0	11		1	10	2	283	287.4
18:00									0	60			1			3		1	1		66	69.4
18:15	1								1	57			5			3				1	66	68.2
18:30									0	55		1				2					58	60
18:45									0	52			1			2			1	1	57	57.6
H/T/total	1	0	0	0	0	0	0	0	1	224		1	7	0	0	10		1	2	2	247	255.2
Total	2	0	0	0	0	0	0	0	2	465		1	25	0	0	21		2	12	4	530	542.6

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **6**
 Location: **Hale Lane / The Broadway / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	A - C										B - A											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	98	1	13	2	1		1	2	3	121	120.7	28		3	1		9	2		1	44	54.7
07:45	88		5	1			1	3		98	97.7	26	1	4	1		4	4		1	41	48.7
08:00	80		7					88	1	88	87.2	53		2			1	1			57	59
08:15	43		3		1			49	2	49	49.1	45		2			3				50	53
H/T/total	309	1	28	3	2	0	2	356	7	356	354.7	152	1	11	2	0	17	7	0	2	192	215.4
08:30	63		3		2			69	1	69	71	44		5	2		3		1	1	56	58.6
08:45	87		13	2				103	1	103	103.4	44		4			4		1		53	56.4
09:00	96		9				1	107	1	107	107.2	45		3			1			1	50	50.2
09:15	73	1	10	1				89	3	89	86.9	33		2	1		3				39	42.5
H/T/total	319	1	35	3	2	0	1	368	5	368	368.5	166	0	14	3	0	11	0	2	2	198	207.7
Total	628	2	63	6	4	0	3	724	12	724	723.2	318	1	25	5	0	28	7	2	4	390	423.1

Time	A - C										B - A											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	66	1	9					76		76	76	40		3			2				45	47
17:15	71		9					80		80	80	55	1	3			5		2		67	70
17:30	87		8			1	1	97		97	99	57	1	4			3		3		68	69.2
17:45	85		6					92	1	91.2	91.2	63		4	1		1		1		70	70.9
H/T/total	309	1	32	0	0	1	1	345	0	346.2	346.2	215	2	14	1	0	11	0	6	1	250	257.1
18:00	78		6					86	1	84.6	84.6	67	1	2	1		4		2		77	80.3
18:15	84	1	2	1				90		89.3	89.3	60	1	2			2			1	66	67.2
18:30	105		7					112		112	112	56	1	2			3		2		65	66
18:45	60		5					66	1	65.4	65.4	45	2	5	1		4		3		60	62.7
H/T/total	327	1	20	1	0	0	0	354	4	351.3	351.3	228	5	11	2	0	13	0	7	2	268	276.2
Total	636	2	52	1	0	1	1	699	4	697.5	697.5	443	7	25	3	0	24	0	13	3	518	533.3

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **6**
 Location: **Hale Lane / The Broadway / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	B - B										B - C												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30	1									1	1	70		14	1		9				1	95	103.7
07:45										0	0	48		12	2		6		2		1	71	76
08:00	1									1	1	64		4	2	1	9				80	91.3	
08:15										0	0	84		6	2		8				101	109.2	
H/T/total	2	0	0	0	0	0	0	0	0	2	2	266	0	36	7	1	32	0	2	3	347	380.2	
08:30	1									1	1	77		8	3		7		2		98	106.3	
08:45	3									3	3	55		7	2	1	5				70	77.3	
09:00	6									6	6	58		8			10		3	1	80	92.4	
09:15	3									3	3	52		7	1		5				66	72.8	
H/T/total	13	0	0	0	0	0	0	0	0	13	13	242	0	30	6	2	27	4	3	0	314	348.8	
Total	15	0	0	0	0	0	0	0	0	15	15	508	0	66	13	3	59	4	5	3	661	729	

Time	B - B										B - C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	2									2	2	66		7			8		2		83	89.8
17:15	2									2	2	60		6			8				74	82
17:30	3									3	3	66		11			8		1		87	93.6
17:45	3									3	3	79		7		5					92	96.2
H/T/total	10	0	0	0	0	0	0	0	0	10	10	271	0	31	0	29	0	0	3	2	336	361.6
18:00	6		1							7	7	57		6			8		2		73	79.8
18:15	3		1							4	4	63		6			8		2		80	86
18:30	1									1	1	69		2			8		1		81	87.6
18:45	7									7	7	60		7		10			1		78	87.4
H/T/total	17	0	2	0	0	0	0	0	0	19	19	249	0	21	0	34	0	0	6	2	312	340.8
Total	27	0	2	0	0	0	0	0	0	29	29	520	0	52	0	63	0	0	9	4	648	702.4

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **6**
 Location: **Hale Lane / The Broadway / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	C - A										C - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	38		3				1		1	43	43.2	56		15			6				77	83
07:45	48		6				54.8		2	57	54.8	71		9	1		8		1		91	98.1
08:00	41		4	1	2		51.1			48	51.1	51		7	1		7	1			68	75.7
08:15	44		4	1			51.5			50	51.5	67		7	1		9		1		86	96.2
H/T/total	171	0	17	2	2	0	200.6		3	198	200.6	245	0	38	3	1	30	1	2	2	322	353
08:30	49		2				51.4			52	51.4	69		5			9		1		84	92.4
08:45	49	1	7				57			57	57	66		4			7		1		78	84.4
09:00	42		1		1		45.5			45	45.5	42		6	2		6				56	63
09:15	37		9				48			47	48	50		2	2		9		3		67	77.3
H/T/total	177	1	19	0	1	0	201.9		1	201	201.9	227	0	17	3	2	31	0	5	0	285	317.1
Total	348	1	36	2	3	0	402.5		4	399	402.5	472	0	55	6	3	61	1	7	2	607	670.1

Time	C - A										C - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	56		1				58.2			60	58.2	84		8			9				107	111.6
17:15	60	1	4	1			66.5			66	66.5	63		4			8		4		79	84.6
17:30	49		2				51.2		1	52	51.2	72		9			6		1	2	90	93.8
17:45	57		3				60			60	60	70		8			7		1		86	92.4
H/T/total	222	1	10	1	0	0	235.9		1	238	235.9	289	0	29	0	0	30	0	8	6	362	382.4
18:00	85	1	3				89.6			91	89.6	79		9			9				97	106
18:15	59	1	10				70		1	70	70	70		4			7		1		83	88.6
18:30	74		4				78.4			79	78.4	70		6			7		3		87	91.4
18:45	63		2				65			65	65	64		9			8		2		85	90.2
H/T/total	281	2	19	0	0	0	303		1	305	303	283	0	28	0	0	31	0	6	4	352	376.2
Total	503	3	29	1	0	0	538.9		2	543	538.9	572	0	57	0	0	61	0	14	10	714	758.6

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **6**
 Location: **Hale Lane / The Broadway / Bunns Lane**
 Date: **16 June 2016, Thursday**

Time	C - C										TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV			
07:30											0	0
07:45											0	0
08:00											0	0
08:15											0	0
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	0
08:30											0	0
08:45											0	0
09:00				1							1	1.5
09:15											0	0
H/Ttotal	0	0	0	1	0	0	0	0	0	0	1	1.5
Total	0	0	0	1	0	0	0	0	0	0	1	1.5

Time	C - C										TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV			
17:00	1										1	1
17:15											0	0
17:30											0	0
17:45											0	0
H/Ttotal	1	0	0	0	0	0	0	0	0	0	1	1
18:00											0	0
18:15											0	0
18:30											0	0
18:45											0	0
H/Ttotal	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	1	1

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **6**
 Location: **Hale Lane / The Broadway / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	From A										To A											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	167	1	23	2	1	5	2	3	3	207	212.1	66	0	6	1	0	9	3	0	2	87	97.9
07:45	161	1	10	2	1	3	1	4	1	184	187.1	74	1	10	1	0	4	4	1	3	98	103.5
08:00	163	0	10	0	0	3	0	1	1	178	179.6	94	0	6	2	1	1	1	0	0	105	110.1
08:15	96	1	6	0	1	3	0	2	0	109	112.1	89	0	6	1	0	3	1	0	0	100	104.5
H/T/total	587	3	49	4	3	14	3	10	5	678	690.9	323	1	28	4	2	17	9	1	5	390	416
08:30	124	0	9	1	2	2	0	3	0	141	144.3	93	0	7	2	0	3	0	2	1	108	110
08:45	173	0	18	3	0	2	0	1	0	197	199.9	94	1	11	0	0	4	0	1	0	111	114.4
09:00	175	2	18	0	0	2	1	0	2	200	201.4	87	0	4	0	1	1	0	2	2	95	95.7
09:15	147	2	15	1	0	2	0	3	1	171	170.9	72	0	11	1	0	3	1	0	0	88	92.5
H/T/total	619	4	60	5	2	8	1	7	3	709	716.5	346	1	33	3	1	11	1	3	3	402	412.6
Total	1206	7	109	9	5	22	4	17	8	1387	1407.4	669	2	61	7	3	28	10	4	8	792	828.6

Time	From A										To A											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	124	1	12	0	0	4	1	1	1	144	147.6	96	0	4	0	0	2	0	3	0	105	105.2
17:15	131	0	13	0	0	3	0	3	0	150	151.2	115	2	7	1	0	5	0	2	1	133	136.5
17:30	151	0	16	0	0	2	1	2	1	173	174	107	1	6	0	3	1	0	3	1	121	121.4
17:45	145	0	9	0	0	3	0	4	1	162	161.8	120	0	7	1	0	1	0	3	0	130	130.9
H/T/total	551	1	50	0	0	12	2	10	3	629	634.6	438	3	24	2	0	11	0	9	2	489	494
18:00	138	0	7	0	0	3	1	2	1	152	154	152	2	5	1	0	4	0	3	1	168	169.9
18:15	142	1	7	1	0	3	0	2	1	157	158.5	120	2	12	0	2	2	0	0	1	137	138.2
18:30	160	1	7	0	0	2	0	0	0	170	172	130	1	6	0	3	0	3	3	1	144	144.4
18:45	112	0	6	0	0	2	0	2	1	123	123	108	2	7	1	4	0	3	3	0	125	127.7
H/T/total	552	2	27	1	0	10	1	6	3	602	607.5	510	7	30	2	0	13	0	9	3	574	580.2
Total	1103	3	77	1	0	22	3	16	6	1231	1242.1	948	10	54	4	0	24	0	18	5	1063	1074.2

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **6**
 Location: **Hale Lane / The Broadway / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	From B										To B										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL
07:30	99	0	17	2	0	18	2	0	2	140	159.4	126	0	25	0	0	11	1	1	164	175.4
07:45	74	1	16	3	0	10	4	2	2	112	124.7	144	1	14	2	1	11	0	2	177	187.5
08:00	118	0	6	2	1	10	1	0	0	138	151.3	135	0	10	0	0	10	1	1	159	169.1
08:15	129	0	8	2	0	11	0	0	1	151	162.2	120	1	10	1	1	12	0	1	146	159.2
H/T/total	420	1	47	9	1	49	7	2	5	541	597.6	525	2	59	4	2	44	2	5	646	691.2
08:30	122	0	13	5	0	10	1	3	1	155	165.9	131	0	11	0	0	11	0	3	157	166.7
08:45	102	0	11	2	1	9	0	1	0	126	136.7	154	0	9	1	0	9	0	1	174	182.9
09:00	109	0	11	0	0	11	3	1	1	136	148.6	127	2	15	2	0	8	0	0	155	163.2
09:15	88	0	9	2	1	8	0	0	0	108	118.3	125	1	7	1	2	11	0	3	150	162.3
H/T/total	421	0	44	9	2	38	4	5	2	525	569.5	537	3	42	5	2	39	0	7	636	675.1
Total	841	1	91	18	3	87	11	7	7	1066	1167.1	1062	5	101	9	4	83	2	12	1282	1366.3

Time	From B										To B										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL
17:00	108	0	10	0	0	10	0	2	0	130	138.8	144	0	11	0	0	13	1	3	177	185.2
17:15	117	1	9	0	0	13	0	2	1	143	154	125	0	8	0	0	11	0	7	151	157.8
17:30	126	1	15	0	0	11	0	4	1	158	165.8	138	0	17	0	0	7	0	3	168	170.8
17:45	145	0	11	1	0	6	0	1	1	165	170.1	133	0	11	0	0	10	0	5	159	166
H/T/total	496	2	45	1	0	40	0	9	3	566	628.7	540	0	47	0	0	41	1	18	655	679.8
18:00	130	1	9	1	0	12	0	4	0	157	167.1	145	0	11	0	0	12	1	1	170	182.4
18:15	126	1	9	0	0	10	0	2	2	150	157.2	130	0	10	0	0	10	0	1	153	160.8
18:30	126	1	4	0	0	11	0	3	2	147	154.6	126	1	6	0	0	9	0	3	146	152.4
18:45	112	2	12	1	0	14	0	4	0	145	157.1	123	0	10	0	0	10	0	3	149	154.8
H/T/total	494	5	34	2	0	47	0	13	4	599	636	524	1	37	0	0	41	1	8	618	650.4
Total	990	7	79	3	0	87	0	22	7	1195	1264.7	1064	1	84	0	0	82	2	26	1273	1330.2

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **6**
 Location: **Hale Lane / The Broadway / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	From C											To C										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	94	0	18	0	0	6	1	0	1	120	126.2	168	1	27	3	1	9	1	2	4	216	224.4
07:45	119	0	15	1	0	8	0	2	3	148	152.9	136	0	17	3	0	6	1	5	1	169	173.7
08:00	92	0	11	2	2	7	1	0	1	116	126.8	144	0	11	2	1	9	0	0	1	168	178.5
08:15	111	0	11	2	1	9	1	1	0	136	147.7	127	0	9	2	1	8	0	2	1	150	158.3
H/T/total	416	0	55	5	3	30	3	3	5	520	553.6	575	1	64	10	3	32	2	9	7	703	734.9
08:30	118	0	7	0	0	9	0	2	0	136	143.8	140	0	11	3	2	7	1	3	0	167	177.3
08:45	115	1	11	0	0	7	0	1	0	135	141.4	142	0	20	4	1	5	0	1	0	173	180.7
09:00	84	0	7	3	1	6	0	0	1	102	110	154	0	17	1	0	10	4	1	1	188	201.1
09:15	87	0	11	1	2	9	1	3	0	114	125.3	125	1	17	2	1	5	0	3	1	155	159.7
H/T/total	404	1	36	4	3	31	1	6	1	487	520.5	561	1	65	10	4	27	5	8	2	683	718.8
Total	820	1	91	9	6	61	4	9	6	1007	1074.1	1136	2	129	20	7	59	7	17	9	1386	1453.7

Time	From C											To C										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	141	0	9	0	0	9	0	5	4	168	170.8	133	1	16	0	0	8	0	2	0	160	166.8
17:15	123	1	8	1	0	8	0	4	0	145	151.1	131	0	15	0	0	8	0	0	0	154	162
17:30	121	0	11	0	0	6	0	1	3	142	145	153	0	19	0	0	9	1	1	1	184	192.6
17:45	127	0	11	0	0	7	0	1	0	146	152.4	164	0	13	0	0	5	0	0	2	184	187.4
H/T/total	512	1	39	1	0	30	0	11	7	601	619.3	581	1	63	0	0	30	1	3	3	682	708.8
18:00	164	1	12	0	0	9	0	1	1	188	195.6	135	0	12	0	0	8	0	3	1	159	164.4
18:15	129	1	14	0	0	7	0	1	1	153	158.6	147	1	8	1	0	8	0	4	1	170	175.3
18:30	144	0	10	0	0	7	0	4	1	166	169.8	174	0	9	0	0	8	0	1	1	193	199.6
18:45	127	0	11	0	0	8	0	2	2	150	155.2	120	0	12	0	0	10	0	2	0	144	152.8
H/T/total	564	2	47	0	0	31	0	8	5	657	679.2	576	1	41	1	0	34	0	10	3	666	692.1
Total	1076	3	86	1	0	61	0	19	12	1258	1298.5	1157	2	104	1	0	64	1	13	6	1348	1400.9

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **6**
 Location: **Hale Lane / The Broadway / Bunns Lane**
 Date: **16 June 2016, Thursday**

Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)		
07:30	360	1	58	4	1	29	5	3	6	467	497.7		
07:45	354	2	41	6	1	21	5	8	6	444	464.7		
08:00	373	0	27	4	3	20	2	1	2	432	457.7		
08:15	336	1	25	4	2	23	1	3	1	396	422		
H/Ttotal	1423	4	151	18	7	93	13	15	15	1739	1842.1		
08:30	364	0	29	6	2	21	1	8	1	432	454		
08:45	390	1	40	5	1	18	0	3	0	458	478		
09:00	368	2	36	3	1	19	4	1	4	438	460		
09:15	322	2	35	4	3	19	1	6	1	393	414.5		
H/Ttotal	1444	5	140	18	7	77	6	18	6	1721	1806.5		
Total	2867	9	291	36	14	170	19	33	21	3460	3648.6		

Peak Hours	Totals
07:30 08:30	1739
07:45 08:45	1704
08:00 09:00	1718
08:15 09:15	1724

Peak Hours	Totals
08:30 09:30	1721

Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)		
17:00	373	1	31	0	0	23	1	8	5	442	457.2		
17:15	371	2	30	1	0	24	0	9	1	438	456.3		
17:30	398	1	42	0	0	19	1	7	5	473	484.8		
17:45	417	0	31	1	0	16	0	6	2	473	484.3		
H/Ttotal	1559	4	134	2	0	82	2	30	13	1826	1882.6		
18:00	432	2	28	1	0	24	1	7	2	497	516.7		
18:15	397	3	30	1	0	20	0	5	4	460	474.3		
18:30	430	2	21	0	0	20	0	7	3	483	496.4		
18:45	351	2	29	1	0	24	0	8	3	418	435.3		
H/Ttotal	1610	9	108	3	0	88	1	27	12	1858	1922.7		
Total	3169	13	242	5	0	170	3	57	25	3684	3805.3		

Peak Hours	Totals
17:00 18:00	1826
17:15 18:15	1881
17:30 18:30	1903
17:45 18:45	1913

Peak Hours	Totals
18:00 19:00	1858

Project Number: TSP12743
Project Name: Pentavia Retail Park, Mill Hill
Survey Type: Manual Classified Traffic Count
Site No: 7
Location: Page Street / Pursley Road / Bunns Lane



Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **7**
 Location: **Page Street / Pursley Road / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	A - A										A - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30									0	0	0	5		1							6	6
07:45									0	0	8										8	8
08:00									0	0	5		1						1		7	6.4
08:15									0	0	15		2								17	17
H/Ttotal	0	0	0	0	0	0	0	0	0	0	33	0	4	0	0	0	0	0	1	0	38	37.4
08:30									0	0	3		1								4	4
08:45									0	0	7										7	7
09:00									0	0	4										4	4
09:15									0	0	3		1						1		5	4.4
H/Ttotal	0	0	0	0	0	0	0	0	0	0	17	0	2	0	0	0	0	0	1	0	20	19.4
Total	0	0	0	0	0	0	0	0	0	0	50	0	6	0	0	0	0	0	2	0	58	56.8

Time	A - A										A - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00									0	0	3										3	3
17:15	1								1	1	4										4	4
17:30									0	0	7								1		8	7.4
17:45									0	0	7										7	7
H/Ttotal	1	0	0	0	0	0	0	0	1	1	21	0	0	0	0	0	0	0	1	0	22	21.4
18:00									0	0	1										1	1
18:15									0	0	7										7	7
18:30									0	0	8										8	8
18:45									0	0	5										5	5
H/Ttotal	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	21	21
Total	1	0	0	0	0	0	0	0	1	1	42	0	0	0	0	0	0	0	1	0	43	42.4

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **7**
 Location: **Page Street / Pursley Road / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	A - C										A - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	19		4	1					1	24	24.5	11		2							13	13
07:45	19		3							23	22.2	36		4							40	40
08:00	17		1		1					21	24.3	35		1				1			37	38
08:15	39		1							40	40	32		4	1						37	37.5
H/T/total	94	0	9	1	1	0	2	0	1	108	111	114	0	11	1	0	0	1	0	0	127	128.5
08:30	29		2							32	31.4	31		1							32	32
08:45	30	1	4						1	35	35	34		2							36	36
09:00	26									26	26	32		2							34	34
09:15	14		1	2						17	18	14		3				1			18	19
H/T/total	99	1	7	2	0	0	0	1	0	110	110.4	111	0	8	0	0	0	1	0	0	120	121
Total	193	1	16	3	1	0	2	1	1	218	221.4	225	0	19	1	0	0	2	0	0	247	249.5

Time	A - C										A - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	15		2							17	17	14		2							17	18
17:15	13	1	1							15	15	9			1						10	10.5
17:30	28									28	28	21							1		22	21.4
17:45	21		2							23	23	17		2							19	19
H/T/total	77	1	5	0	0	0	0	0	0	83	83	61	0	4	1	0	0	1	1	0	68	68.9
18:00	27	1	3							31	31	7		1							8	8
18:15	24		1							25	25	10		1							11	11
18:30	21									21	21	7		1							8	8
18:45	14		1							15	15	16							1		18	16.6
H/T/total	86	1	5	0	0	0	0	0	0	92	92	40	0	3	0	0	0	0	1	1	45	43.6
Total	163	2	10	0	0	0	0	0	0	175	175	101	0	7	1	0	0	1	2	1	113	112.5

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **7**
 Location: **Page Street / Pursley Road / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	B - A										B - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	1		1						2	2	1									1	1	1
07:45	1								1	1										0	0	0
08:00	4								4	4	2									2	2	2
08:15									0	0										0	0	0
H/Ttotal	6	0	1	0	0	0	0	0	7	7	3	0	0	0	0	0	0	0	0	3	3	3
08:30			1						1	1										0	0	0
08:45	2								2	2										0	0	0
09:00	2		2						4	4	1									1	1	1
09:15	3		1						4	4										0	0	0
H/Ttotal	7	0	4	0	0	0	0	0	11	11	1	0	0	0	0	0	0	0	0	1	1	1
Total	13	0	5	0	0	0	0	0	18	18	4	0	0	0	0	0	0	0	0	4	4	4

Time	B - A										B - B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	4								4	4	1									1	1	1
17:15	2								2	2										0	0	0
17:30	4								4	4	1									1	1	1
17:45	3		1						4	4										0	0	0
H/Ttotal	13	0	1	0	0	0	0	0	14	14	2	0	0	0	0	0	0	0	0	2	2	2
18:00	3								3	3										0	0	0
18:15	2								2	2										0	0	0
18:30	4								4	4										0	0	0
18:45	6								7	7	3									3	3	3
H/Ttotal	15	0	0	0	0	0	0	0	16	15.2	3	0	0	0	0	0	0	0	0	3	3	3
Total	28	0	1	0	0	0	0	0	30	29.2	5	0	0	0	0	0	0	0	0	5	5	5

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **7**
 Location: **Page Street / Pursley Road / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	B - C										B - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	21		3						1	25	26	92		7					1	1	108	113.6
07:45	34		7						41	41	41	129	1	11	2	1	6	1	1	1	147	150.4
08:00	49	1	8						59	60	60	143		14		1	1	1	1	159	159.4	
08:15	40		2	2					45	47	47	136	1	15		1	1	1	1	155	156.4	
H/Ttotal	144	1	20	2	0	0			170	174	174	500	2	47	2	5	8	4	1	569	579.8	
08:30	43		4						47	47	47	132		10	2	2	1			148	149.4	
08:45	31		3						34	34	34	129		10	2	1	1			143	146	
09:00	49		8	2					59	60	60	122		10	1	1	1			134	135.5	
09:15	29	1	4						34	34	34	105		13	1	2	2			123	127.5	
H/Ttotal	152	1	19	2	0	0			174	175	175	488	0	43	6	6	3	0	2	548	558.4	
Total	296	2	39	4	0	0			344	349	349	988	2	90	8	0	11	11	4	1117	1138.2	

Time	B - C										B - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	33		3						36	36	36	112	1	15					2		133	134.8
17:15	29		3						32	32	32	118		17		1	2		2		139	139.8
17:30	35		5						40	40	40	109		10	1	1				122	122.7	
17:45	43								44	43.2	43.2	116		12					1	1	130	128.6
H/Ttotal	140	0	11	0	0	0			152	151.2	151.2	455	1	54	1	4	2	5	2	524	525.9	
18:00	45		4						49	49	49	122		7		2				131	133	
18:15	57		2						59	59	59	101	1	12		1		2		117	116.8	
18:30	52		3						56	55.4	55.4	101		5		1		2		109	108.8	
18:45	43		1						46	44.8	44.8	120		5		2		2		129	129.8	
H/Ttotal	197	0	10	0	0	0			210	208.2	208.2	444	1	29	0	6	0	6	0	486	488.4	
Total	337	0	21	0	0	0			362	359.4	359.4	899	2	83	1	10	2	11	2	1010	1014.3	

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 Date: **16 June 2016, Thursday**



Time	C - A										C - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30	19		2							21	21	24		6							30	30	55.4
07:45	34		1		1					37	38.5	50	1	4						1	56	56	52
08:00	42		3							45	45	45		7							52	52	52
08:15	22		4							27	26.2	48		2	2						52	52	53
H/T/total	117	0	10	1	0	0	1	0	1	130	130.7	167	1	19	2	0	0	0	1	1	190	190	190.4
08:30	22		7							30	29.4	57		2							59	59	59
08:45	13									13	13	35		4	1					1	41	41	40.9
09:00	12		2							14	14	20		4							25	25	24.4
09:15	11		1							12	12	17		1							20	20	22
H/T/total	58	0	10	0	0	0	0	1	0	69	68.4	129	0	11	1	0	0	0	2	2	145	145	146.3
Total	175	0	20	1	0	0	1	1	1	199	199.1	296	1	30	3	0	0	2	3	3	335	335	336.7

Time	C - A										C - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
17:00	22									22	22	27	1	6							35	35	36
17:15	35		1				1			37	38	34		1						1	36	36	35.4
17:30	24		1							25	25	34		1							35	35	35
17:45	36		1							37	37	35	1	3							39	39	39
H/T/total	117	0	3	0	0	0	1	0	0	121	122	130	2	11	0	0	0	1	1	1	145	145	145.4
18:00	31									33	31.6	33		5							39	39	38.2
18:15	35		1							37	36.4	40		6							46	46	46
18:30	23									23	23	56	1	2							59	59	59
18:45	16									18	16.8	57								1	58	58	57.4
H/T/total	105	0	1	0	0	0	0	4	1	111	107.8	186	1	13	0	0	0	0	1	1	202	202	200.6
Total	222	0	4	0	0	0	1	4	1	232	229.8	316	3	24	0	0	0	1	2	1	347	347	346

Project Number: **TSP12743**
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 Date: **16 June 2016, Thursday**



Time	C - C										C - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30										0	0	27		8	1			1			38	38.9
07:45										0	0	32		2				1			34	34
08:00	1									1	1	36		4	1			1		1	44	44.1
08:15										0	0	49		1							50	50
H/T/total	1	0	0	0	0	0	0	0	0	1	1	144	0	15	2	0	0	2	2	2	166	167
08:30										2	2	31	1	4				1			37	38
08:45	2									0	0	38		6					1		45	44.4
09:00										0	0	32		6		1					39	40.3
09:15										0	0	28		8	1						37	37.5
H/T/total	2	0	0	0	0	0	0	0	0	2	2	129	1	24	1	1	0	1	1	1	158	160.2
Total	3	0	0	0	0	0	0	0	0	3	3	273	1	39	3	1	0	3	3	3	324	327.2

Time	C - C										C - D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00										0	0	38		1						3	42	40.2
17:15										0	0	54	2	7							63	63
17:30										0	0	37		7						2	46	44.8
17:45										0	0	62		5						2	69	67.8
H/T/total	0	0	0	0	0	0	0	0	0	0	0	191	2	20	0	0	0	0	7	7	220	215.8
18:00										0	0	36		8						2	46	44.8
18:15										0	0	48		7							56	55.2
18:30										0	0	47		7					1		55	54.4
18:45	1									1	1	41	1	6						3	48	48
H/T/total	1	0	0	0	0	0	0	0	0	1	1	172	1	28	0	0	0	0	3	3	205	202.4
Total	1	0	0	0	0	0	0	0	0	1	1	363	3	48	0	0	0	0	10	1	425	418.2

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 Date: **16 June 2016, Thursday**



Time	D - A										D - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
07:30	7		1							8	8	120	1	24			1		1		3	150	148
07:45	13		2							15	15	123		12	1		2		2		1	141	141.5
08:00	12								1	13	12.2	119		8		1	1	1	1		1	130	131.4
08:15	12		2	1						15	15.5	121		9	1		3		1		1	136	138.1
H/T/total	44	0	5	1	0	0	0	0	1	51	50.7	483	1	53	2	0	7	1	5	5	5	557	559
08:30	17		1							18	18	130		10	1		1		1		1	143	143.9
08:45	16		2							18	18	87		4			1	1			1	93	95
09:00	7		1							8	8	80		13	1		2	1			1	97	100.5
09:15	12									12	12	84		3	2		1				1	92	94.2
H/T/total	52	0	4	0	0	0	0	0	0	56	56	381	0	30	4	0	5	3	1	1	4	425	433.6
Total	96	0	9	1	0	0	0	0	1	107	106.7	864	1	83	6	0	12	4	6	6	982	992.6	

Time	D - A										D - B												
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	
17:00	7									7	7	95		12			2	1	2		1	113	114
17:15	10							1		11	10.4	91	1	10	1		1		1		1	106	106.1
17:30	11									11	11	102		9			1	2	2		4	120	118.6
17:45	9									9	9	107		8		1	1				1	117	117.2
H/T/total	37	0	0	0	0	0	0	1	0	38	37.4	395	1	39	1	0	5	3	5	7	456	455.9	
18:00	14									14	14	122		8			2		2		1	135	135
18:15	10		1							11	11	132		9			1				1	143	143.2
18:30	10		1							11	11	90		3			1		2		1	97	96
18:45	6		1							7	7	74		3			2				1	80	81.2
H/T/total	40	0	3	0	0	0	0	0	0	43	43	418	0	23	0	0	6	0	4	4	455	455.4	
Total	77	0	3	0	0	0	0	1	0	81	80.4	813	1	62	1	0	11	3	9	11	911	911.3	

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Time	From A											To A										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
07:30	35	0	7	1	0	0	0	0	0	43	43.5	27	0	4	0	0	0	0	0	0	31	31
07:45	63	0	7	0	0	0	0	0	1	71	70.2	48	0	3	1	0	0	1	0	0	53	54.5
08:00	57	0	3	0	1	0	3	1	0	65	68.7	58	0	0	0	0	0	0	0	1	62	61.2
08:15	86	0	7	1	0	0	0	0	0	94	94.5	34	0	6	1	0	0	0	0	1	42	41.7
H/Ttotal	241	0	24	2	1	0	3	1	1	273	276.9	167	0	16	2	0	0	1	0	2	188	188.4
08:30	63	0	4	0	0	0	0	1	0	68	67.4	39	0	9	0	0	0	0	1	0	49	48.4
08:45	71	1	6	0	0	0	0	0	0	78	78	31	0	2	0	0	0	0	0	0	33	33
09:00	62	0	2	0	0	0	0	0	0	64	64	21	0	5	0	0	0	0	0	0	26	26
09:15	31	0	5	2	0	0	1	1	0	40	41.4	26	0	2	0	0	0	0	0	0	28	28
H/Ttotal	227	1	17	2	0	0	1	2	0	250	250.8	117	0	18	0	0	0	0	1	0	136	135.4
Total	468	1	41	4	1	0	4	3	1	523	527.7	284	0	34	2	0	0	1	1	2	324	323.8

Time	From A											To A										
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
17:00	32	0	4	0	0	0	1	0	0	37	38	33	0	0	0	0	0	0	0	0	33	33
17:15	27	1	1	1	0	0	0	0	0	30	30.5	48	0	1	0	0	0	1	1	0	51	51.4
17:30	56	0	0	0	0	0	0	2	0	58	56.8	39	0	1	0	0	0	0	0	0	40	40
17:45	45	0	4	0	0	0	0	0	0	49	49	48	0	2	0	0	0	0	0	0	50	50
H/Ttotal	160	1	9	1	0	0	1	2	0	174	174.3	168	0	4	0	0	0	1	1	0	174	174.4
18:00	35	1	4	0	0	0	0	0	0	40	40	48	0	0	0	0	0	0	1	1	50	48.6
18:15	41	0	2	0	0	0	0	0	0	43	43	47	0	2	0	0	0	0	1	0	50	49.4
18:30	36	0	1	0	0	0	0	0	0	37	37	37	0	1	0	0	0	0	0	0	38	38
18:45	35	0	1	0	0	0	0	1	1	38	36.6	28	0	1	0	0	0	0	2	1	32	30
H/Ttotal	147	1	8	0	0	0	0	1	1	158	156.6	160	0	4	0	0	0	0	4	2	170	166
Total	307	2	17	1	0	0	1	3	1	332	330.9	328	0	8	0	0	0	1	5	2	344	340.4

Project Number: **TSP12743**
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 Date: **16 June 2016, Thursday**



Time	From B										To B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)
07:30	115	0	11	0	0	1	7	1	1	136	142.6	150	1	31	0	0	1	0	1	3	187	185
07:45	164	1	18	2	0	2	1	1	0	189	192.4	181	1	16	1	0	2	0	3	1	205	204.9
08:00	198	1	22	0	0	1	1	1	0	224	225.4	171	0	16	0	0	1	1	2	0	191	191.8
08:15	176	1	17	2	0	1	2	1	0	200	203.4	184	0	13	3	0	3	0	1	1	205	208.1
H/T/total	653	3	68	4	0	5	11	4	1	749	763.8	686	2	76	4	0	7	1	7	5	788	789.8
08:30	175	0	15	2	0	2	0	0	2	196	197.4	190	0	13	1	0	1	0	1	0	206	206.9
08:45	162	0	13	2	0	1	1	0	0	179	182	129	0	8	1	0	1	1	1	0	141	142.9
09:00	174	0	20	3	0	1	0	0	0	198	200.5	105	0	17	1	0	2	1	1	0	127	129.9
09:15	137	1	18	1	0	2	2	0	0	161	165.5	104	0	5	2	0	1	3	1	1	117	120.6
H/T/total	648	1	66	8	0	6	3	0	2	734	745.4	528	0	43	5	0	5	5	4	1	591	600.3
Total	1301	4	134	12	0	11	14	4	3	1483	1509.2	1214	2	119	9	0	12	6	11	6	1379	1390.1

Time	From B										To B											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)
17:00	150	1	18	0	0	1	2	2	0	174	175.8	126	1	18	0	0	2	2	2	1	152	154
17:15	149	0	20	0	0	2	0	2	0	173	173.8	129	1	11	1	0	1	0	2	1	146	145.5
17:30	149	0	15	1	0	1	0	1	1	167	167.7	144	0	10	0	0	2	0	3	4	164	162
17:45	162	0	13	0	0	0	0	1	1	178	175.8	149	1	11	0	1	1	0	0	1	163	163.2
H/T/total	610	1	66	1	0	4	2	5	3	692	693.1	548	3	50	1	0	5	4	7	7	625	624.7
18:00	170	0	11	0	0	2	0	0	0	183	185	156	0	13	0	0	2	0	2	2	175	174.2
18:15	160	1	14	0	0	1	0	2	0	178	177.8	179	0	15	0	0	1	0	0	1	196	196.2
18:30	157	0	8	0	0	1	0	3	0	169	168.2	154	1	5	0	0	1	0	2	1	164	163
18:45	172	0	6	0	0	2	0	4	1	185	183.8	139	0	3	0	0	2	0	1	1	146	146.6
H/T/total	659	1	39	0	0	6	0	9	1	715	714.8	628	1	36	0	0	6	0	5	5	681	680
Total	1269	2	105	1	0	10	2	14	4	1407	1407.9	1176	4	86	1	0	11	4	12	12	1306	1304.7

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 Date: **16 June 2016, Thursday**



Time	From C										To C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
07:30	70	0	16	1	0	0	1	1	0	89	89.9	87	0	13	1	0	0	1	1	0	104	104.1
07:45	116	1	7	1	0	0	1	1	0	127	127.9	111	0	15	0	0	0	0	0	1	127	126.2
08:00	124	0	14	1	0	0	1	1	1	142	142.1	110	1	13	1	0	3	3	0	1	128	132.3
08:15	119	0	7	2	0	0	0	0	1	129	129.2	120	0	7	2	0	0	1	0	1	131	132.2
H/Ttotal	429	1	44	5	0	0	3	3	2	487	489.1	428	1	48	3	1	0	5	1	3	490	494.8
08:30	112	1	13	0	0	0	1	1	0	128	128.4	128	0	12	0	1	0	0	1	0	142	142.7
08:45	86	0	10	1	0	0	0	2	0	99	98.3	108	1	7	0	0	0	0	0	0	116	116
09:00	64	0	12	0	1	0	2	1	0	78	78.7	114	0	17	2	0	1	1	0	0	134	136
09:15	56	0	10	1	0	0	2	0	0	69	71.5	85	2	11	3	1	0	1	0	0	103	106.8
H/Ttotal	318	1	45	2	1	0	3	4	0	374	376.9	435	3	47	5	2	0	2	1	0	495	501.5
Total	747	2	89	7	1	0	6	7	2	861	866	863	4	95	8	3	0	7	2	3	985	996.3

Time	From C										To C											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCY	PCY	TOTAL	TOTAL (PCU)
17:00	87	1	7	0	0	0	1	3	0	99	98.2	112	2	6	0	0	0	1	0	0	121	122
17:15	123	2	9	0	0	0	1	1	0	136	136.4	100	1	11	0	0	0	0	0	0	112	112
17:30	95	0	9	0	0	0	0	2	0	106	104.8	119	0	10	0	0	0	0	1	0	130	129.4
17:45	133	1	9	0	0	0	0	2	0	145	143.8	114	0	5	0	0	1	1	0	1	121	121.2
H/Ttotal	438	4	34	0	0	0	2	8	0	486	483.2	445	3	32	0	0	0	2	1	1	484	484.6
18:00	100	0	13	0	0	0	0	3	2	118	114.6	143	2	12	0	0	0	0	1	0	158	157.4
18:15	123	0	14	0	0	0	0	1	1	139	137.6	131	0	7	1	0	0	0	0	0	139	139.5
18:30	126	1	9	0	0	0	0	1	0	137	136.4	134	0	6	0	0	0	0	2	0	142	140.8
18:45	115	1	6	0	0	0	0	3	0	125	123.2	107	0	6	0	0	0	0	2	1	116	114
H/Ttotal	464	2	42	0	0	0	0	8	3	519	511.8	515	2	31	1	0	0	0	5	1	555	551.7
Total	902	6	76	0	0	0	2	16	3	1005	995	960	5	63	1	0	0	2	6	2	1039	1036.3

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **7**
 Location: **Page Street / Pursley Road / Bunns Lane**
 Date: **16 June 2016, Thursday**



Time	From D										To D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
07:30	174	1	31	0	0	1	0	2	4	213	209.6	130	0	17	1	0	1	7	2	1	159	165.5
07:45	195	0	19	1	0	2	0	2	1	220	220.5	198	1	17	2	0	2	1	1	2	222	225.4
08:00	174	0	12	0	0	1	1	1	1	190	190.6	214	0	19	1	0	1	2	2	1	240	241.5
08:15	174	0	15	2	0	3	0	1	2	197	198.8	217	1	20	1	0	1	1	1	2	242	243.9
H/T/total	717	1	77	3	0	7	1	6	8	820	819.5	759	2	73	5	0	5	11	6	2	863	876.3
08:30	201	0	17	1	1	1	0	1	0	222	224.2	194	1	15	2	0	2	1	0	2	217	219.4
08:45	150	0	6	0	0	1	1	0	0	158	160	201	0	18	2	0	1	1	1	0	224	226.4
09:00	126	0	23	1	0	2	2	0	0	154	158.5	186	0	18	1	1	1	0	0	2	207	209.8
09:15	138	1	9	3	1	1	2	0	1	156	161	147	0	24	2	0	2	3	0	0	178	184
H/T/total	615	1	55	5	2	5	5	1	1	690	703.7	728	1	75	7	1	6	5	1	2	826	839.6
Total	1332	2	132	8	2	12	6	7	9	1510	1523.2	1487	3	148	12	1	11	16	7	4	1689	1715.9

Time	From D										To D											
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCV	TOTAL	TOTAL (PCU)
17:00	166	2	13	0	0	2	2	2	1	188	190	164	1	18	0	0	1	3	5	0	192	193
17:15	159	1	17	1	0	1	0	2	1	182	181.5	181	2	24	1	0	2	0	2	0	212	213.3
17:30	169	0	14	0	0	1	2	3	4	193	191	167	0	17	1	0	1	0	3	3	190	188.9
17:45	166	0	11	0	0	1	1	0	1	180	181.2	195	0	19	0	0	0	0	3	3	218	215.4
H/T/total	660	3	55	1	0	5	5	7	7	743	743.7	707	3	78	2	0	4	3	13	2	812	810.6
18:00	207	1	13	0	0	2	0	3	1	227	226.4	165	0	16	0	0	2	0	2	0	185	185.8
18:15	192	0	14	1	0	1	0	0	1	209	209.7	159	1	20	0	0	1	0	2	1	184	183
18:30	161	0	7	0	0	1	0	3	1	173	171.4	155	0	13	0	0	1	0	3	0	172	171.2
18:45	129	0	8	0	0	2	0	0	2	141	141.4	177	1	11	0	0	2	0	3	1	195	194.4
H/T/total	689	1	42	1	0	6	0	6	5	750	748.9	656	2	60	0	0	6	0	10	2	736	734.4
Total	1349	4	97	2	0	11	5	13	12	1493	1492.6	1363	5	138	2	0	10	3	23	4	1548	1545

Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park, Mill Hill**
 Survey Type: **Manual Classified Traffic Count**
 Site No: **7**
 Location: **Page Street / Pursley Road / Bunns Lane**
 Date: **16 June 2016, Thursday**

Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)		
07:30	394	1	65	2	0	2	8	4	5	481	485.6		
07:45	538	2	51	4	0	4	2	4	2	607	611		
08:00	553	1	51	1	1	2	6	4	2	621	626.8		
08:15	555	1	46	7	0	4	2	2	3	620	625.9		
H/Ttotal	2040	5	213	14	1	12	18	14	12	2329	2349.3		
08:30	551	1	49	3	1	3	1	3	2	614	617.4		
08:45	469	1	35	3	0	2	2	2	0	514	518.3		
09:00	426	0	57	4	1	3	2	1	0	494	501.7		
09:15	362	2	42	7	1	3	7	1	1	426	439.4		
H/Ttotal	1808	4	183	17	3	11	12	7	3	2048	2076.8		
Total	3848	9	396	31	4	23	30	21	15	4377	4426.1		

Peak Hours	Totals
07:30 08:30	2329
07:45 08:45	2462
08:00 09:00	2369
08:15 09:15	2242

08:30 09:30	2048
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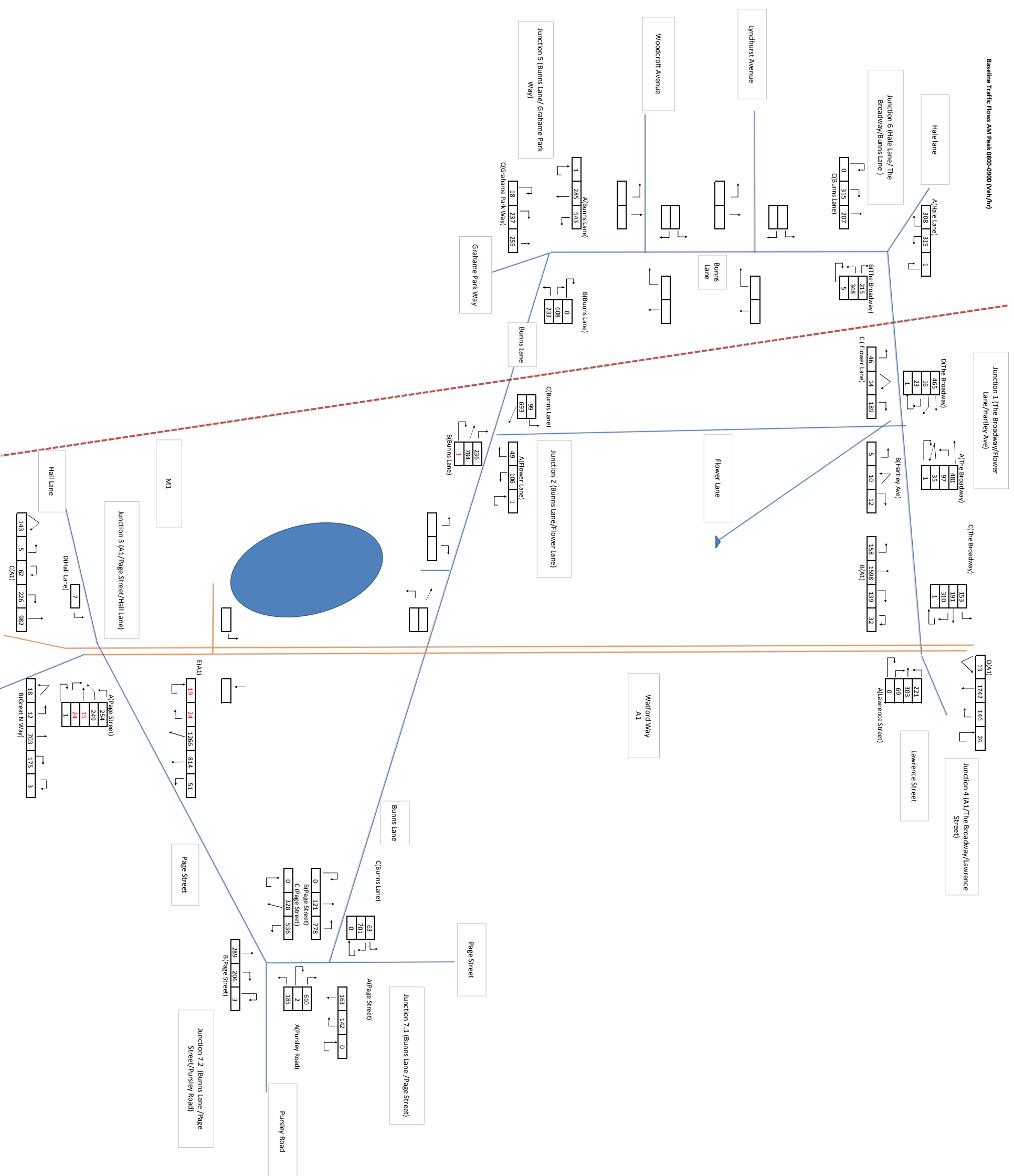
Time	Whole Junction											TOTAL	TOTAL (PCU)
	CAR	TAXI	LGV	OGV 1	OGV 2	BUS	COACH	MCV	PCY	TOTAL	TOTAL (PCU)		
17:00	435	4	42	0	0	3	6	7	1	498	502		
17:15	458	4	47	2	0	3	1	5	1	521	522.2		
17:30	469	0	37	1	0	2	2	7	5	524	520.3		
17:45	506	1	38	0	0	1	1	3	3	552	549.8		
H/Ttotal	1868	9	164	3	0	9	10	22	10	2095	2094.3		
18:00	512	2	41	0	0	4	0	6	3	568	566		
18:15	516	1	44	1	0	2	0	3	2	569	568.1		
18:30	480	1	25	0	0	2	0	7	1	516	513		
18:45	451	1	21	0	0	4	0	8	4	489	485		
H/Ttotal	1959	5	131	1	0	12	0	24	10	2142	2132.1		
Total	3827	14	295	4	0	21	10	46	20	4237	4226.4		

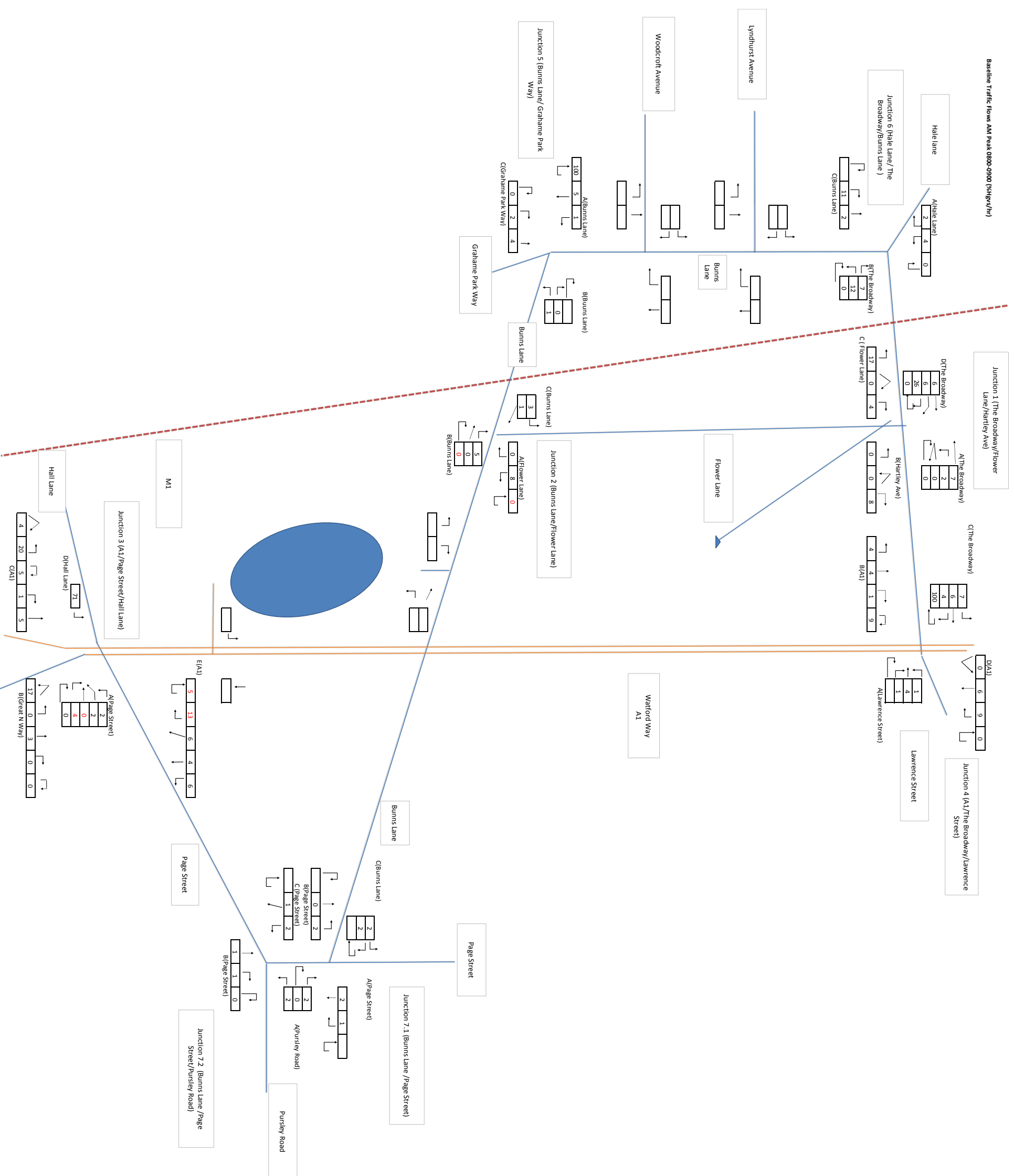
Peak Hours	Totals
17:00 18:00	2095
17:15 18:15	2165
17:30 18:30	2213
17:45 18:45	2205

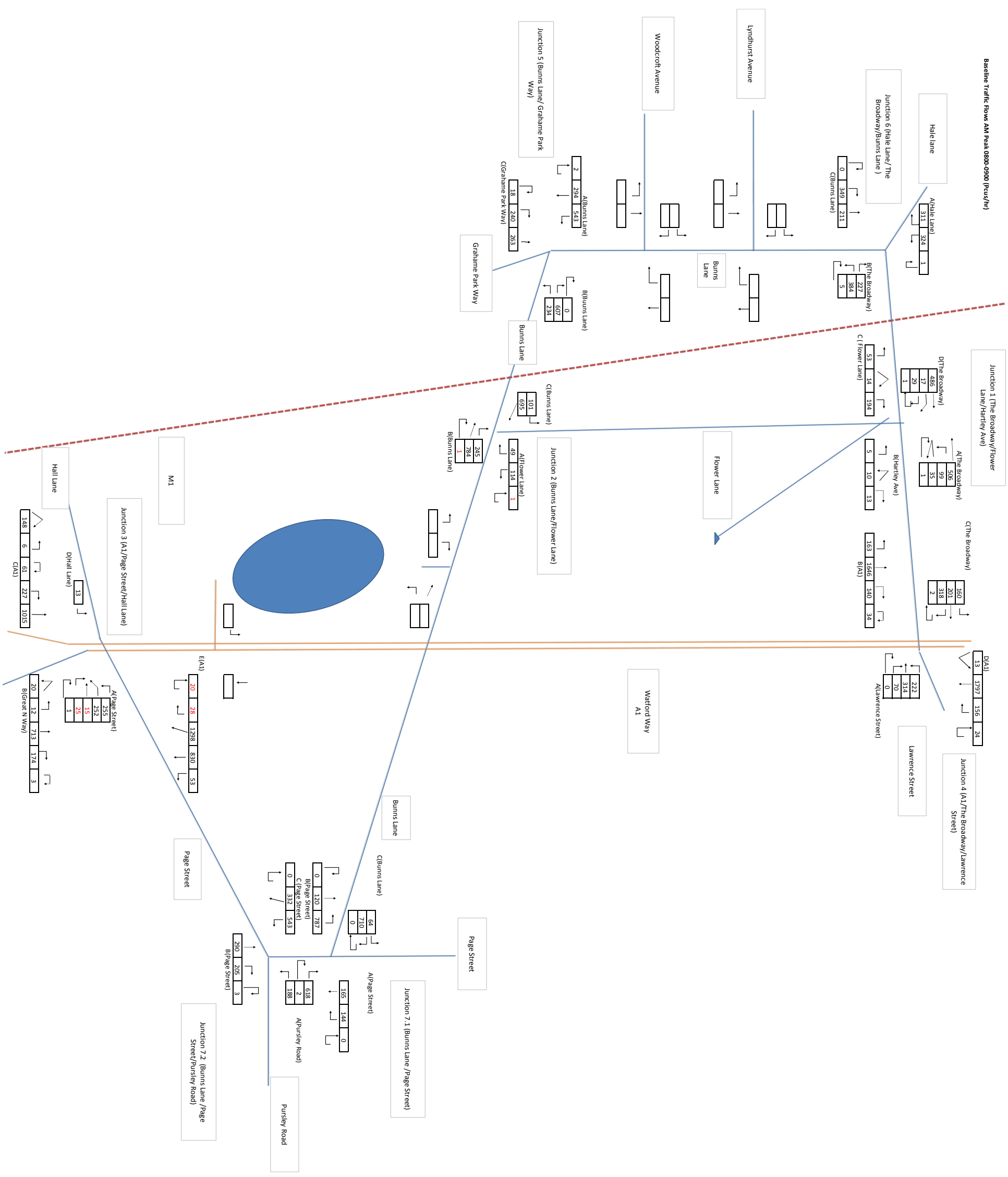
18:00 19:00	2142
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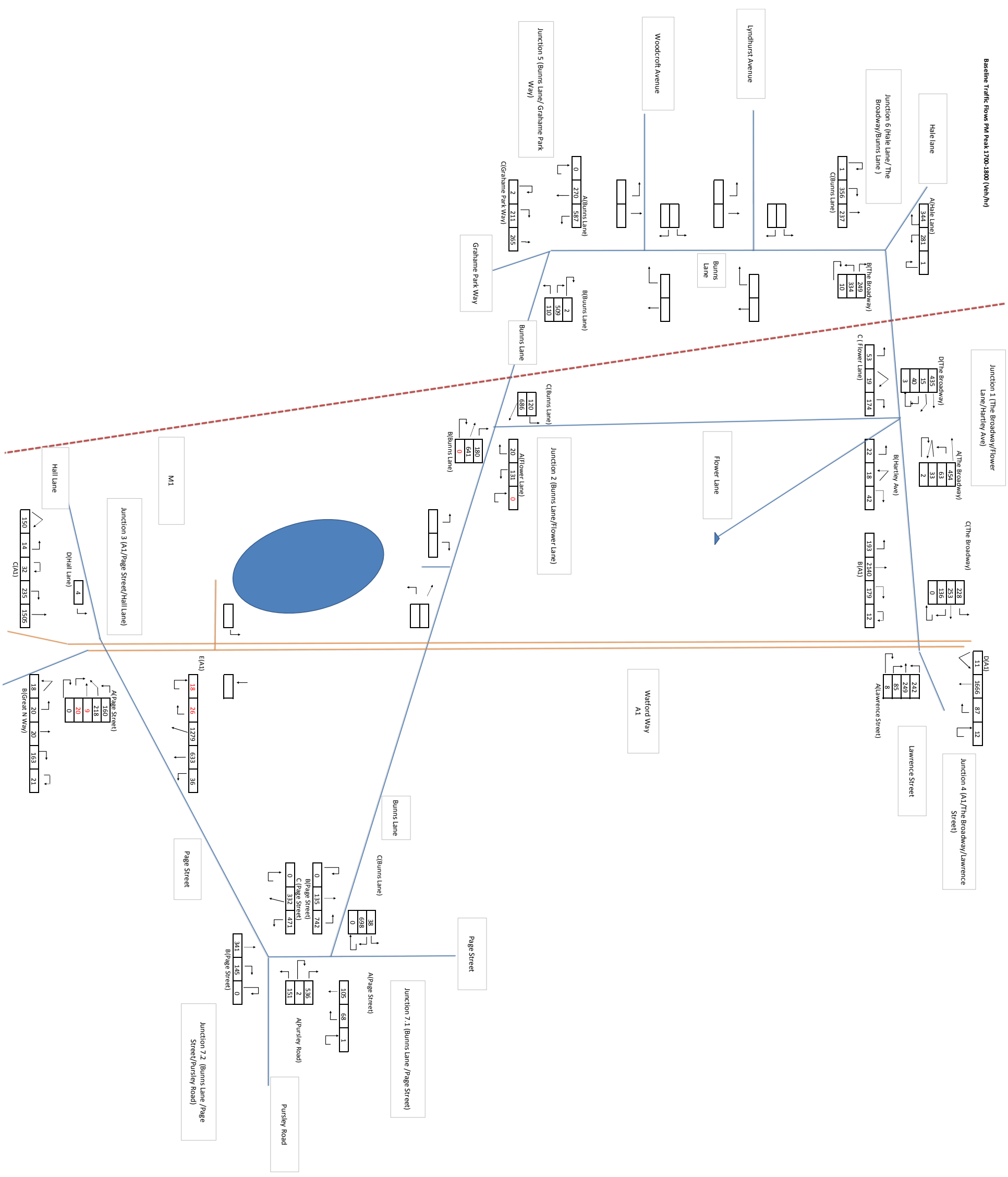
Appendix F

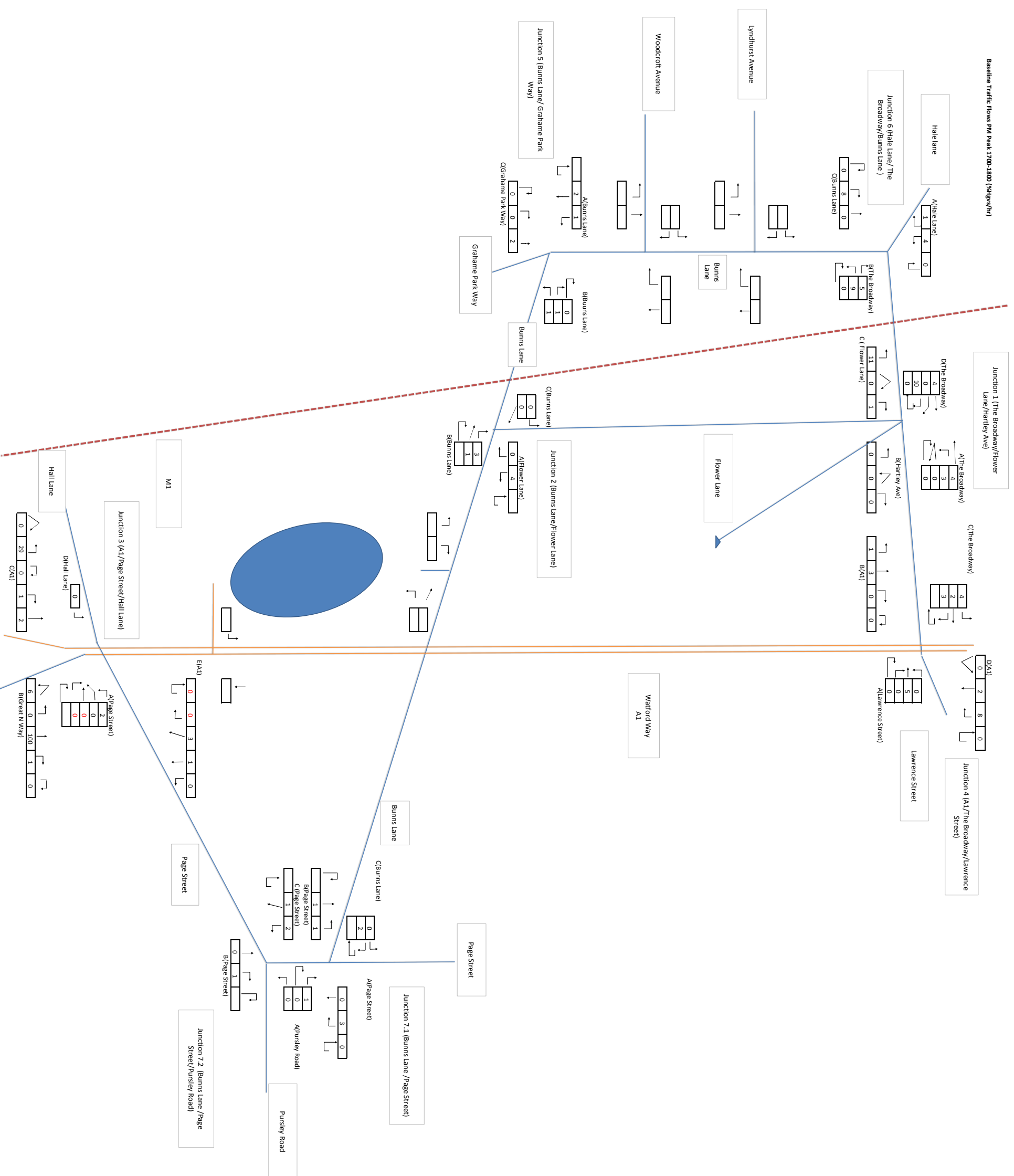
BASE 2016 TRAFFIC FLOW DIAGRAMS

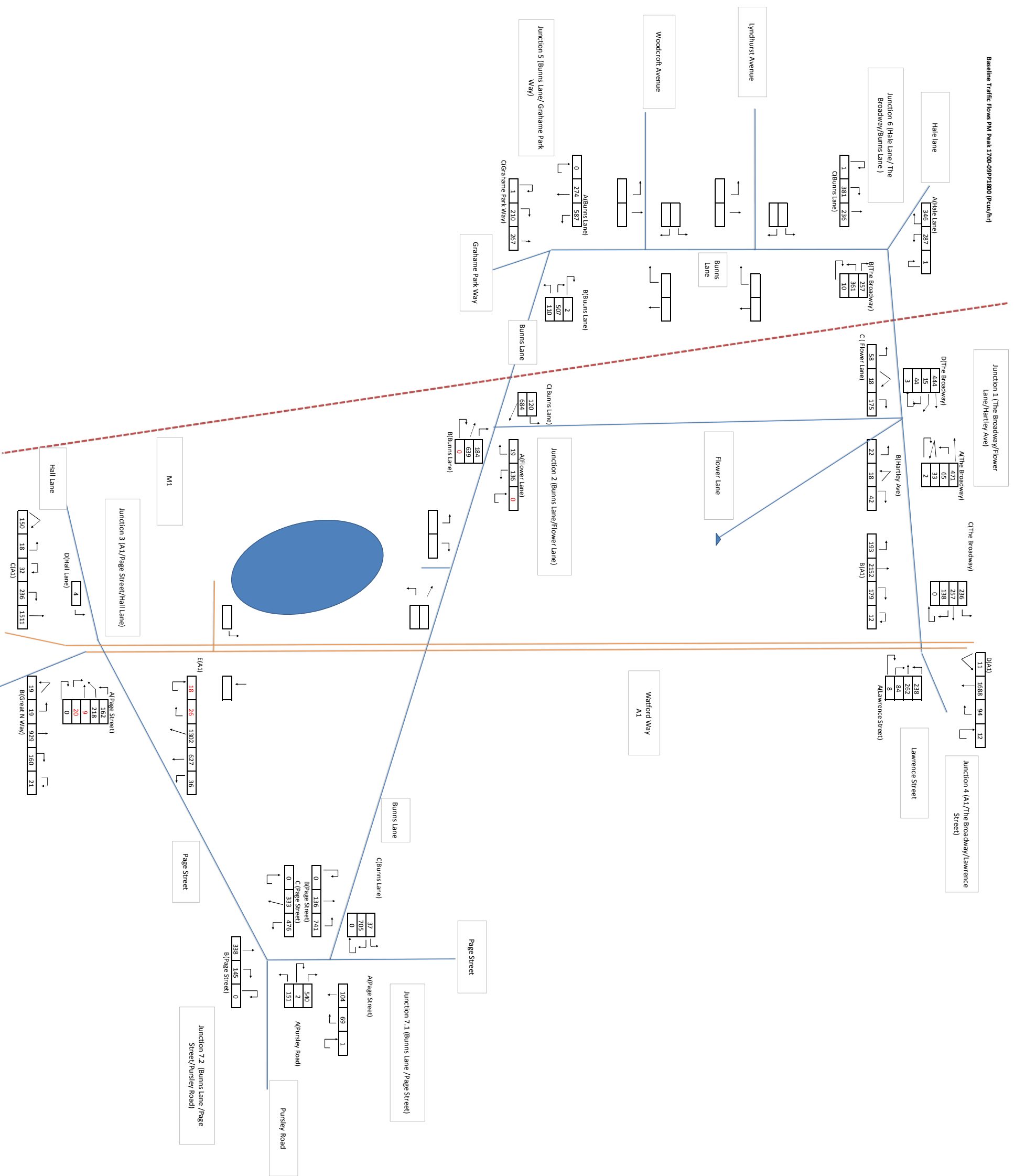












Appendix G

QUEUE LENGTH SURVEYS

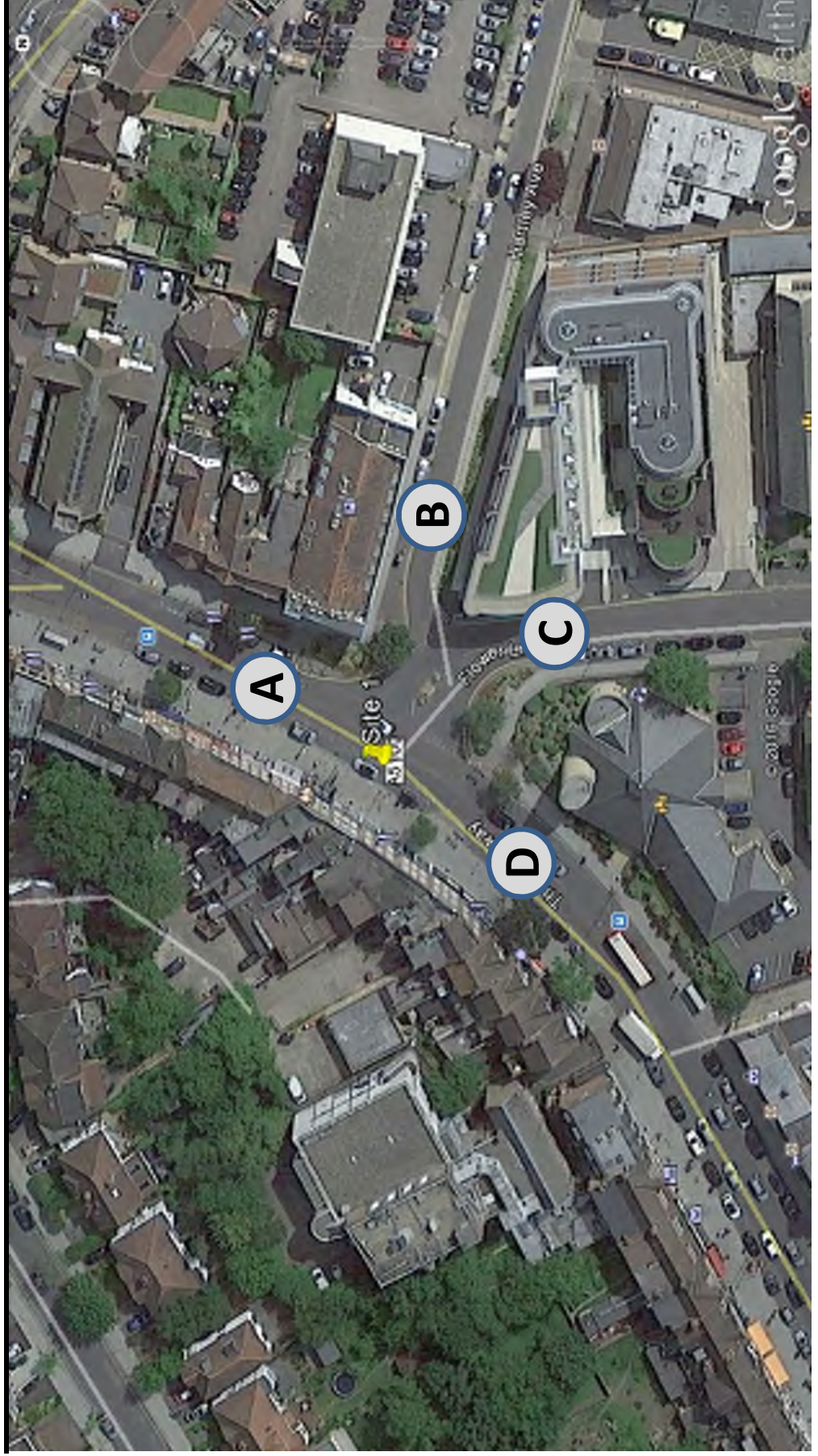
Project Number: TSP12743

Project Name: Pentavia Retail Park - Mill Hill

Survey Type: Queue Length

Site No: 1

Location: The Broadway / Hartley Ave / Flower Lane



Project Number: TSP12743
 Project Name: Pentavia Retail Park - Mill Hill
 Survey Type: Queue Length
 Site No: 1
 Location: The Broadway / Hartley Ave / Flower Lane
 Date: 16 June 2016, Thursday



1 1.5 2

Arm A					Arm B					Arm C					Arm D				
Time	Lane 1				Time	Lane 1				Time	Lane 1				Time	Lane 1			
	Car/Lgv	Ogv 1	Ogv 2/Bus	PCU		Car/Lgv	Ogv 1	Ogv 2/Bus	PCU		Car/Lgv	Ogv 1	Ogv 2/Bus	PCU		Car/Lgv	Ogv 1	Ogv 2/Bus	PCU
07:30 - 09:30																			
07:30				0	07:30				0	07:30	3			3	07:30	5			5
07:35	3		1	5	07:35				0	07:35	1			1	07:35	1			1
07:40				0	07:40				0	07:40				0	07:40	4			4
07:45	1		2	5	07:45				0	07:45				0	07:45	1			1
07:50			1	2	07:50				0	07:50	2			2	07:50	4	1		5.5
07:55				0	07:55				0	07:55	2			2	07:55	1			1
08:00				0	08:00				0	08:00	3	2		6	08:00	4			4
08:05	5			5	08:05	1			1	08:05	5	1		6.5	08:05	5			5
08:10	5	1		6.5	08:10	1			1	08:10	9			9	08:10	3			3
08:15	5		1	7	08:15	2			2	08:15	14			14	08:15	4			4
08:20	2			2	08:20	1			1	08:20	3	1	1	6.5	08:20	4	1		5.5
08:25	2			2	08:25				0	08:25				0	08:25				0
08:30	1			1	08:30				0	08:30	4			4	08:30	3	1		4.5
08:35	2			2	08:35	3			3	08:35	3			3	08:35	3			3
08:40	2			2	08:40				0	08:40	5			5	08:40	4			4
08:45	1			1	08:45				0	08:45	1			1	08:45	4		1	6
08:50	3			3	08:50				0	08:50		1		1.5	08:50	2			2
08:55				0	08:55				0	08:55	1			1	08:55			1	2
09:00				0	09:00				0	09:00				0	09:00				0
09:05	1			1	09:05				0	09:05	1			1	09:05				0
09:10				0	09:10				0	09:10	3			3	09:10				0
09:15	2			2	09:15				0	09:15	1			1	09:15				0
09:20	3			3	09:20	1			1	09:20	5			5	09:20				0
09:25	2			2	09:25	1			1	09:25				0	09:25	1			1
17:00 - 19:00																			
17:00	4			4	17:00	2			2	17:00	1			1	17:00				0
17:05				0	17:05	5			5	17:05	4			4	17:05	6			6
17:10	2		1	4	17:10	1			1	17:10	5			5	17:10				0
17:15	1		1	3	17:15	2			2	17:15	6		1	8	17:15	4			4
17:20	1			1	17:20	1			1	17:20				0	17:20	3			3
17:25				0	17:25	2			2	17:25	1			1	17:25				0
17:30	1			1	17:30	3			3	17:30			1	2	17:30	4			4
17:35	4			4	17:35	2			2	17:35	5	1		6.5	17:35	3			3
17:40				0	17:40	1			1	17:40				0	17:40	3			3
17:45	4			4	17:45				0	17:45	2			2	17:45	3			3
17:50	2			2	17:50	1			1	17:50	2			2	17:50			2	4
17:55	3			3	17:55				0	17:55	4			4	17:55				0
18:00	3			3	18:00	1			1	18:00	9			9	18:00	4			4
18:05				0	18:05	1			1	18:05	8		1	10	18:05				0
18:10	3			3	18:10				0	18:10	3			3	18:10				0
18:15	1			1	18:15	1			1	18:15	2			2	18:15	2			2
18:20	1	1		2.5	18:20	2			2	18:20				0	18:20				0
18:25				0	18:25				0	18:25	4			4	18:25				0
18:30	2			2	18:30	1			1	18:30				0	18:30				0
18:35	3	1		4.5	18:35	1			1	18:35				0	18:35				0
18:40				0	18:40	1			1	18:40				0	18:40	3		1	5
18:45				0	18:45	1			1	18:45	2			2	18:45				0
18:50				0	18:50	1			1	18:50	3		1	5	18:50			1	2
18:55				0	18:55				0	18:55	1			1	18:55				0

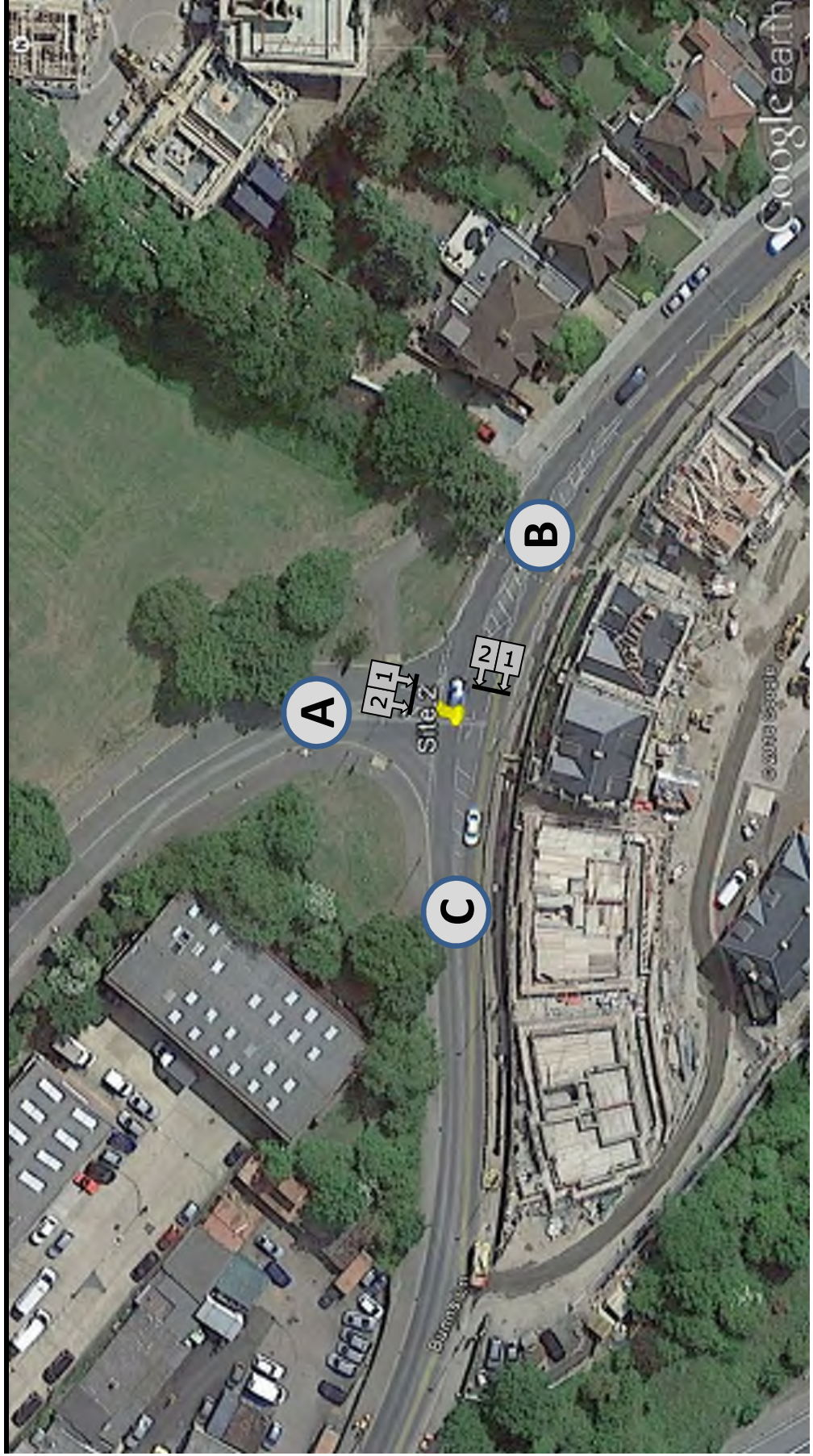
Project Number: TSP12743

Project Name: Pentavia Retail Park - Mill Hill

Survey Type: Queue Length

Site No: 2

Location: Flower Lane / Bunns Lane



Project Number: **TSP12743**
 Project Name: **Pentavia Retail Park - Mill Hill**
 Survey Type: **Queue Length**
 Site No: **2**
 Location: **Flower Lane / Bunns Lane**
 Date: **16 June 2016, Thursday**



1 1.5 2					Arm A										Arm B										Arm C				
Time	Lane 1				Lane 2				Time	Lane 1				Lane 2				Time	Lane 1										
	Car/Lgv	Ogv 1	Ogv 2/Bus	PCU	Car/Lgv	Ogv 1	Ogv 2/Bus	PCU		Car/Lgv	Ogv 1	Ogv 2/Bus	PCU	Car/Lgv	Ogv 1	Ogv 2/Bus	PCU		Car/Lgv	Ogv 1	Ogv 2/Bus	PCU							
07:30 - 09:30																													
07:30	3			3	1			1	07:30				0	2	1		3.5	07:30				0							
07:35			1	2	1			1	07:35				0	1			1	07:35	2			2							
07:40	2			2	2			2	07:40				0				2	07:40				0							
07:45	2		1	4	1			1	07:45				0	5		1	7	07:45				0							
07:50	4			4	2			2	07:50	2			2	3			3	07:50	6			6							
07:55			1	2	1			1	07:55	2			2	2	1		3.5	07:55	2			2							
08:00	2			2	1			1	08:00	2			2	2			2	08:00				0							
08:05	1			1	2			2	08:05	2			2	2			2	08:05	7			7							
08:10	3			3	1			1	08:10				0	3			3	08:10	5			5							
08:15	2			2	2			2	08:15				0	3			3	08:15	8			8							
08:20				0	1			1	08:20				0	2			2	08:20	8			8							
08:25	1			1	1			1	08:25				0	2			2	08:25	4			4							
08:30	1		1	3	2			2	08:30	9	1		10.5	1	1		2.5	08:30	2			2							
08:35	1			1	1			1	08:35				0			1	2	08:35				0							
08:40	4			4	1			1	08:40				0	4			4	08:40				0							
08:45			1	2	1			1	08:45	3			3	2			2	08:45				0							
08:50	1			1	1			1	08:50				0	1			1	08:50				0							
08:55	1			1	2			2	08:55				0	4			4	08:55				0							
09:00				0	1			1	09:00				0	2			2	09:00	4			4							
09:05	3			3	2			2	09:05				0	2			2	09:05				0							
09:10	2			2	1			1	09:10				0	1			1	09:10				0							
09:15				0				0	09:15				0	1			1	09:15	1			1							
09:20	1		1	3	1			1	09:20				0	1			1	09:20				0							
09:25	4			4				0	09:25				0	1	1		2.5	09:25				0							
17:00 - 19:00																													
17:00	1			1				0	17:00	2			2	1			1	17:00				0							
17:05	2			2	1			1	17:05				0	1			1	17:05				0							
17:10	3			3				0	17:10				0	2			2	17:10	2			2							
17:15	1		1	3	1			1	17:15				0	4			4	17:15				0							
17:20	1			1				0	17:20				0	2			2	17:20				0							
17:25	1			1				0	17:25				0				0	17:25				0							
17:30	1			1	1			1	17:30				0	5		1	6.5	17:30				0							
17:35	3			3	2			2	17:35				0	3			3	17:35	1			1							
17:40	1			1	1			1	17:40				0	1			1	17:40	9			9							
17:45	2			2	1			1	17:45				0	1			1	17:45				0							
17:50			1	2				0	17:50	7			7	2			2	17:50				0							
17:55	3			3	2			2	17:55				0	4			4	17:55				0							
18:00	2		1	4	1			1	18:00				0	4			4	18:00	2			2							
18:05	4			4	1			1	18:05	1			1	2			2	18:05				0							
18:10	2			2	1			1	18:10				0	1			1	18:10				0							
18:15			1	2	1			1	18:15				0	1			1	18:15				0							
18:20	1			1	1			1	18:20				0	2			2	18:20				0							
18:25	2			2	1			1	18:25				0				0	18:25				0							
18:30	1			1	2			2	18:30				0				0	18:30				0							
18:35	1			1	1			1	18:35				0	4			4	18:35				0							
18:40				0	1			1	18:40				0	1			1	18:40				0							
18:45	1			1	1			1	18:45				0	3			3	18:45				0							
18:50	1			1	1			1	18:50				0	2			2	18:50				0							
18:55	3			3	2			2	18:55				0	3			3	18:55				0							

Project Number: TSP12743

Project Name: Pentavia Retail Park - Mill Hill

Survey Type: Queue Length

Site No: 3

Location: Page Street / Great N Way / Watford Way / Hall Lane



Queue 1			Queue 2			Queue 3			Queue 4		
Green Time	Car/Bus	Opv.2/Bus	Green Time	Car/Bus	Opv.2/Bus	Green Time	Car/Bus	Opv.2/Bus	Green Time	Car/Bus	Opv.2/Bus
07:30:58	3		07:31:02	4		07:31:04	4		07:31:19	3	
07:32:31	4		07:32:31	4		07:32:31	4		07:33:06	2	
07:34:07	8		07:34:11	1		07:34:11	1		07:34:38	6	
07:35:59	7		07:35:59	6		07:35:59	6		07:36:03	4	
07:39:09	1		07:39:20	2		07:39:20	2		07:39:43	4	
07:40:52	9		07:41:00	6		07:41:00	6		07:41:24	3	
07:42:36	5		07:42:44	5		07:42:44	5		07:43:15	1	
07:46:08	9		07:46:14	2		07:46:14	2		07:46:50	3	
07:47:40	1		07:47:52	6		07:47:52	6		07:48:30	1	
07:49:33	14		07:49:37	5		07:49:37	5		07:50:10	1	
07:51:13	12		07:51:13	3		07:51:13	3		07:51:50	3	
07:53:11	11		07:53:16	3		07:53:16	3		07:53:50	3	
07:54:59	5		07:55:00	7		07:55:00	7		07:55:47	1	
07:56:42	13		07:56:52	3		07:56:52	3		07:57:26	1	
07:58:02	3		07:58:02	3		07:58:02	3		07:58:55	1	
08:00:09	1		08:00:11	7		08:00:11	7		08:00:53	2	
08:03:40	6		08:03:45	5		08:03:45	5		08:04:31	1	
08:05:23	16		08:05:25	1		08:05:25	1		08:06:10	3	
08:06:57	13		08:06:57	4		08:06:57	4		08:07:58	2	
08:10:44	7		08:10:44	3		08:10:44	3		08:11:34	3	
08:12:24	9		08:12:29	1		08:12:29	1		08:13:17	4	
08:14:00	12		08:14:00	11		08:14:00	11		08:15:36	6	
08:16:28	15		08:16:28	8		08:16:28	8		08:17:32	2	
08:18:05	10		08:18:05	10		08:18:05	10		08:19:25	4	
08:20:36	1		08:20:36	10		08:20:36	10		08:21:40	4	
08:22:44	5		08:22:44	9		08:22:44	9		08:23:42	1	
08:26:44	8		08:26:44	1		08:26:44	1		08:27:19	3	
08:28:31	8		08:28:31	10		08:28:31	10		08:29:46	1	
08:30:00	8		08:30:00	10		08:30:00	10		08:31:05	1	
08:31:47	7		08:31:47	6		08:31:47	6		08:32:42	1	
08:33:37	9		08:33:37	6		08:33:37	6		08:34:13	1	
08:35:28	8		08:35:28	5		08:35:28	5		08:35:57	3	
08:36:51	6		08:36:51	9		08:36:51	9		08:37:52	2	
08:40:45	3		08:40:45	3		08:40:45	3		08:41:23	3	
08:42:33	6		08:42:33	10		08:42:33	10		08:43:08	2	
08:44:01	2		08:44:01	5		08:44:01	5		08:44:46	3	
08:47:53	12		08:47:53	7		08:47:53	7		08:48:37	1	
08:49:38	8		08:49:38	5		08:49:38	5		08:50:22	1	
08:51:11	6		08:51:11	5		08:51:11	5		08:51:56	1	
08:53:06	3		08:53:06	5		08:53:06	5		08:53:59	1	
08:54:55	3		08:54:55	5		08:54:55	5		08:55:39	1	
08:56:40	9		08:56:40	5		08:56:40	5		08:57:22	1	
08:58:29	7		08:58:29	9		08:58:29	9		08:59:05	2	
09:00:21	7		09:00:21	3		09:00:21	3		09:00:55	2	
09:02:11	7		09:02:11	3		09:02:11	3		09:02:45	3	
09:03:57	1		09:03:57	5		09:03:57	5		09:04:29	3	
09:05:47	4		09:05:47	3		09:05:47	3		09:06:19	1	
09:07:39	7		09:07:39	3		09:07:39	3		09:08:05	1	
09:09:11	10		09:09:11	2		09:09:11	2		09:09:47	1	
09:11:02	3		09:11:02	3		09:11:02	3		09:11:31	5	
09:12:52	2		09:12:52	1		09:12:52	1		09:13:25	2	
09:14:45	3		09:14:45	4		09:14:45	4		09:15:22	1	
09:16:34	2		09:16:34	4		09:16:34	4		09:16:52	4	
09:18:04	5		09:18:04	7		09:18:04	7		09:18:49	6	
09:19:53	6		09:19:53	5		09:19:53	5		09:20:28	3	
09:21:45	7		09:21:45	1		09:21:45	1		09:22:12	4	
09:23:38	1		09:23:38	1		09:23:38	1		09:24:39	2	
09:26:22	4		09:26:22	4		09:26:22	4		09:27:06	1	
09:28:03	10		09:28:03	10		09:28:03	10		09:28:41	1	
09:29:51	2		09:29:51	2		09:29:51	2		09:30:05	3	

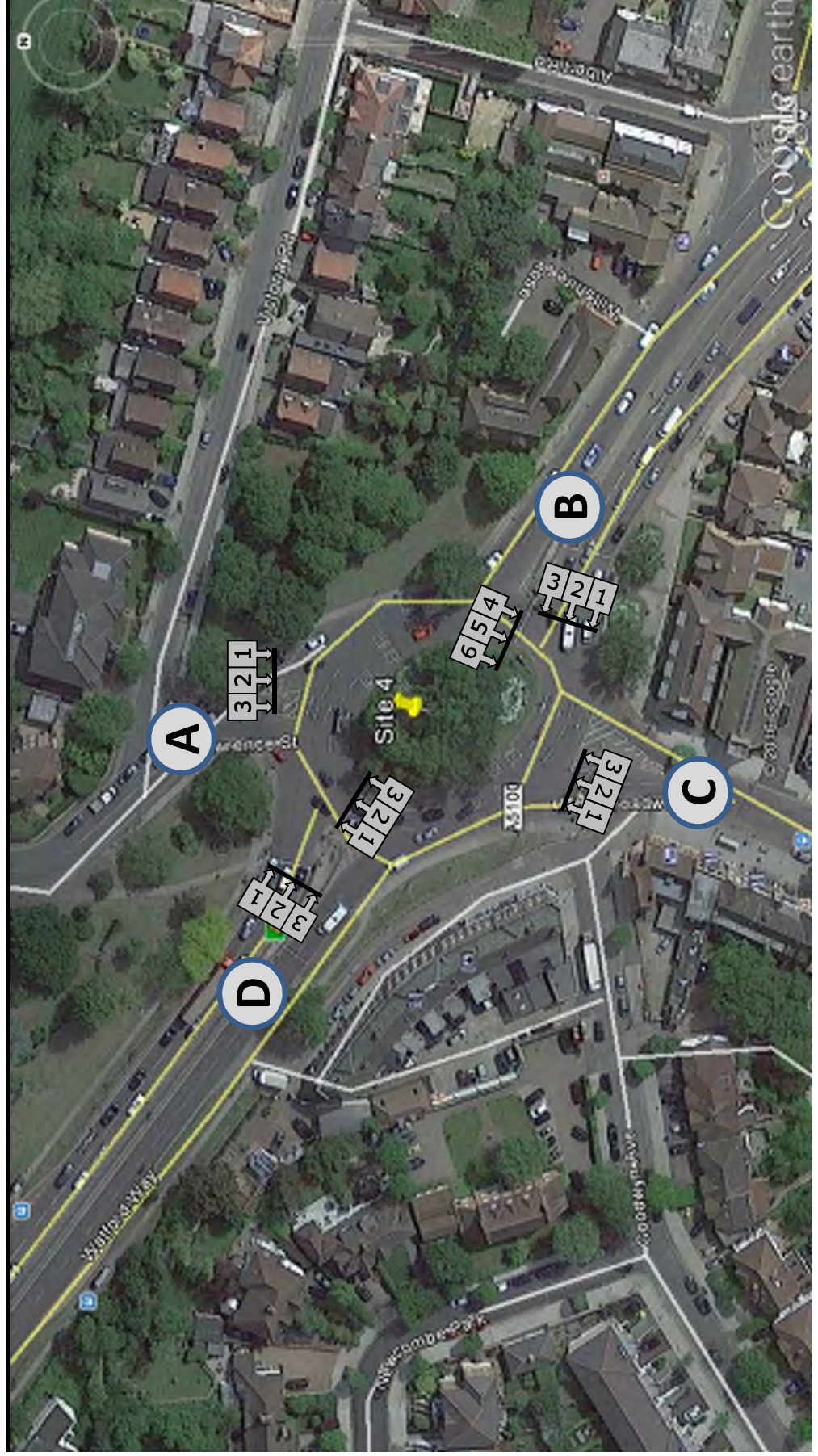
Project Number: TSP12743

Project Name: Pentavia Retail Park - Mill Hill

Survey Type: Queue Length

Site No: 4

Location: A1/ Lawrence Street / The Broadway / Watford Way



Time	Arm A			Arm B			Arm C			Arm D		
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3
	Opy 1	Opy 2	Opy 3	Opy 1	Opy 2	Opy 3	Opy 1	Opy 2	Opy 3	Opy 1	Opy 2	Opy 3
07:30	12	6	0	1	34.5	27	27	9	3	1	1	5
07:35	4	1	0	1	33.5	26	26	3	1	1	1	5
07:40	5	5	0	1	32.5	25	25	3	1	1	1	5
07:45	7	7	0	1	32.5	25	25	3	1	1	1	5
07:50	15	6	4	1	33.5	29	1	30.5	9	1	10.5	07:50
07:55	5	1	0	1	31.5	29	1	30.5	9	1	10.5	07:55
08:00	7	1	0	1	31.5	29	1	30.5	9	1	10.5	08:00
08:05	1	0	0	1	28	29	1	28	9	1	8	08:05
08:10	8	5	1	1	29.5	29	1	29	9	1	8	08:10
08:15	22	8	2	1	33	33	11	33	11	11	11	08:15
08:20	21	1	0	1	34.5	32	16	34.5	16	2	1	9.5
08:25	9	7	0	1	30.5	30	15	30.5	15	2	1	1
08:30	10	7	1	1	30.5	29	15	30.5	15	2	1	1
08:35	10	7	1	1	30.5	29	15	30.5	15	2	1	1
08:40	6	5	0	1	29.5	31	11	29.5	11	2	1	1
08:45	5	5	0	1	30.5	31	11	30.5	11	2	1	1
08:50	5	5	0	1	30.5	31	11	30.5	11	2	1	1
08:55	10	6	1	1	30.5	31	11	30.5	11	2	1	1
09:00	8	1	0	1	30.5	31	11	30.5	11	2	1	1
09:05	7	5	0	1	30.5	31	11	30.5	11	2	1	1
09:10	5	5	0	1	30.5	31	11	30.5	11	2	1	1
09:15	8	1	0	1	30.5	31	11	30.5	11	2	1	1
09:20	5	3	1	1	30.5	31	11	30.5	11	2	1	1
09:25	11	3	0	1	30.5	31	11	30.5	11	2	1	1
09:30	0	0	0	1	30.5	31	11	30.5	11	2	1	1
09:35	0	0	0	1	30.5	31	11	30.5	11	2	1	1
09:40	0	0	0	1	30.5	31	11	30.5	11	2	1	1
09:45	0	0	0	1	30.5	31	11	30.5	11	2	1	1
09:50	0	0	0	1	30.5	31	11	30.5	11	2	1	1
09:55	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:00	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:05	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:10	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:15	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:20	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:25	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:30	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:35	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:40	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:45	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:50	0	0	0	1	30.5	31	11	30.5	11	2	1	1
10:55	0	0	0	1	30.5	31	11	30.5	11	2	1	1
11:00	0	0	0	1	30.5	31	11	30.5	11	2	1	1

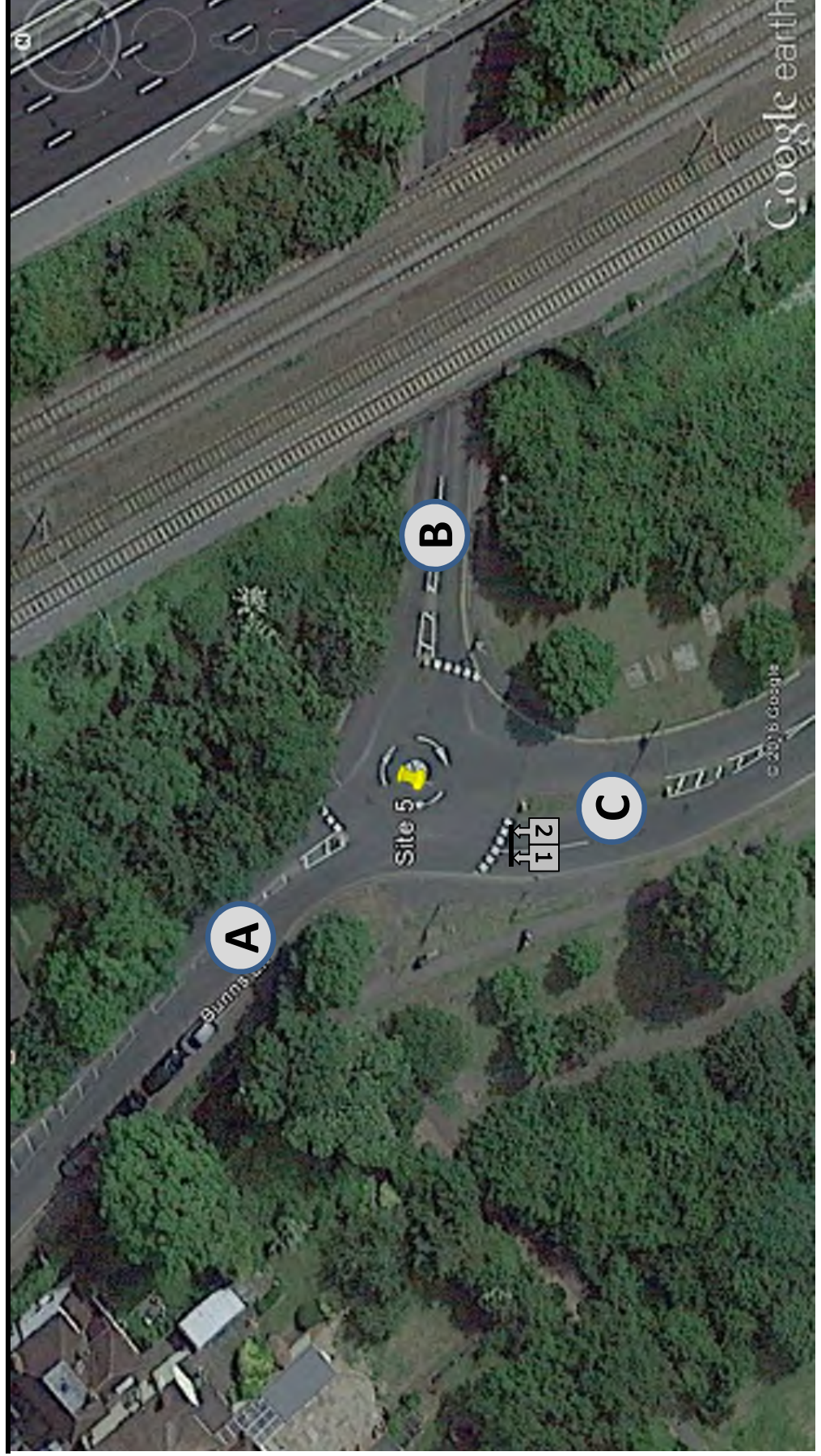
Project Number: TSP12743

Project Name: Pentavia Retail Park - Mill Hill

Survey Type: Queue Length

Site No: 5

Location: Bunns Lane / Grahame Park Way



Project Number: TSP12743
 Project Name: Pentavia Retail Park - Mill Hill
 Survey Type: Queue Length
 Site No: 5
 Location: Bunns Lane / Grahame Park Way
 Date: 16 June 2016, Thursday



1 1.5 2																			
Arm A					Arm B					Arm C									
Time	Lane 1				Time	Lane 1				Time	Lane 1				Lane 2				
	Car/Lgv	Ogv 1	Ogv 2/Bus	PCU		Lgv	Ogv 1	Ogv 2/Bus	metres		Lgv	Ogv 1	Ogv 2/Bus	metres	Lgv	Ogv 1	Ogv 2/Bus	metres	
07:30 - 09:30																			
07:30	6			6	07:30	6			6	07:30	2			2	4			4	
07:35	3			3	07:35	6			6	07:35	1			1	2			2	
07:40	5			5	07:40	4		1	6	07:40	2			2	2			2	
07:45	2			2	07:45	4			4	07:45	1			1	1			1	
07:50	3			3	07:50	5			5	07:50	3			3	2			2	
07:55	6			6	07:55	4			4	07:55	2			2	6			6	
08:00	2			2	08:00	3			3	08:00	2			2	2			2	
08:05	3			3	08:05	2			2	08:05			1	2	3			3	
08:10	2			2	08:10	5			5	08:10	9	1		10.5	3			3	
08:15	5			5	08:15	2			2	08:15	1		1	3	3			3	
08:20	2			2	08:20	2			2	08:20	2			2	1			1	
08:25	7			7	08:25	4			4	08:25	5			5	3			3	
08:30	2			2	08:30	29			29	08:30	5			5	2			2	
08:35	2			2	08:35	11			11	08:35	2		1	4	9			9	
08:40	5			5	08:40	5			5	08:40	2			2	5			5	
08:45	5			5	08:45	7			7	08:45	3			3	3			3	
08:50	4			4	08:50	9			9	08:50				0	2			2	
08:55	1			1	08:55	6			6	08:55	6			6	4			4	
09:00	3			3	09:00	9			9	09:00	1			1	1			1	
09:05	1			1	09:05	6			6	09:05	1			1	2			2	
09:10	3			3	09:10	6			6	09:10	1	1		2.5	1			1	
09:15	1			1	09:15	5			5	09:15	3			3				0	
09:20	4			4	09:20	4		1	4	09:20	1			1	6		1	8	
09:25	1			1	09:25	5			5	09:25	6	1		7.5	2			2	
17:00 - 19:00																			
17:00	3			3	17:00	4			4	17:00	1			1	2			2	
17:05	2			2	17:05	2			2	17:05	5			5	3			3	
17:10	4			4	17:10	3			3	17:10	2			2	3			3	
17:15	3			3	17:15	4			4	17:15	1		1	3	2			2	
17:20	4			4	17:20	5			5	17:20			1	0	5			5	
17:25	3			3	17:25	5			5	17:25	8			8	4			4	
17:30	2			2	17:30	6			6	17:30	3			3	2			2	
17:35				0	17:35	8			8	17:35	3			3	1			1	
17:40	5			5	17:40	10			10	17:40	8			8	1			1	
17:45				0	17:45	5			5	17:45	13			13	4			4	
17:50	3			3	17:50	25			25	17:50	5			5	5			5	
17:55	1			1	17:55	6			6	17:55	14			14	2			2	
18:00	4			4	18:00	7			7	18:00	17			17	2			2	
18:05	3			3	18:05	6			6	18:05	6			6	4			4	
18:10				0	18:10	4			4	18:10	2			2	3			3	
18:15	2			2	18:15	8			8	18:15	1			1	1			1	
18:20	2			2	18:20	5			5	18:20	4			4	2			2	
18:25	4			4	18:25	4			4	18:25	2			2	1			1	
18:30				0	18:30	3			3	18:30				0	1			1	
18:35	2			2	18:35	6			6	18:35	2			2	3		1	5	
18:40	3			3	18:40	5			5	18:40	6			6	1			1	
18:45				0	18:45	4			4	18:45	7			7				0	
18:50	4			4	18:50	5			5	18:50	1			1	3			3	
18:55	2			2	18:55	2			2	18:55	3			3				0	

Project Number: TSP12743

Project Name: Pentavia Retail Park - Mill Hill

Survey Type: Queue Length

Site No: 6

Location: Hale Lane / The Broadway / Bunns Lane



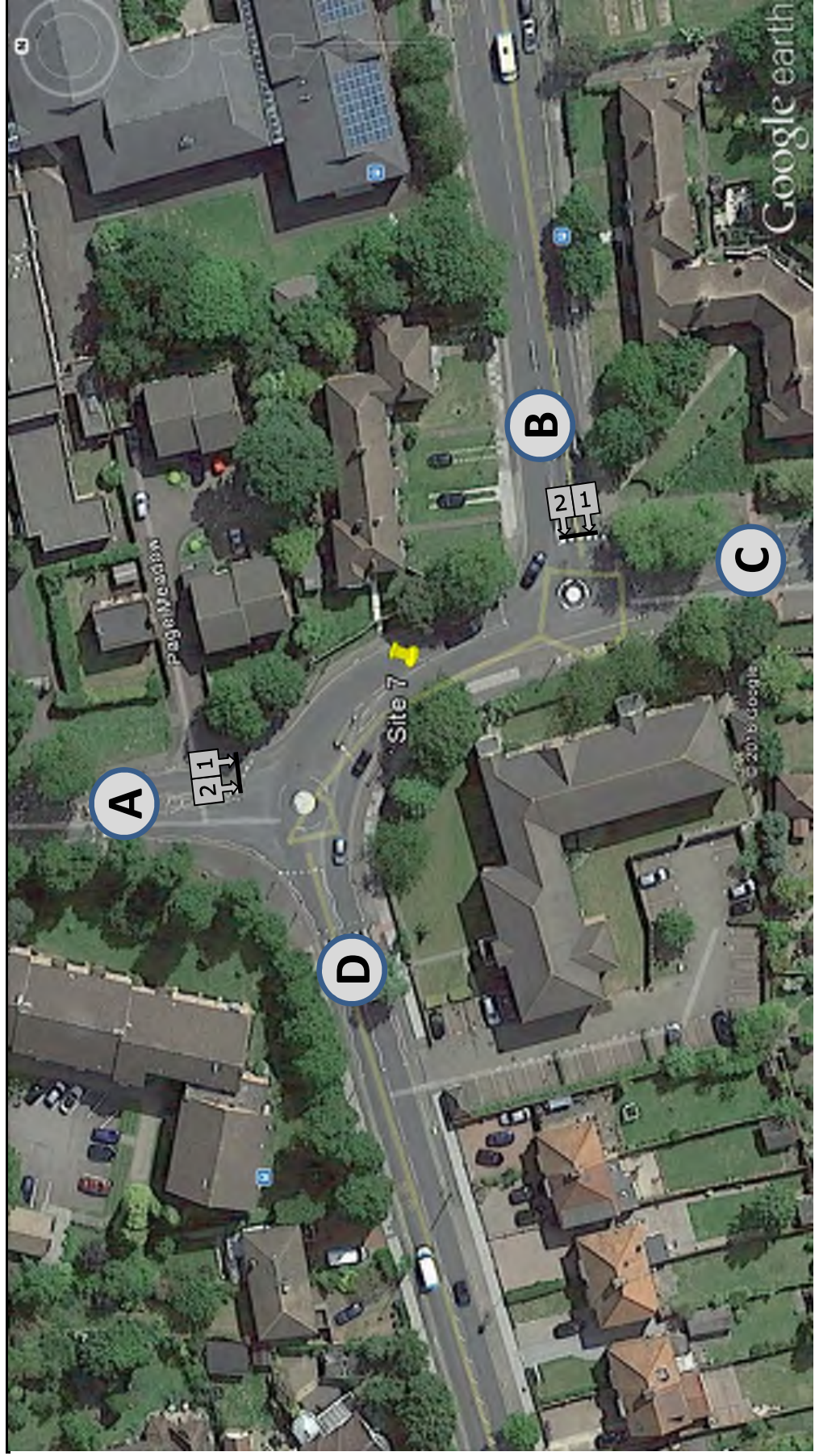
Project Number: TSP12743

Project Name: Pentavia Retail Park - Mill Hill

Survey Type: Queue Length

Site No: 7

Location: Page Street / Pursley Road / Bunns Lane



Appendix H

ATC DATA

TSP Class Profile All Days 15 Mins

Globals

Report Id CustomList-457
Descriptor TSP Class Profile All Days 15 Mins
Created by MetroCount Traffic Executive
Creation Time (UTC) 2016-07-11T14:14:16
Legal Copyright (c)1997 - 2014 MetroCount
Graphic header.gif
Language English
Country United Kingdom
Time UTC + 120 min
Create Version 4.0.6.0
Metric Non metric
Speed Unit mph
Length Unit ft
Mass Unit ton

Dataset

Site Name MILL HILL-01
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-01 0 2016-06-24 1458.EC0
File Type Plus
Algorithm Factory default axle
Description BUNNS LN [30M]
Lane 0
Direction 8
Direction Text 8 - East bound A]B, West bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-17T04:08:10
Start Time 2016-06-17T04:08:10
Finish Time 2016-06-24T14:56:10
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-01
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-01 0 2016-06-28 1247.EC0
File Type Plus
Algorithm Factory default axle
Description BUNNS LN [30M]
Lane 0
Direction 8
Direction Text 8 - East bound A]B, West bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-24T15:07:00
Start Time 2016-06-24T15:07:00
Finish Time 2016-06-28T12:47:00
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-01
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-01 0 2016-07-01 1544.EC0
File Type Plus
Algorithm Factory default axle
Description BUNNS LN [30M]
Lane 0
Direction 8
Direction Text 8 - East bound A]B, West bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-28T12:51:08
Start Time 2016-06-28T12:51:08
Finish Time 2016-07-01T15:46:08
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-01
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-0117Jun2016.EC0
File Type Plus
Algorithm Factory default axle
Description BUNNS LN [30M]
Lane 0
Direction 8
Direction Text 8 - East bound A]B, West bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-15T19:16:36
Start Time 2016-06-15T19:16:36
Finish Time 2016-06-17T04:06:36
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Name TSP Class Profile All Days New15 mins
Title TSP Traffic Reports
Graphic Logo C:\and Settings\Documents3.21_on_us_logo_cmyk 50.BMP
Header
Footer
Percentile 1 85
Percentile 2 95
Pace 12
Filter Start 2016-06-16T00:00:00
Filter End 2016-06-30T00:00:00
Class Scheme ARX
Low Speed 0
High Speed 120
Posted Limit 30
Speed Limits 35 45 30 30 30 0 0 0 0 30
Separation 0.000
Separation Type Headway
Direction East
Encoded Direction 2

TSP Class Profile All Days 15 Mins

Column

Time	24-hour time (0000 - 2359)
Total	Number in time step
Cls 1	Class totals
Cls 2	Class totals
Cls 3	Class totals
Cls 4	Class totals
Cls 5	Class totals
Cls 6	Class totals
Cls 7	Class totals
Cls 8	Class totals
Cls 9	Class totals
Cls 10	Class totals
Fix1	User defined fixed text
Time	24-hour time (0000 - 2359)
Vbin 0 5	Speed bin totals
Vbin 5 10	Speed bin totals
Vbin 10 15	Speed bin totals
Vbin 15 20	Speed bin totals
Vbin 20 25	Speed bin totals
Vbin 25 30	Speed bin totals
Vbin 30 35	Speed bin totals
Vbin 35 40	Speed bin totals
Vbin 40 45	Speed bin totals
Vbin 45 50	Speed bin totals
Vbin 50 55	Speed bin totals
Vbin 55 60	Speed bin totals
Vbin 60 130	Speed bin totals
Mean	Average speed
Vpp 85	Percentile speed
JPSL 30	Number exceeding Posted Speed Limit
JPSL% 30	Percent exceeding Posted Speed Limit
JSL1 35 ACPO	Number exceeding Speed Limit 1
JSL1% 35 ACPO	Percent exceeding Speed Limit 1
JSL2 45 DFT	Number exceeding Speed Limit 2
JSL2% 45 DFT	Percent exceeding Speed Limit 2
Fix1	User defined fixed text

Summary table with columns for time intervals (00:00 to 00:00) and various performance metrics (VbIn 5-35, Mean, Vpp, JPSL, JPSL%, JSL1, JSL2, JSL2%, JSL2% DFT, Fx1).

24 June 2016

Main data table for 24 June 2016. Columns include Time, Total, C1-10, Fx1, Time, and VbIn 5-35 (VbIn 5, VbIn 10, VbIn 15, VbIn 20, VbIn 25, VbIn 30, VbIn 35, VbIn 40, VbIn 45, VbIn 50, VbIn 55, VbIn 60, VbIn 65, VbIn 70, VbIn 75, VbIn 80, VbIn 85, VbIn 90). Summary columns include Mean, Vpp, JPSL, JPSL%, JSL1, JSL2, JSL2%, JSL2% DFT, Fx1.

25 June 2016

Main data table for 25 June 2016. Columns include Time, Total, C1-10, Fx1, Time, and VbIn 5-35 (VbIn 5, VbIn 10, VbIn 15, VbIn 20, VbIn 25, VbIn 30, VbIn 35, VbIn 40, VbIn 45, VbIn 50, VbIn 55, VbIn 60, VbIn 65, VbIn 70, VbIn 75, VbIn 80, VbIn 85, VbIn 90). Summary columns include Mean, Vpp, JPSL, JPSL%, JSL1, JSL2, JSL2%, JSL2% DFT, Fx1.

1045	131	0	125	1	4	0	1	0	0	0	0	0	0	0	1045	0	0	0	1	20	73	31	4	0	0	0	2	0	28.7	31.5	37	28.2	6	4.6	2	1.5
1046	158	0	158	1	3	1	0	0	0	0	0	0	0	1100	0	0	0	2	42	43	35	3	0	0	0	0	0	27.2	30.9	38	23.3	3	5.8	0	0	
1115	177	2	162	2	10	0	1	0	0	0	0	0	0	1115	0	0	0	5	43	93	34	2	0	0	0	0	0	27	30.4	36	20.3	2	1.1	0	0	
1130	190	1	177	3	8	1	0	0	0	0	0	0	0	1130	0	0	0	0	49	107	30	3	2	0	0	0	0	27.5	30.4	35	18.4	5	2.6	0	0	
1145	178	0	168	1	7	0	0	0	0	0	0	0	0	1145	0	0	0	0	12	32	45	3	0	0	0	0	0	27.8	30.2	35	19.7	1	1.3	0	0	
1200	152	0	146	1	6	0	0	0	0	0	0	0	0	1200	0	0	0	1	22	79	44	6	0	0	0	0	0	27.4	31.6	60	28.4	6	3.9	0	0	
1215	140	1	134	2	3	0	0	0	0	0	0	0	0	1215	0	1	1	7	21	79	28	3	0	0	0	0	0	27.3	30.6	31	22.1	3	2.1	0	0	
1230	141	1	141	1	7	2	0	0	0	0	0	0	0	1230	0	0	1	2	44	70	30	5	2	0	0	0	0	27	30.9	32	21.5	2	1.3	0	0	
1245	165	1	156	1	7	0	0	0	0	0	0	0	0	1245	0	0	0	1	34	93	35	2	4	0	0	0	0	27	30.9	37	22.4	2	1.2	0	0	
1300	164	1	149	4	10	0	0	0	0	0	0	0	0	1300	0	0	0	5	33	89	34	3	0	0	0	0	0	27.4	30.9	37	22.6	3	1.8	0	0	
1315	174	3	165	2	4	0	0	0	0	0	0	0	0	1315	0	0	0	4	74	73	18	2	2	1	0	0	0	28.2	29.5	23	13.2	5	2.9	1	0.6	
1330	153	1	128	1	2	0	1	0	0	0	0	0	0	1330	0	0	0	1	28	62	39	3	0	0	0	0	0	28	31.5	42	31.6	3	2.3	0	0	
1345	155	3	148	2	2	0	0	0	0	0	0	0	0	1345	0	0	0	3	33	76	38	4	1	0	0	0	0	27.7	31.3	43	27.7	5	3.2	0	0	
1400	137	2	130	2	3	0	0	0	0	0	0	0	0	1400	0	0	0	0	9	82	41	4	1	0	0	0	0	29	32	46	33.6	5	3.6	0	0	
1415	165	6	153	1	4	0	1	0	0	0	0	0	0	1415	0	0	0	0	1	28	62	39	3	0	0	0	0	28	31.1	32	23.1	1	1.5	0	0	
1430	121	1	114	1	5	0	0	0	0	0	0	0	0	1430	0	0	1	0	21	61	31	5	2	0	0	0	0	28.5	32	38	31.4	7	5.8	0	0	
1445	116	1	111	1	3	0	0	0	0	0	0	0	0	1445	0	0	0	2	13	50	44	7	0	0	0	0	0	28.4	33.1	51	44	7	6	0	0	
1500	143	0	137	0	4	0	1	0	0	0	0	0	0	1500	0	0	0	0	1	15	20	41	7	3	0	0	0	29.2	32.2	51	35.7	10	4	0	0	
1515	131	1	122	2	6	0	0	0	0	0	0	0	0	1515	0	1	0	2	21	65	36	5	1	0	0	0	0	28.3	32.7	42	32.1	6	4.6	0	0	
1530	110	1	102	1	5	0	1	0	0	0	0	0	0	1530	0	0	0	6	21	62	20	1	0	0	0	0	0	27	30.2	21	19.1	1	0.9	0	0	
1545	130	1	125	1	3	0	0	0	0	0	0	0	0	1545	0	0	0	10	40	57	20	2	1	0	0	0	0	28.3	30	23	13.7	1	0.7	0	0	
1600	119	2	112	1	4	0	0	0	0	0	0	0	0	1600	0	0	0	6	34	67	11	1	0	0	0	0	0	28	29.3	12	10.1	1	0.8	0	0	
1615	157	2	148	1	4	0	1	0	0	0	0	0	0	1615	0	0	0	2	7	35	82	27	4	0	0	0	0	28.9	30.9	31	19.7	4	2.5	0	0	
1630	149	3	143	0	2	0	0	0	0	0	0	0	0	1630	0	1	4	12	25	74	29	3	1	0	0	0	0	28.6	30.9	31	19.7	4	2.5	0	0	
1645	161	2	150	1	8	0	0	0	0	0	0	0	0	1645	0	0	0	4	36	78	42	2	1	0	0	0	0	27.7	31.5	45	28	3	1.9	0	0	
1700	129	2	119	2	6	0	0	0	0	0	0	0	0	1700	0	0	0	2	1	27	74	19	6	0	0	0	0	27.2	30.9	25	19.4	6	4.7	0	0	
1715	132	0	128	0	4	0	0	0	0	0	0	0	0	1715	0	0	0	0	17	80	28	5	2	0	0	0	0	28.6	31.3	35	26.5	7	5.3	0	0	
1730	130	1	120	3	6	0	0	0	0	0	0	0	0	1730	0	0	0	0	15	59	53	3	0	0	0	0	0	29.3	32.2	56	43.1	3	2.3	0	0	
1745	126	3	118	0	5	0	0	0	0	0	0	0	0	1745	0	0	0	1	27	61	52	2	3	0	0	0	0	28.2	32.2	37	29.4	5	4	0	0	
1800	145	1	109	0	1	0	0	0	0	0	0	0	0	1800	0	0	0	1	33	23	33	3	0	0	0	0	0	27.2	31.8	28	24.3	7.8	1.9	0	0	
1815	121	1	117	0	2	1	0	0	0	0	0	0	0	1815	0	1	0	6	27	48	37	3	0	0	0	0	0	27.8	32.4	41	33.9	4	3.3	1	0.8	
1830	130	2	124	0	4	0	0	0	0	0	0	0	0	1830	0	0	0	5	37	51	29	7	1	0	0	0	0	27.7	32	37	26.5	8	6.2	0	0	
1845	119	0	113	0	0	0	0	0	0	0	0	0	0	1845	0	0	0	2	4	18	43	21	6	0	0	0	0	27.6	31.5	38	31.9	0.8	0	0	0	
1900	121	0	117	0	3	1	0	0	0	0	0	0	0	1900	0	0	1	0	33	51	31	5	0	0	0	0	0	27.8	31.8	36	29.8	5	4.1	0	0	
1915	117	1	113	0	1	0	1	0	0	0	0	1	1915	0	0	1	5	29	50	30	2	0	0	0	0	0	0	27.5	31.1	32	27.4	2	1.7	0	0	
1930	120	0	109	1	5	2	1	0	0	0	0	0	0	1930	0	0	0	7	24	70	17	1	1	0	0	0	0	28.9	30	19	15.8	2	1.7	0	0	
1945	110	0	109	0	1	0	0	0	0	0	0	0	0	1945	0	0	0	3	18	63	21	5	0	0	0	0	0	27.8	31.1	28	23.8	4	4.5	0	0	
2000	107	1	101	2	2	0	1	0	0	0	0	0	0	2000	0	5	7	4	20	41	22	7	1	0	0	0	0	28.2	33.1	30	28	8	7.5	0	0	
2015	82	1	76	1	2	2	0	0	0	0	0	0	0	2015	0	0	1	9	39	29	4	0	0	0	0	0	0	29	33.1	33	40.2	4	4.9	0	0	
2030	79	0	79	0	3	1	0	0	0	0	0	0	0	2030	0	1	2	4	18	42	29	3	0	0	0	0	0	29	33.2	42	32.6	3	3.5	0	0	
2045	90	1	85	1	2	1	0	0	0	0	0	0	0	2045	0	0	2	14	42	27	4	1	0	0	0	0	0	0	28.6	32.7	32	35.6	5	5.6	0	0
2100	80	2	75	1	2	0	0	0	0	0	0	0	0	2100	0	0	0	16	30	25	8	1	0	0	0	0	0	28.3	33.3	34	42.5	9	11.3	0	0	
2115	47	1	71	0	0	0	0	0	0	0	0	0	0	2115	0	0	3	12	15	10	21	2	0	0	0	0	0	28.2	33.2	34	32.4	4	4.1	0	0	
2130	48	0	45	1	2	0	0	0	0	0	0	0	0	2130	0	0	6	30	10	2	0	0	0	0	0	0	0	0	28.1	32.4	12	25	2	4.2	0	0
2145	58	2	54	0	2	0	0	0	0	0	0	0	0	2145	0	1	0	6	26	21	2	1	1	0	0	0	0	29.4	32.4	25	43.1	4	6.9	1	1.7	
2200	53	0	51	0	2	0	0	0	0	0	0	0	0	2200	0	0	2	16	14	2	1	0	0	0	0	0	0	0	28.2	31.1	15	34.4	1.9	0	0	0
2215	52	1	51	0	0	0	0	0	0	0	0	0	0	2215	0	0	0	1	13	25	11	1	1	0	0	0	0	0	27.3	31.1	13	25	2	3.8	0	0
2230	72	2	88	1	1	0	0	0	0	0	0	0	0	2230	0	0	0	3	18	35	13	3	0	0	0	0	0	27.3	30.6	16	22.2	3	4.2	0	0	
2245	80	0	87	0	0	0	0	0	0	0	0	0	0	2245	0	0	0	2	14	22	14	2	0	0	0	0	0	27	30.2	24	15.6	0	0	0	0	
2300	62	1	60	0	1	0	0	0	0	0	0	0	0	2300	0	0	0	8	35	15	3	1	0	0	0	0	0	28.9	32.4	19	30.6	4	6.5	0	0	
2315	63	1	61	0	0	1	0	0	0	0	0																									

1530	172	0	155	2	14	0	0	0	0	0	0	0	0	0	1	1530	0	0	0	0	1	43	94	31	3	0	0	0	0	0	0	0	27.4	30.6	34	19.8	3	1.7	0	0
1545	157	0	132	1	16	0	0	0	0	0	0	0	0	0	0	1545	0	0	0	0	1	18	80	37	0	0	0	0	0	0	0	28.6	31.5	56	34.1	5	1.5	0	0	
1600	206	2	185	2	15	0	0	0	0	0	2	0	0	0	0	1600	0	0	0	0	2	44	117	40	1	2	0	0	0	0	27.5	30.9	43	20.9	3	1.5	0	0		
1615	229	1	218	1	9	0	0	0	0	0	0	0	0	0	0	1615	0	0	0	0	0	39	124	57	4	0	0	0	0	0	27.8	30.9	61	26.6	4	1.7	0	0		
1630	211	0	195	0	12	1	0	0	0	0	0	0	0	0	0	1630	0	0	0	0	0	32	105	35	4	0	0	0	0	0	27.8	30.4	89	16.5	4	1.9	0	0		
1645	194	3	179	1	11	0	0	0	0	0	0	0	0	0	0	1645	0	0	0	0	0	4	38	102	48	2	0	0	0	0	27.8	30.6	60	26.8	2	1	0	0		
1700	220	4	202	1	11	2	0	0	0	0	0	0	0	0	0	1700	0	0	0	0	0	10	80	99	28	1	0	0	0	0	25.7	29.5	29	13.2	1	0.5	0	0		
1715	203	2	182	2	3	0	0	0	0	0	0	0	0	0	0	1715	0	0	0	0	0	8	70	32	3	1	1	0	0	0	26.2	29.5	28	13.8	2	0	0	0		
1730	217	2	205	2	7	1	0	0	0	0	0	0	0	0	0	1730	0	23	31	40	68	68	14	1	0	0	0	0	0	0	26.2	31.2	11	6.1	1	0.5	0	0		
1745	200	0	197	2	1	0	0	0	0	0	0	0	0	0	0	1745	0	4	5	22	96	132	10	0	0	0	0	0	0	0	23.5	27.5	10	5	0	0	0	0		
1800	218	2	212	1	3	0	0	0	0	0	0	0	0	0	0	1800	0	0	0	0	4	48	132	29	3	0	0	0	0	0	26.8	29.6	32	14.7	3	1.4	0	0		
1815	223	2	214	3	3	0	0	1	0	0	0	0	0	0	0	1815	1	28	22	16	58	76	20	1	1	0	0	0	0	0	21.8	28.9	22	9.9	2	0.9	0	0		
1830	143	1	138	0	3	0	0	1	0	0	0	0	0	0	0	1830	3	24	3	6	21	47	31	6	2	0	0	0	0	0	24	32	39	27.3	8	5.6	0	0		
1845	201	3	189	2	6	0	1	0	0	0	0	0	0	0	0	1845	0	0	0	0	6	44	104	43	4	0	0	0	0	0	27.4	31.1	47	23.4	4	2	0	0		
1900	162	0	154	0	0	0	0	0	0	0	0	0	0	0	0	1900	0	0	0	0	12	90	30	6	0	0	0	0	0	0	23.8	31.8	38	34.5	2	0.9	0	0		
1915	167	1	159	2	5	0	0	0	0	0	0	0	0	0	0	1915	0	0	0	0	0	12	99	48	8	0	0	0	0	0	29.1	32	56	33.5	8	4.8	0	0		
1930	135	1	130	1	3	0	0	0	0	0	0	0	0	0	0	1930	0	0	0	0	14	68	45	6	2	0	0	0	0	0	29.4	32.9	53	39.3	8	5.9	0	0		
1945	124	1	121	0	2	0	0	0	0	0	0	0	0	0	0	1945	0	0	2	1	9	46	56	10	1	0	0	0	0	0	29.0	33.1	67	54	11	8.9	0	0		
2000	114	1	109	1	3	0	0	0	0	0	0	0	0	0	0	2000	0	0	0	0	4	12	52	42	4	0	0	0	0	0	28.8	32.9	46	40.4	4	3.5	0	0		
2015	122	2	118	0	2	0	0	0	0	0	0	0	0	0	0	2015	0	0	0	0	1	11	47	46	16	1	0	0	0	0	30.2	34.2	63	51.6	17	13.9	0	0		
2030	98	0	96	0	1	0	0	0	0	0	0	0	0	0	0	2030	0	0	0	0	1	9	34	41	13	1	0	0	0	0	30.8	34.4	55	56.1	14	14.3	0	0		
2045	95	1	89	0	5	0	0	0	0	0	0	0	0	0	0	2045	0	0	0	0	0	7	33	49	5	0	1	0	0	0	30.4	33.8	55	57.9	6	6.3	1	1.1		
2100	93	0	93	0	0	0	0	0	0	0	0	0	0	0	0	2100	0	0	0	0	0	5	42	37	8	0	1	0	0	0	30.3	34	46	49.5	9	9.7	1	1.1		
2115	107	1	104	0	1	1	0	0	0	0	0	0	0	0	0	2115	0	0	0	0	1	12	59	32	2	1	0	0	0	0	28.6	31.8	35	32.7	3	2.8	0	0		
2130	75	0	70	0	3	2	0	0	0	0	0	0	0	0	0	2130	0	0	0	0	0	11	41	16	3	1	1	0	2	0	29.7	32.9	23	30.7	7	9.3	3	4		
2145	66	3	61	1	1	0	0	0	0	0	0	0	0	0	0	2145	0	0	0	0	1	9	34	20	2	0	0	0	0	0	28.3	31.3	22	33.3	2	3	0	0		
2200	71	1	69	0	1	0	0	0	0	0	0	0	0	0	0	2200	0	0	0	0	1	8	33	24	5	0	0	0	0	0	29.5	33.1	29	40.8	5	7	0	0		
2215	59	1	57	0	1	0	0	0	0	0	0	0	0	0	0	2215	0	0	0	0	0	16	30	8	5	0	0	0	0	0	27.7	31.5	13	22	5	8.5	0	0		
2230	51	1	49	0	1	0	0	0	0	0	0	0	0	0	0	2230	0	0	0	0	1	7	30	13	0	0	0	0	0	0	27.9	30.6	13	25.5	0	0	0	0		
2245	42	0	42	0	0	0	0	0	0	0	0	0	0	0	0	2245	0	0	0	0	0	13	42	7	1	0	0	0	0	0	27.8	32.7	16	37.2	4	4.7	0	0		
2300	40	0	38	0	1	1	0	0	0	0	0	0	0	0	0	2300	0	0	0	0	0	14	15	3	0	1	0	0	0	0	29.9	34.4	19	47.5	4	10	1	2.5		
2315	48	1	44	0	2	1	0	0	0	0	0	0	0	0	0	2315	0	0	0	0	1	7	27	9	4	0	0	0	0	0	27.9	30.2	13	27.1	4	8.3	0	0		
2330	28	2	26	0	1	0	0	0	0	0	0	0	0	0	0	2330	0	0	0	0	0	5	23	8	1	1	0	0	0	0	23.5	32.0	10	38.7	3	4.3	0	0		
2345	34	0	31	0	3	0	0	0	0	0	0	0	0	0	0	2345	0	0	0	0	0	9	15	8	2	0	0	0	0	0	28.1	33.1	10	29.4	2	5.9	0	0		
07-19	8217	77	7633	61	398	16	12	6	8	1	6	07-19	13	217	261	410	1886	3917	1506	171	19	2	2	0	2	0	0	3	26.1	30.6	1703	20.7	197	2.4	7	0.1				
08-22	3078	97	9201	71	482	21	14	6	9	1	6	08-22	13	217	264	424	1841	4872	2116	284	33	6	3	2	3	2	0	3	26.7	31.3	2447	24.8	331	3.4	14	0.1				
09-00	10254	101	9287	71	462	24	16	6	8	1	6	09-00	13	217	264	427	1811	4890	2215	306	34	7	3	2	3	2	0	3	26.8	31.3	2979	25.1	358	3.6	16	0.1				
00-00	10516	107	9799	71	471	28	18	6	9	1	6	00-00	13	217	265	429	1927	4951	2312	339	46	7	4	3	2	3	2	0	3	26.9	31.5	2714	25.8	402	3.8	17	0.2			

29 June 2011

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0	Vbin 5	Vbin 10	Vbin 15	Vbin 20	Vbin 25	Vbin 30	Vbin 35	Vbin 40	Vbin 45	Vbin 50	Vbin 55	Vbin 60	Mean	Vpp	JPLS	JPLS%	JSL1	JSL1%	JSL2	JSL2%	Fix1	
														0	5	10	15	20	25	30	35	40	45	50	55	60					ACPO	ACPO	DFT	DFT		
0000	19	2	16	0	1	0	0	0	0	0	0	0	0000	0	0	0	1	8	6	8	0	2	1	0	0	0	31.9	34	11	57.9	3	15.1	0	0	5.3	
0015	23	0	21	0	2	0	0	0	0	0	0	0	0015	0	0	0	0	2	5	8	6	3	0	0	0	0	29.6	36.2	10	43.5	0	17.4	1	4.3		
0030	28	0	25	0	3	0	0	0	0	0	0	0	0030	0	0	0	0	4	10	10	3	0	0	0	0	0	29.7	33.6	13	46.4	3	10.7	0	0		
0045	15	0	14	0	1	0	0	0	0	0	0	0	0045	0	0	0	0	5	4	5	4	2	0	0	0	0	29	33.6	6	40	2	13.3	0	0		
0100	14	0	14	0	0	0	0	0	0	0	0	0	0100	0	0	0	0	1	3	6	3	1	0	0	0	0	3	28	31.5	4	28.6	1	7.1	0	0	
0115	8	0	8	0	0	0	0	0	0	0	0	0	0115	0	0	0	0	1	6	0	1	0	0	0	0	0	28.1	1	12.5	1	12.5	0	0	0		
0130	7	0	7	0	0	0	0	0	0	0	0	0	0130	0	0	0	0	0	1	4	2	0	0	0	0	0	32.7	6	95.7	2	26.6	0	0	0		
0145	7	6	6	0	0	0	0	0																												

TSP Class Profile All Days 15 Mins

Report ID - CustomList-457
Site Name - MILL HILL-01
Description - BUNNS LN [30M]
Direction - West

16 June 2016

Table with columns: Time, Total, C1s, C2s, C3s, C4s, C5s, C6s, C7s, C8s, C9s, C10s, Fix1, Time, Vbin 0-130, Mean, Vpp 55-60, JPLS 30, JPLS1 35, JPLS2 40, JPLS3 45, JPLS4 50, JPLS5 55, JPLS6 60, JPLS7 65, JPLS8 70, JPLS9 75, JPLS10 80, JPLS11 85, JPLS12 90, JPLS13 95, JPLS14 100, JPLS15 105, JPLS16 110, JPLS17 115, JPLS18 120, JPLS19 125, JPLS20 130, JPLS21 135, JPLS22 140, JPLS23 145, JPLS24 150, JPLS25 155, JPLS26 160, JPLS27 165, JPLS28 170, JPLS29 175, JPLS30 180, JPLS31 185, JPLS32 190, JPLS33 195, JPLS34 200, JPLS35 205, JPLS36 210, JPLS37 215, JPLS38 220, JPLS39 225, JPLS40 230, JPLS41 235, JPLS42 240, JPLS43 245, JPLS44 250, JPLS45 255, JPLS46 260, JPLS47 265, JPLS48 270, JPLS49 275, JPLS50 280, JPLS51 285, JPLS52 290, JPLS53 295, JPLS54 300, JPLS55 305, JPLS56 310, JPLS57 315, JPLS58 320, JPLS59 325, JPLS60 330, JPLS61 335, JPLS62 340, JPLS63 345, JPLS64 350, JPLS65 355, JPLS66 360, JPLS67 365, JPLS68 370, JPLS69 375, JPLS70 380, JPLS71 385, JPLS72 390, JPLS73 395, JPLS74 400, 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1215	121	0	113	0	7	0	0	0	0	0	0	0	0	1215	0	0	2	5	27	44	36	7	0	0	0	0	0	0	27.7	32.4	43	35.5	7	5.8	0	0
1230	150	2	138	1	6	0	0	0	0	0	0	0	0	1230	0	4	8	2	8	61	32	7	1	0	0	0	0	0	28	32.7	63	40.8	8	5.2	0	0
1245	155	2	137	1	12	1	2	0	0	0	0	0	0	1245	0	0	1	10	13	68	55	8	0	0	0	0	0	0	28.8	32.7	63	40.8	8	5.2	0	0
1300	148	2	141	0	5	0	0	0	0	0	0	0	0	1300	0	0	2	7	21	69	45	4	0	0	0	0	0	0	28.2	32.4	49	33.1	4	2.7	0	0
1315	139	1	126	1	1	0	0	0	0	0	0	0	0	1315	0	0	1	18	59	59	9	1	0	0	0	0	0	0	28.6	33.6	69	48.6	10	7.2	0	0
1330	135	2	123	0	10	0	0	0	0	0	0	0	0	1330	0	0	0	0	11	67	46	10	3	0	0	0	0	0	29.7	32.9	69	43.7	13	8.6	0	0
1345	141	2	122	1	16	0	0	0	0	0	0	0	0	1345	0	0	3	9	17	61	44	6	0	0	0	0	1	0	28.1	32	51	36.2	7	5.1	0.7	0
1400	136	2	128	0	6	0	0	0	0	0	0	0	0	1400	0	0	1	21	49	51	10	3	0	0	0	0	1	0	28.3	33.1	64	47.1	13	9.6	0	0
1415	141	0	129	1	10	0	0	0	0	0	0	0	1	1415	0	0	0	4	19	58	54	7	1	0	0	0	0	28.1	33.6	62	44	8	5.7	0	0	
1430	134	1	124	0	9	0	0	0	0	0	0	0	0	1430	0	0	1	12	17	54	44	5	1	0	0	0	0	28.1	32	50	37.3	6	4.5	0	0	
1445	145	1	134	0	10	0	0	0	0	0	0	0	0	1445	0	0	0	0	4	62	46	11	2	0	0	0	0	30.4	32.7	79	54.5	13	9	0	0	
1500	153	1	148	0	3	1	0	0	0	0	0	0	0	1500	0	0	1	8	28	87	24	5	0	0	0	0	0	27	30.2	29	19	3	0	0	0	
1515	186	1	179	0	4	0	0	0	0	0	0	0	2	1515	0	2	1	8	46	87	39	2	1	0	0	0	0	26.8	30.9	42	22.6	3	1.6	0	0	
1530	233	4	213	3	9	0	1	2	0	0	0	0	1	1530	0	5	25	35	56	73	34	4	1	0	0	0	0	23.5	30	39	16.7	5	2.1	0	0	
1545	238	2	219	1	15	0	0	0	0	0	0	0	0	1545	0	0	1	11	11	64	44	5	0	0	0	0	0	24.6	30.4	34	17	3	1.5	0	0.4	
1600	217	4	194	1	16	1	1	0	0	0	0	0	0	1600	0	1	0	10	36	104	60	6	0	0	0	0	0	27.9	31.5	66	30.4	6	2.8	0	0	
1615	204	0	193	0	11	0	0	0	0	0	0	0	0	1615	0	0	20	27	12	64	74	6	1	0	0	0	0	26.7	32.2	61	39.7	7	3.4	0	0	
1630	178	1	180	0	12	0	0	0	0	0	0	0	0	1630	0	0	0	0	21	73	32	10	2	0	0	0	0	26.4	32.2	84	47.2	12	14.2	0	0	
1645	179	1	165	1	11	1	0	0	0	0	0	0	0	1645	0	0	0	19	34	78	47	3	0	0	0	0	0	27.2	32	50	27.9	3	1.7	0	0	
1700	208	1	197	0	8	1	1	0	0	0	0	0	0	1700	0	1	7	8	19	126	41	6	1	1	0	0	0	27.6	30.6	49	23.6	8	3.8	1	0.5	
1715	200	2	183	0	11	0	3	1	0	0	0	0	0	1715	0	0	5	12	16	59	74	3	1	0	0	0	0	24.8	30.4	34	17	3	1.5	0	0	
1730	183	2	172	0	8	1	0	0	0	0	0	0	0	1730	0	1	4	3	24	88	56	7	0	0	0	0	0	28	32.2	63	34.4	7	3.8	0	0	
1745	203	2	192	1	7	0	1	0	0	0	0	0	0	1745	0	1	0	17	49	89	44	2	0	1	0	0	0	26.5	30.9	47	23.2	3	1.5	1	0.5	
1800	171	1	159	0	9	0	2	0	0	0	0	0	0	1800	0	1	1	8	32	88	35	5	1	0	0	0	0	27.4	31.5	41	24	6	3.5	0	0	
1815	176	6	159	0	11	0	0	0	0	0	0	0	0	1815	0	2	4	2	3	64	92	9	0	0	0	0	0	29.8	33.1	101	57.4	9	5.1	0	0	
1830	165	2	159	0	6	0	0	0	0	0	0	0	0	1830	0	0	0	2	9	47	87	17	3	0	0	0	0	30.9	34.2	107	64.8	20	12.1	0	0	
1845	153	2	148	0	3	0	0	0	0	0	0	0	0	1845	0	0	0	3	13	77	21	4	1	0	0	0	0	30.1	34	66	43.1	15	9.8	3	0	
1900	145	0	140	0	5	0	0	0	0	0	0	0	0	1900	0	0	0	7	9	61	55	12	1	0	0	0	0	29.5	32.9	68	46.9	13	9	0	0	
1915	137	4	128	0	4	0	0	0	0	0	0	0	0	1915	0	0	0	0	1	6	52	66	12	0	0	0	0	30.5	33.6	78	56.9	12	8.8	0	0	
1930	143	3	137	0	5	0	0	0	0	0	0	0	0	1930	0	0	0	0	0	10	52	65	14	0	0	0	0	30.4	34.2	63	58	15	9.5	0	0	
1945	131	2	123	1	3	0	0	0	0	0	1	0	1	1945	0	1	4	3	8	43	62	9	1	0	0	0	0	29.4	33.3	72	55	10	7.6	0	0	
2000	132	2	122	1	6	0	1	0	0	0	0	0	0	2000	0	0	0	2	13	51	51	11	2	2	0	0	0	30.2	33.6	66	50	15	11.4	2	1.5	
2015	100	0	97	0	1	0	0	0	0	0	0	0	0	2015	0	0	0	0	2	23	19	4	2	0	0	0	0	31.8	35.6	69	20	2	0	0	1	
2030	76	3	68	0	5	0	0	0	0	0	0	0	0	2030	0	1	0	0	3	20	42	9	1	0	0	0	0	31.2	34.7	52	68.4	10	13.2	0	0	
2045	86	1	82	0	3	0	0	0	0	0	0	0	0	2045	0	1	0	0	2	32	40	9	2	0	0	0	0	30.8	34.2	51	59.8	11	12.8	0	0	
2100	86	1	84	0	1	0	0	0	0	0	0	0	0	2100	0	0	4	1	3	25	42	7	4	0	0	0	0	30.4	33.6	53	61.8	11	12.8	0	0	
2115	80	1	77	0	2	0	0	0	0	0	0	0	0	2115	0	0	0	4	2	21	47	11	4	0	0	0	0	31.7	34.7	65	68.8	14	15.2	0	0	
2130	65	1	63	0	1	0	0	0	0	0	0	0	0	2130	1	0	0	0	2	22	22	5	3	0	0	0	0	30.3	34.4	30	46.2	8	12.3	0	0	
2145	73	0	71	0	2	0	0	0	0	0	0	0	0	2145	0	0	0	0	1	22	36	11	1	2	0	0	0	32.1	35.1	50	68.5	14	19.2	2	2.7	
2200	43	0	74	0	1	0	0	0	0	0	0	0	0	2200	3	74	3	2	3	26	6	1	0	0	0	0	0	32	33.3	41	51.9	7	8	0	0	
2215	84	1	81	1	1	0	0	0	0	0	0	0	0	2215	0	0	0	0	5	41	31	6	1	0	0	0	0	29.8	32	38	45.2	7	8.3	0	0	
2230	71	1	67	1	2	0	0	0	0	0	0	0	0	2230	0	0	0	0	9	20	32	8	1	0	0	0	0	30.7	34.7	42	59.2	10	14.1	1	1.4	
2245	43	0	40	0	1	0	0	0	0	0	0	0	0	2245	0	0	0	2	2	24	2	2	0	0	0	0	0	32	31.5	16	23.3	6	9	0	0	
2300	38	0	36	1	1	0	0	0	0	0	0	0	0	2300	0	0	0	1	2	18	12	1	4	0	0	0	0	30.3	33.6	17	44.7	5	13.2	0	0	
2315	48	0	45	0	3	0	0	0	0	0	0	0	0	2315	0	0	0	0	12	17	14	5	0	0	0	0	0	28.8	32.9	19	39.6	5	10.4	0	0	
2330	42	0	40	0	2	0	0	0	0	0	0	0	0	2330	0	0	0	0	5	15	9	1	1	0	0	0	0	34.7	35	59.5	14.3	10	19.5	0	0	
2345	42	2	39	0	1	0	0	0	0	0	0	0	0	2345	0	0	0	0	0	18	19	3	2	0	0	0	0	31.4	34.2	24	57.1	5	11.9	0	0	
07-19	7908	83	7295	23	456	12	23	4	2	2	2	0	0	07-19	4	72	229	480	1293	3247	2241	317	34	5	3	3	0	0	27.4	32	2603	32.9	982	4.6	11	0.1
06-22	9377	107	8961	27	925	14	24	4	3	2	2	10	10	06-22	8	78	240	491	1363	2931	471	88	14	3	3	3	1	1	28.1	32.7	3481	37.1	950	5.8	29	0.2
06-00	9824	115	9083	31	537	15	24	4	3	2	2	10	10	06-00	8	76	241	488	1404	3912	3099	507	70	14												

TSP Class Profile All Days 15 Mins

Globals

Report Id CustomList-457
Descriptor TSP Class Profile All Days 15 Mins
Created by MetroCount Traffic Executive
Creation Time (UTC) 2016-07-11T14:17:27
Legal Copyright (c)1997 - 2014 MetroCount
Graphic header.gif
Language English
Country United Kingdom
Time UTC + 120 min
Create Version 4.0.6.0
Metric Non metric
Speed Unit mph
Length Unit ft
Mass Unit ton

Dataset

Site Name MILL HILL-02
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-02 0 2016-06-24 1450.EC0
File Type Plus
Algorithm Factory default axle
Description PAGE STREET [30M]
Lane 0
Direction 7
Direction Text 7 - North bound A]B, South bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-17T04:40:33
Start Time 2016-06-17T04:40:33
Finish Time 2016-06-24T14:48:33
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-02
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-02 0 2016-06-28 1241.EC0
File Type Plus
Algorithm Factory default axle
Description PAGE STREET [30M]
Lane 0
Direction 7
Direction Text 7 - North bound A]B, South bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-24T14:55:48
Start Time 2016-06-24T14:55:48
Finish Time 2016-06-28T12:41:48
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-02
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-02 0 2016-07-01 1538.EC0
File Type Plus
Algorithm Factory default axle
Description PAGE STREET [30M]
Lane 0
Direction 7
Direction Text 7 - North bound A]B, South bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-28T12:44:15
Start Time 2016-06-28T12:44:15
Finish Time 2016-07-01T15:40:15
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-02
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-0217Jun2016.EC0
File Type Plus
Algorithm Factory default axle
Description PAGE STREET [30M]
Lane 0
Direction 7
Direction Text 7 - North bound A]B, South bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-15T19:02:55
Start Time 2016-06-15T19:02:55
Finish Time 2016-06-17T04:38:55
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Name TSP Class Profile All Days New15 mins
Title TSP Traffic Reports
Graphic Logo C:\and Settings\Documents3.21_on_us_logo_cmyk 50.BMP
Header
Footer
Percentile 1 85
Percentile 2 95
Pace 12
Filter Start 2016-06-16T00:00:00
Filter End 2016-06-30T00:00:00
Class Scheme ARX
Low Speed 0
High Speed 120
Posted Limit 30
Speed Limits 35 45 30 30 0 0 0 0 30
Separation 0.000
Separation Type Headway
Direction North
Encoded Direction 1

TSP Class Profile All Days 15 Mins

Column

Time	24-hour time (0000 - 2359)
Total	Number in time step
Cls 1	Class totals
Cls 2	Class totals
Cls 3	Class totals
Cls 4	Class totals
Cls 5	Class totals
Cls 6	Class totals
Cls 7	Class totals
Cls 8	Class totals
Cls 9	Class totals
Cls 10	Class totals
Fix1	User defined fixed text
Time	24-hour time (0000 - 2359)
Vbin 0 5	Speed bin totals
Vbin 5 10	Speed bin totals
Vbin 10 15	Speed bin totals
Vbin 15 20	Speed bin totals
Vbin 20 25	Speed bin totals
Vbin 25 30	Speed bin totals
Vbin 30 35	Speed bin totals
Vbin 35 40	Speed bin totals
Vbin 40 45	Speed bin totals
Vbin 45 50	Speed bin totals
Vbin 50 55	Speed bin totals
Vbin 55 60	Speed bin totals
Vbin 60 130	Speed bin totals
Mean	Average speed
Vpp 85	Percentile speed
JPSL 30	Number exceeding Posted Speed Limit
JPSL% 30	Percent exceeding Posted Speed Limit
JSL1 35 ACPO	Number exceeding Speed Limit 1
JSL1% 35 ACPO	Percent exceeding Speed Limit 1
JSL2 45 DFT	Number exceeding Speed Limit 2
JSL2% 45 DFT	Percent exceeding Speed Limit 2
Fix1	User defined fixed text

TSP Class Profile All Days 15 Mins

Report Id - CustomList-457
Site Name - MILL HILL-02
Description - PAGE STREET [30M]
Direction - North

16 June 2016

Table with 32 columns: Time, Total, Cls 1-10, Fix1, Time, Vbin 0-10, Mean, Vpp, JSL, JSL1-5, JSL2-5, Fix1. Data rows from 0000 to 1200.

17 June 2016

Table with 32 columns: Time, Total, Cls 1-10, Fix1, Time, Vbin 0-10, Mean, Vpp, JSL, JSL1-5, JSL2-5, Fix1. Data rows from 0000 to 1200.

Table with multiple columns containing numerical data, likely representing a dataset for 18 June 2016. The table includes a dense grid of values, possibly representing measurements or counts across various categories.

18 June 2016

Main data table for 18 June 2016 with 55 columns. Headers include Time, Total, C1s-10, Vbn, Mean, and various JSL/PSL metrics. The table contains multiple rows of numerical data.

19 June 2016

Main data table for 19 June 2016 with 55 columns. Headers include Time, Total, C1s-10, Vbn, Mean, and various JSL/PSL metrics. The table contains multiple rows of numerical data.

Table with multiple columns representing various data points for a time period from 2016-07-19 to 2016-06-00. Columns include identifiers, counts, and percentages.

24 June 2016

Main table for June 24, 2016. Columns include Time, Total, C1-10, Fix1, Time, and 30 Vbin columns. It contains detailed performance metrics for each time slot.

25 June 2016

Main table for June 25, 2016. Columns include Time, Total, C1-10, Fix1, Time, and 30 Vbin columns. It contains detailed performance metrics for each time slot.

TSP Class Profile All Days 15 Mins

Report Id - CustomList-457
Site Name - MILL HILL-02
Description - PAGE STREET [30M]
Direction - South

16 June 2016

Table with 34 columns: Time, Total, C1s, C2s, C3s, C4s, C5s, C6s, C7s, C8s, C9s, C10s, Fix1, Time, Vbin 0-10, Vbin 10-15, Vbin 15-20, Vbin 20-25, Vbin 25-30, Vbin 30-35, Vbin 35-40, Vbin 40-45, Vbin 45-50, Vbin 50-55, Vbin 55-60, Vbin 60-65, Mean, Ypp, JSL, JSL30, JSL35, JSL40, JSL45, JSL2.5, JSL2.5 DFT, Fix1.

17 June 2016

Table with 34 columns: Time, Total, C1s, C2s, C3s, C4s, C5s, C6s, C7s, C8s, C9s, C10s, Fix1, Time, Vbin 0-10, Vbin 10-15, Vbin 15-20, Vbin 20-25, Vbin 25-30, Vbin 30-35, Vbin 35-40, Vbin 40-45, Vbin 45-50, Vbin 50-55, Vbin 55-60, Vbin 60-65, Mean, Ypp, JSL, JSL30, JSL35, JSL40, JSL45, JSL2.5, JSL2.5 DFT, Fix1.

TSP Class Profile All Days 15 Mins

Globals

Report Id CustomList-457
 Descriptor TSP Class Profile All Days 15 Mins
 Created by MetroCount Traffic Executive
 Creation Time (UTC) 2016-07-11T14:23:39
 Legal Copyright (c)1997 - 2014 MetroCount
 Graphic header.gif
 Language English
 Country United Kingdom
 Time UTC + 120 min
 Create Version 4.0.6.0
 Metric Non metric
 Speed Unit mph
 Length Unit ft
 Mass Unit ton

Dataset

Site Name MILL HILL-03
 Site Attribute MILL HILL
 File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-03 0 2016-06-24 1544.ECO
 File Type Plus
 Algorithm Factory default axle
 Description THE BROADWAY [30M]
 Lane 0
 Direction 8
 Direction Text 8 - East bound A|B, West bound B|A.
 Layout Text Axle sensors - Paired (Class/Speed/Count)
 Setup Time 2016-06-17T03:26:26
 Start Time 2016-06-17T03:26:26
 Finish Time 2016-06-24T15:42:26
 Operator VR
 Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-03
 Site Attribute MILL HILL
 File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-03 0 2016-06-28 1302.ECO
 File Type Plus
 Algorithm Factory default axle
 Description THE BROADWAY [30M]
 Lane 0
 Direction 8
 Direction Text 8 - East bound A|B, West bound B|A.
 Layout Text Axle sensors - Paired (Class/Speed/Count)
 Setup Time 2016-06-24T15:52:16
 Start Time 2016-06-24T15:52:16
 Finish Time 2016-06-28T13:01:16
 Operator VR
 Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-03
 Site Attribute MILL HILL
 File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-03 0 2016-07-01 1559.ECO
 File Type Plus
 Algorithm Factory default axle
 Description THE BROADWAY [30M]
 Lane 0
 Direction 8
 Direction Text 8 - East bound A|B, West bound B|A.
 Layout Text Axle sensors - Paired (Class/Speed/Count)
 Setup Time 2016-06-28T13:06:01
 Start Time 2016-06-28T13:06:01
 Finish Time 2016-07-01T16:01:01
 Operator VR
 Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-03
 Site Attribute MILL HILL
 File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-03 0 2016-07-08 2249.ECO
 File Type Plus
 Algorithm Factory default axle
 Description THE BROADWAY [30M]
 Lane 0
 Direction 8
 Direction Text 8 - East bound A|B, West bound B|A.
 Layout Text Axle sensors - Paired (Class/Speed/Count)
 Setup Time 2016-07-01T16:03:32
 Start Time 2016-07-01T16:03:32
 Finish Time 2016-07-08T22:48:32
 Operator VR
 Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-03
 Site Attribute MILL HILL
 File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-0317Jun2016.ECO
 File Type Plus
 Algorithm Factory default axle
 Description THE BROADWAY [30M]
 Lane 0
 Direction 8
 Direction Text 8 - East bound A|B, West bound B|A.
 Layout Text Axle sensors - Paired (Class/Speed/Count)
 Setup Time 2016-06-15T19:53:35
 Start Time 2016-06-15T19:53:35
 Finish Time 2016-06-17T03:24:35
 Operator VR
 Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Name TSP Class Profile All Days New15 mins
 Title TSP Traffic Reports
 Graphic Logo C:\and Settings\Documents\3.21_on_us_logo_cmyk 50.BMP
 Header
 Footer
 Percentile 1 85
 Percentile 2 95
 Pace 12
 Filter Start 2016-06-16T00:00:00
 Filter End 2016-06-30T00:00:00
 Class Scheme ARX
 Low Speed 0
 High Speed 120
 Posted Limit 30
 Speed Limits 35 45 30 30 0 0 0 0 30
 Separation 0.000
 Separation Type Headway
 Direction East
 Encoded Direction 2

TSP Class Profile All Days 15 Mins

Column

Time	24-hour time (0000 - 2359)
Total	Number in time step
Cls 1	Class totals
Cls 2	Class totals
Cls 3	Class totals
Cls 4	Class totals
Cls 5	Class totals
Cls 6	Class totals
Cls 7	Class totals
Cls 8	Class totals
Cls 9	Class totals
Cls 10	Class totals
Fix1	User defined fixed text
Time	24-hour time (0000 - 2359)
Vbin 0 5	Speed bin totals
Vbin 5 10	Speed bin totals
Vbin 10 15	Speed bin totals
Vbin 15 20	Speed bin totals
Vbin 20 25	Speed bin totals
Vbin 25 30	Speed bin totals
Vbin 30 35	Speed bin totals
Vbin 35 40	Speed bin totals
Vbin 40 45	Speed bin totals
Vbin 45 50	Speed bin totals
Vbin 50 55	Speed bin totals
Vbin 55 60	Speed bin totals
Vbin 60 130	Speed bin totals
Mean	Average speed
Vpp 85	Percentile speed
JPSL 30	Number exceeding Posted Speed Limit
JPSL% 30	Percent exceeding Posted Speed Limit
JSL1 35 ACPO	Number exceeding Speed Limit 1
JSL1% 35 ACPO	Percent exceeding Speed Limit 1
JSL2 45 DFT	Number exceeding Speed Limit 2
JSL2% 45 DFT	Percent exceeding Speed Limit 2
Fix1	User defined fixed text

TSP Class Profile All Days 15 Mins

Report Id - CustomList-457
Site Name - MILL HILL-03
Description - THE BROADWAY [30M]
Direction - East

16 June 2016

Table with columns: Time, Total, C1s, C2s, C3s, C4s, C5s, C6s, C7s, C8s, C9s, C10s, Fix1, Time, Vbin 0-5, Vbin 5-10, Vbin 10-15, Vbin 15-20, Vbin 20-25, Vbin 25-30, Vbin 30-35, Vbin 35-40, Vbin 40-45, Vbin 45-50, Vbin 50-55, Vbin 55-60, Vbin 60-65, Mean, Ypp, JSL, JSL30, JSL35, JSL45, JSL2% DFT, JSL2% DFT, Fix1. Contains detailed traffic data for various time intervals.

17 June 2016

Table with columns: Time, Total, C1s, C2s, C3s, C4s, C5s, C6s, C7s, C8s, C9s, C10s, Fix1, Time, Vbin 0-5, Vbin 5-10, Vbin 10-15, Vbin 15-20, Vbin 20-25, Vbin 25-30, Vbin 30-35, Vbin 35-40, Vbin 40-45, Vbin 45-50, Vbin 50-55, Vbin 55-60, Vbin 60-65, Mean, Ypp, JSL, JSL30, JSL35, JSL45, JSL2% DFT, JSL2% DFT, Fix1. Contains detailed traffic data for various time intervals.

1215	87	2	76	0	6	0	0	1	0	1	1	0	1	1215	1	11	38	33	4	0	0	0	0	0	0	0	0	0	0	0	14.2	18.6	0	0	0	0	0	0	0	0
1230	78	2	78	1	3	0	0	0	0	1	1	0	1	1230	1	17	51	14	1	0	0	0	0	0	0	0	0	0	0	0	12.2	15	0	0	0	0	0	0	0	0
1245	104	2	98	0	2	0	2	0	0	0	0	0	1	1245	0	6	56	33	7	0	0	0	0	0	0	0	0	0	0	13.9	17.2	0	0	0	0	0	0	0	0	
1300	111	2	106	1	1	1	0	0	0	0	0	0	1	1300	2	6	30	53	19	1	0	0	0	0	0	0	0	0	0	16.2	20.4	0	0	0	0	0	0	0	0	
1315	107	1	101	1	2	1	0	0	0	0	0	0	1	1315	0	15	39	31	5	0	0	0	0	0	0	0	0	0	13.5	16.8	0	0	0	0	0	0	0	0		
1330	116	0	107	0	9	0	0	0	0	0	0	0	0	1330	0	11	56	37	10	0	1	1	0	0	0	0	0	0	14.9	18.8	2	1.7	1	0.9	0	0	0	0		
1345	96	0	86	0	9	0	0	1	0	0	0	0	0	1345	1	13	54	25	3	0	0	0	0	0	0	0	0	13.5	16.8	0	0	0	0	0	0	0	0			
1400	146	0	107	3	5	0	0	0	0	0	0	0	0	1400	2	31	41	32	10	0	0	0	0	0	0	0	0	13.3	16.6	0	0	0	0	0	0	0	0			
1415	110	1	107	0	2	0	0	0	0	0	0	0	0	1415	2	12	64	28	3	1	0	0	0	0	0	0	0	13.4	17.2	0	0	0	0	0	0	0	0			
1430	102	2	93	0	6	1	0	0	0	0	0	0	0	1430	3	23	38	30	7	0	1	0	0	0	0	0	0	13.6	17.7	1	1	0	0	0	0	0	0			
1445	131	3	124	0	3	1	0	0	0	0	0	0	0	1445	1	47	53	27	1	0	1	0	0	0	1	0	0	12.4	16.3	2	1.5	1	0.8	1	0.8	0	0			
1500	115	2	101	4	3	1	0	0	0	0	0	0	0	1500	0	5	33	58	16	0	0	0	0	0	0	0	0	16.6	20.6	0	0	0	0	0	0	0	0			
1515	101	3	95	0	2	1	0	0	0	0	0	0	0	1515	1	21	18	42	15	3	1	0	0	0	0	0	0	15.3	20.1	1	1	0	0	0	0	0	0			
1530	116	1	108	2	4	1	0	0	0	0	0	0	0	1530	1	18	50	46	1	0	0	0	0	0	0	0	0	13.8	17.2	0	0	0	0	0	0	0	0			
1545	105	2	98	0	5	0	0	0	0	0	0	0	0	1545	1	10	39	46	8	0	0	0	0	0	0	0	0	14.7	19.6	0	0	0	0	0	0	0	0			
1600	98	2	91	0	5	0	0	0	0	0	0	0	0	1600	4	32	44	16	2	0	0	0	0	0	0	0	0	11.7	15.7	0	0	0	0	0	0	0	0			
1615	106	2	101	0	3	0	0	0	0	0	0	0	0	1615	1	22	28	43	10	1	1	0	0	0	0	0	0	14.5	18.6	1	0.9	0	0	0	0	0	0			
1630	121	0	116	1	4	0	0	0	0	0	0	0	0	1630	2	10	50	41	16	0	0	0	0	0	0	0	0	12.5	20.9	3	1.7	2	1.7	0	0	0	0			
1645	104	3	94	1	4	0	1	0	1	0	1	0	0	1645	0	13	37	42	9	3	0	0	0	0	0	0	0	14.8	17.9	0	0	0	0	0	0	0	0			
1700	102	2	94	0	5	0	1	0	0	0	0	0	0	1700	0	19	28	45	10	0	0	0	0	0	0	0	0	14.8	18.8	0	0	0	0	0	0	0	0			
1715	115	2	107	0	5	0	1	0	0	0	0	0	0	1715	3	61	29	16	4	0	0	0	0	0	0	0	0	11.5	15.9	0	0	0	0	0	0	0	0			
1730	116	2	109	1	2	1	0	0	0	0	1	0	0	1730	4	46	34	29	1	2	0	0	0	0	0	0	0	11.5	15.9	0	0	0	0	0	0	0	0			
1745	110	0	106	0	4	0	0	0	0	0	0	0	0	1745	0	1	15	63	21	6	2	2	0	0	0	0	0	18.8	21.7	4	3.6	2	1.8	0	0	0	0			
1800	120	0	110	0	4	0	0	0	0	0	0	0	0	1800	0	5	25	56	29	1	0	0	0	0	0	0	0	12.6	21.9	0	0	0	0	0	0	0	0			
1815	125	3	120	2	0	0	0	0	0	0	0	0	0	1815	0	25	30	50	20	0	0	0	0	0	0	0	0	14.8	19.9	0	0	0	0	0	0	0	0			
1830	132	2	125	1	3	1	0	0	0	0	0	0	0	1830	0	8	40	58	18	7	1	0	0	0	0	0	0	16.6	20.8	1	0.8	0	0	0	0	0	0			
1845	128	0	116	0	6	0	0	0	0	0	0	0	0	1845	1	28	21	65	23	0	0	0	0	0	0	0	0	18.2	22.1	1	0.8	1	0.8	0	0	0	0			
1900	103	1	96	2	4	0	0	0	0	0	0	0	0	1900	0	3	9	45	35	7	3	1	0	0	0	0	0	19.8	23.9	4	3.9	1	1	0	0	0	0			
1915	102	2	93	0	6	0	0	0	0	1	0	0	0	1915	0	6	11	37	39	9	0	0	0	0	0	0	0	19.1	23.3	0	0	0	0	0	0	0	0			
1930	92	4	84	0	3	0	0	0	0	0	0	0	0	1930	0	13	35	35	12	1	1	0	0	0	0	0	0	20	24.4	0	1.1	0	0	0	0	0	0			
1945	100	6	90	0	3	1	0	0	0	0	0	0	0	1945	0	0	9	38	39	12	1	1	0	0	0	0	0	20.9	24.8	2	2	1	1	0	0	0	0			
2000	73	4	65	0	4	0	0	0	0	0	0	0	0	2000	0	0	1	10	41	16	4	1	0	0	0	0	0	23.3	26.2	5	6.8	1	1.4	0	0	0	0			
2015	62	0	57	0	1	0	0	0	0	0	0	0	0	2015	0	0	2	20	35	14	1	0	0	0	0	0	0	21.7	25.5	0	1.4	0	0	0	0	0	0			
2030	81	3	75	0	2	0	1	0	0	0	0	0	0	2030	0	1	8	26	35	8	2	0	0	1	0	0	0	20.9	24.4	3	3.7	1	1.2	1	1.2	0	0			
2045	54	1	48	0	5	0	0	0	0	0	0	0	0	2045	0	0	2	11	31	7	2	0	0	0	0	0	0	22.5	25.3	3	5.6	1	1.9	1	1.9	0	0			
2100	75	2	68	1	4	0	0	0	0	0	0	0	0	2100	0	0	1	24	31	16	0	0	0	0	0	0	0	22.5	26.4	3	4	0	0	0	0	0	0			
2115	57	0	52	0	2	0	1	0	0	0	0	0	0	2115	0	0	10	29	18	4	0	0	0	0	0	0	0	23.1	27.5	4	6.5	0	0	0	0	0	0			
2130	55	4	48	0	3	0	0	0	0	0	0	0	0	2130	0	1	2	8	17	17	7	3	0	0	0	0	0	24.7	31.5	10	18.2	3	5.5	0	0	0	0			
2145	53	2	46	0	4	0	0	0	0	0	0	0	0	2145	0	2	0	19	17	11	2	2	0	0	0	0	0	21.9	26.4	4	7.5	2	3.8	0	0	0	0			
2200	55	0	55	0	5	0	0	0	0	0	0	0	0	2200	0	0	2	14	24	19	0	0	0	0	0	0	0	24.1	27.5	4	6.8	0	0	0	0	0	0			
2215	61	1	55	0	4	0	1	0	0	0	0	0	0	2215	0	0	1	8	25	23	3	0	0	0	0	0	0	24.4	28.4	4	6.6	1	1.6	0	0	0	0			
2230	48	1	43	0	4	0	0	0	0	0	0	0	0	2230	0	0	1	11	20	12	2	1	0	0	0	0	0	23.5	26.8	4	8.3	2	4.2	0	0	0	0			
2245	42	0	47	0	3	0	2	1	0	0	0	0	0	2245	0	0	2	11	16	16	1	0	0	0	0	0	0	24.5	28.4	6	11.5	5.8	1	1.9	0	0	0			
2300	57	1	52	0	4	0	0	0	0	0	0	0	0	2300	0	0	0	8	26	16	7	0	0	0	0	0	0	24.1	27.7	7	12.3	0	0	0	0	0	0			
2315	43	2	36	0	5	0	0	0	0	0	0	0	0	2315	0	0	5	24	12	1	1	0	0	0	0	0	0	24.4	27.5	2	4.7	1	2.3	0	0	0	0			
2330	45	0	43	0	3	0	1	0	0	0	0	0	0	2330	0	3	2	7	21	14	3	0	0	0	0	0	0	23.8	26.4	3	6.4	0	0	0	0	0	0			
2345	34	0	31	0	3	0	0	0	0	0	0	0	0	2345	0	0	0	3	13	14	4	0	0	0	0	0	0	25	29.3	4	11.8	0	0	0	0	0	0			
07-19	5169	118	4771	24	188	27	30	3	2	1	7	0	7	07-19	40	789	1791	1821	993	108	17	7	2	0	1	0	0	16	19.7	27	0.5	10	0.2	1	0	0	0			
06-22	6369	181	6799	28	281	29	33	3	3	8	8	0	8	06-22	40	805	1851	2126	1041	321	82	26																		

Main data table with multiple columns (IDs, counts, etc.) and a summary row at the bottom: 20 June 2016

Summary table for 20 June 2016 with columns: Time, Total, C1s-10, Vbin 0-60, Mean, Ypp, PSL, PSL%, JS1, JS1%, JS2, JS2%, Fix1. Rows are grouped by time intervals from 00:00 to 16:45.

TSR Class Profile All Days 15 Mins

Report ID - CustomList-457
Site Name - MILL HILL-03
Description - THE BROADWAY [30M]
Direction - West

16 June 2016

Table with columns: Time, Total, C1s, C2s, C3s, C4s, C5s, C6s, C7s, C8s, C9s, C10s, Fix1, Time, Vbin 5-60, Mean, Vpp 65, JPSL 30, JPSL% 30, JSL1 35, JSL% 35, JSL2 45, JSL% 45, Fix1. Rows include time intervals from 0000 to 0900.

17 June 2016

Table with columns: Time, Total, C1s, C2s, C3s, C4s, C5s, C6s, C7s, C8s, C9s, C10s, Fix1, Time, Vbin 5-60, Mean, Vpp 65, JPSL 30, JPSL% 30, JSL1 35, JSL% 35, JSL2 45, JSL% 45, Fix1. Rows include time intervals from 0000 to 1200.

TSP Class Profile All Days 15 Mins

Globals

Report Id CustomList-457
Descriptor TSP Class Profile All Days 15 Mins
Created by MetroCount Traffic Executive
Creation Time (UTC) 2016-07-11T14:27:52
Legal Copyright (c)1997 - 2014 MetroCount
Graphic header.gif
Language English
Country United Kingdom
Time UTC + 120 min
Create Version 4.0.6.0
Metric Non metric
Speed Unit mph
Length Unit ft
Mass Unit ton

Dataset

Site Name MILL HILL-04
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-04 0 2016-06-24 1511.EC0
File Type Plus
Algorithm Factory default axle
Description BUNNS LANE(04) [30M]
Lane 0
Direction 7
Direction Text 7 - North bound A]B, South bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-17T03:34:36
Start Time 2016-06-17T03:34:36
Finish Time 2016-06-24T15:09:36
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-04
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-04 0 2016-06-28 1253.EC0
File Type Plus
Algorithm Factory default axle
Description BUNNS LANE(04) [30M]
Lane 0
Direction 7
Direction Text 7 - North bound A]B, South bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-24T15:19:55
Start Time 2016-06-24T15:19:55
Finish Time 2016-06-28T12:52:55
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-04
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-04 0 2016-07-01 1551.EC0
File Type Plus
Algorithm Factory default axle
Description BUNNS LANE(04) [30M]
Lane 0
Direction 7
Direction Text 7 - North bound A]B, South bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-28T12:57:57
Start Time 2016-06-28T12:57:57
Finish Time 2016-07-01T15:51:57
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Dataset

Site Name MILL HILL-04
Site Attribute MILL HILL
File Name E:\TSP12743-Pentavia Retail Park - Mill Hill\MILL HILL-0417Jun2016.EC0
File Type Plus
Algorithm Factory default axle
Description BUNNS LANE(04) [30M]
Lane 0
Direction 7
Direction Text 7 - North bound A]B, South bound B]A.
Layout Text Axle sensors - Paired (Class/Speed/Count)
Setup Time 2016-06-15T19:34:39
Start Time 2016-06-15T19:34:39
Finish Time 2016-06-17T03:32:39
Operator VR
Configuration 00000000 80 00 14 6a 6a 00 00 00 00 00 , Standard

Profile

Name TSP Class Profile All Days New15 mins
Title TSP Traffic Reports
Graphic Logo C:\and Settings\Documents3.21_on_us_logo_cmyk 50.BMP
Header
Footer
Percentile 1 85
Percentile 2 95
Pace 12
Filter Start 2016-06-16T00:00:00
Filter End 2016-06-30T00:00:00
Class Scheme ARX
Low Speed 0
High Speed 120
Posted Limit 30
Speed Limits 35 45 30 30 30 0 0 0 0 30
Separation 0.000
Separation Type Headway
Direction North
Encoded Direction 1

TSP Class Profile All Days 15 Mins

Column

Time	24-hour time (0000 - 2359)
Total	Number in time step
Cls 1	Class totals
Cls 2	Class totals
Cls 3	Class totals
Cls 4	Class totals
Cls 5	Class totals
Cls 6	Class totals
Cls 7	Class totals
Cls 8	Class totals
Cls 9	Class totals
Cls 10	Class totals
Fix1	User defined fixed text
Time	24-hour time (0000 - 2359)
Vbin 0 5	Speed bin totals
Vbin 5 10	Speed bin totals
Vbin 10 15	Speed bin totals
Vbin 15 20	Speed bin totals
Vbin 20 25	Speed bin totals
Vbin 25 30	Speed bin totals
Vbin 30 35	Speed bin totals
Vbin 35 40	Speed bin totals
Vbin 40 45	Speed bin totals
Vbin 45 50	Speed bin totals
Vbin 50 55	Speed bin totals
Vbin 55 60	Speed bin totals
Vbin 60 130	Speed bin totals
Mean	Average speed
Vpp 85	Percentile speed
JPSL 30	Number exceeding Posted Speed Limit
JPSL% 30	Percent exceeding Posted Speed Limit
JSL1 35 ACPO	Number exceeding Speed Limit 1
JSL1% 35 ACPO	Percent exceeding Speed Limit 1
JSL2 45 DFT	Number exceeding Speed Limit 2
JSL2% 45 DFT	Percent exceeding Speed Limit 2
Fix1	User defined fixed text

TSP Class Profile All Days 15 Min

Report ID - CustomList-457
Site Name - MILL HILL-04
Description - BUNNS LANE(04) [30M]
Direction - North

16 June 2016

Table with columns: Time, Total, C1s, C2s, C3s, C4s, C5s, C6s, C7s, C8s, C9s, C10s, Fix1, Time, Vbin 0-60, Mean, Ypp, PSL, PSL%, JSL1, JSL%, JSL2, JSL2%, Fix1. Contains data for various times from 00:00 to 00:00.

17 June 2016

Table with columns: Time, Total, C1s, C2s, C3s, C4s, C5s, C6s, C7s, C8s, C9s, C10s, Fix1, Time, Vbin 0-60, Mean, Ypp, PSL, PSL%, JSL1, JSL%, JSL2, JSL2%, Fix1. Contains data for various times from 00:00 to 00:00.

Table with 35 columns and 100 rows of numerical data. Columns include various identifiers and values ranging from 0 to 1000.

24 June 2016

Main data table with 35 columns and 1000 rows. Columns include Time, Total, C1-C10, Fx1, Time, Vbin 0-50, Mean, Ypp, JPL, JPL%, JSL1, JSL%, JSL2, JSL%, JSL2%, JSL2%, Fx1. Contains detailed time-series data.

25 June 2016

Main data table with 35 columns and 1000 rows. Columns include Time, Total, C1-C10, Fx1, Time, Vbin 0-50, Mean, Ypp, JPL, JPL%, JSL1, JSL%, JSL2, JSL%, JSL2%, JSL2%, Fx1. Contains detailed time-series data.

Appendix I

CALIBRATION AND VALIDATION NOTES

Calibration and Validation Note

Junction 1 - The Broadway / Flower Lane Junction

- 1.1 The queue length at the junction was recorded through video surveys and the comparison with the modelled queue is presented in **Table 1.1**.

Arms	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Observed Queue (veh)	Modelled Queue (veh)	Observed Queue (veh)	Modelled Queue (veh)
Flower Lane	3.6	3.1	2.8	2.7
The Broadway	2.5	1.3	2.0	1.3

Table 1.1: Modelled and Observed Queue Length – Junction 1

- 1.2 **Table 1.1** indicates that the average observed queues are comparable to the queues output from the model.

Junction 2 - Bunns Lane / Flower Lane Junction

- 1.3 The junction of Bunns Lane with Flower Lane has both a zebra crossing and a short ghost right turn traffic lane at the eastern arm on Bunns Lane which is the major arm of the junction.
- 1.4 Junctions 9 has limited capability of modelling the layout of this junction. It is not possible to restrict the length of the ghost right turn lane. The existing right turn lane is 3pcus in length but has not been included in the model.
- 1.5 Different settings for the junction were tested and modelling outputs compared in line with available observed queues on site. The junction layout that includes the provision of zebra crossing and a ghost right turn lane was considered to be the most appropriate.
- 1.6 The queue surveys confirmed that queue lengths in the right turn lane only occasionally exceed three vehicles. A total of two times in the AM peak and four times in the PM peak were observed. It was therefore considered reasonable to model the junction as described.
- 1.7 To calibrate the model a stream intercept adjustment has been added for the right turn into Flower Lane. Additionally, the initial model results indicated a higher capacity on Flower Lane and shorter queuing than that observed on site. This is likely to be due to the approaching arm being on a bend, and low speed of traffic on Bunns Lane etc. A demand scaling factor of 120% was applied on Bunns Lane.

1.8 **Table 1.2** provides a comparison between the average queue that was recorded during the peak periods with the modelled queues.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Observed Queue (veh)	Modelled Queue (Veh)	Observed Queue (veh)	Modelled Queue (Veh)
Flower Lane	2.9	3.0	2.0	0.8
Bunns Lane	3.0	3.0	2.0	1.6

Table 1.2: Modelled and Observed Queue Length – Junction 2

1.9 The modelled queues are comparable.

Junction 3 - Fiveways Corner

1.10 **Table 1.3** and **1.4** provide a comparison between queues and DoS recorded during the peak periods and those modelled.

Arm	Lane	Av Sat Flow	Observed Deg of Sat	Modelled Deg of Sat	Observed Queue (PCUs)	Modelled Queue (PCUs)
A	1	1858	-	76.0%	5.6	6.5
A	2	1846	-	76.0%	4.8	
B	1	1990	63.8%	74.0%	0.1	
B	2	1990	63.8%	74.0%	5.7	6.0
B	3	1923	73%	63.0%	7.4	11.0
C	1	2007	89.4%	78.0%	10.4	10.0
C	2	1986	88.8%	78.0%	12.9	12.0
C	3	1930	60%	52.0%	16.4	123.0
D	1				0.2	0.1
E	1	1960	-		0.5	
E	2	1960	95%	81.0%	14.8	15.6
E	3	1804	79%	68.0%	9.6	10.0
E	4	1905	83%	66.0%	9.4	10.0

Table 1.3: AM Peak Modelled and Observed Queues and DoS– Junction 3

Arm	Lane	Av Sat Flow	Observed Deg of Sat	Modelled Deg of Sat	Observed Queue (PCUs)	Modelled Queue (PCUs)
A	1	1858	-	60.0%	3.1	5.7
A	2	1846	-	60.0%	3.7	
B	1	1990	78.9%	82.0%	0.1	
B	2	1990	78.9%	82.0%	10.2	15.0
B	3	1923	92%	81.0%	10.8	16.0
C	1	2007	77.2%	88.0%	14.0	17.0
C	2	1986	88.2%	88.0%	16.7	19.0
C	3	1930	84%	84.0%	16.4	19.0
D	1				0.1	-
E	1	1960	-	60.0%	0.4	
E	2	1960	59%	60.0%	10.6	11.0
E	3	1804	76%	66.0%	10.2	13.0
E	4	1905	66%	64.0%	10.1	13.0

Table 1.4: PM Peak Modelled and Observed Queues and DoS– Junction

Junction 4 - Mill Hill Circus

1.11 **Table 1.5** and **1.6** provide a comparison between queues and DoS recorded during the peak periods and those modelled.

Arm	Lane	Av Sat Flow	Observed Deg of Sat	Modelled Deg of Sat	Observed Queue (PCUs)	Modelled Queue (PCUs)
B	1	2024	94.3%	93.0%	27.0	22.2
B	2	2039	95.1%	94.3%	24.7	23.4
D	1	1753	99.9%	100.3%	21.1	37.5
D	2	1984	80.3%	80.4%	20.0	16.2

Table 1.5: AM Peak Modelled and Observed Queues and DoS– Junction 3

Arm	Lane	Av Sat Flow	Observed Deg of Sat	Modelled Deg of Sat	Observed Queue (PCUs)	Modelled Queue (PCUs)
B	1	2024	88.3%	92.8%	15.9	25.0
B	2	2039	95.2%	95.8%	16.3	29.1
D	1	1753	88.1%	84.8%	30.9	15.9
D	2	1984	68.6%	70.6%	24.0	11.2

Table 1.6: PM Peak Modelled and Observed Queues and DoS– Junction

Junction 5 - Bunns Lane / Grahame Park Way Mini Roundabout

- 1.12 The junction model was calibrated with a direct intercept adjustment of 261.96PCU/hr on Bunns Lane. The intercept was based on the observed flows in the morning peak period.
- 1.13 Based on the calibration and validation exercise undertaken for the existing model, it was identified that both arms of Bunns Lane have a greater capacity than that calculated by Junctions 9 from the geometric inputs, and thus a capacity adjustment of 110% was applied on both arms on Bunns Lane.
- 1.14 **Table 1.7** shows the comparison between the modelled and observed queues at the junction.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Observed Queue (veh)	Modelled Queue (Veh)	Observed Queue (veh)	Modelled Queue (Veh)
Bunns Lane (North West)	Av 3.3 Max 7.0	5.9	Av 2.5 Max 5.0	5.7
Bunns Lane (East)	Av 5.1 Max +11	13.9	Av 5.2 Max 10	2.2
Grahame Park Way	Av 6.7 Max 13.0	4.4	Av 8.1 Max 17.0	2.2

Table 1.7: Modelled and Observed Queue Length – Junction 5

Junction 6 – The Broadway / Bunns Lane / Hale Lane Mini Roundabout

- 1.15 The initial model that was set up in accordance with the existing geometry showed that the junction operates below capacity. However, the video survey record confirmed that queuing occurs on all arms at the junction. The queue is formed as a result of the utilisation of a Puffin crossing located 105m north-east from the junction on The Broadyway. The queue was observed as extending to the junction and resulting in blocking free flow on the exit lane. Once the queue on the exit arm on The Broadway cleared, the queues at the junction also cleared.

1.16 In order to accurately represent the existing operation at the junction, the model was adjusted to include capacity restrictions on the exit arm of 710 PCU/hr.

1.17 **Table 1.8** summarises the observed and modelled queues.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Observed Queue (veh)	Modelled Queue (Veh)	Observed Queue (veh)	Modelled Queue (Veh)
Hale Lane	Av 21 Max 39	24.7	Av 13 Max 31	27.7
The Broadway	Av 4 Max 7	17.4	Av 6 Max 14	20.5
Bunns Lane	Av 10 Max 17	8.2	Av 9 Max 21	10.7

Table 1.8: Modelled and Observed Queue Length – Junction 6

Junction 7 – Bunns Lane / Pursley Road / Page Street Mini Roundabouts

1.18 The model was calibrated with a direct intercept adjustment calculated for each arm based on traffic demand in the morning peak.

1.19 The modelling results show similar trend in queues to that what was observed on site. It is noted, however, that the queue level produced by the model is significantly higher than the observed. The comparison is summarised in **Table 1.9**.

Arm	AM 08:00 – 09:00		PM 17:00 – 18:00	
	Observed Queue (veh)	Modelled Queue (Veh)	Observed Queue (veh)	Modelled Queue (Veh)
Page Street (North)	Av 6 Max 17	25.1	Av 4 Max 6	2.9
Pursley Road	Av 8 Max 20+	163.7	Av 8 Max 20+	82.2
Page Street (South)	Av 7 Max +20	100.7	Av 7 Max +20	83.7
Bunns Lane	Av 6 Max +20	91.3	Av 94 Max +20	20.1

Table 1.9: Modelled and Observed Queue Length – Junction 7

1.20 This level of discrepancy is due to the congestion at the junction and RFC being above 1.0. The queuing output from the model becomes unrepresentative at this stage.

Appendix J

2016 BASE MODEL RESULTS

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []
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Filename: The Broadway - Flower Lane Junction v3.j9

Path: L:\5545 - Healey Development Solutions (Mill Hill) Ltd\001 - Mill Hill\Analysis & Design\Modelling\J1 - The Broadway - Flower Lane Junction

Report generation date: 23/09/2016 17:12:51

«Do Nothing - 2016, AM

»Junction Network

»Arms

»Traffic Demand

»Origin-Destination Data

»Vehicle Mix

»Results

Summary of junction performance

	AM					PM				
	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
Do Nothing - 2016										
Stream B-C	0.3	22.77	0.26	C	-6 % [Stream B-A]	0.4	18.44	0.30	C	-1 % [Stream B-A]
Stream B-A	2.8	47.82	0.75	E		2.3	36.06	0.71	E	
Stream C-A	1.2	9.91	0.40	A		1.1	9.03	0.38	A	
Stream C-B	0.1	11.97	0.43	B		0.2	10.28	0.42	B	

	AM					PM				
	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
Do Something - 2021 + Committed										
Stream B-C	0.5	31.42	0.34	D	-10 % [Stream B-A]	0.6	27.55	0.40	D	-7 % [Stream B-A]
Stream B-A	3.6	61.28	0.81	F		3.4	52.20	0.79	F	
Stream C-A	1.3	10.15	0.42	B		1.2	9.37	0.41	A	
Stream C-B	0.1	12.28	0.44	B		0.2	10.74	0.45	B	
Do Something - 2021 + Committed + New Dev with BL										
Stream B-C	0.6	33.20	0.37	D	-10 % [Stream B-A]	0.7	28.99	0.42	D	-7 % [Stream B-A]
Stream B-A	3.8	63.64	0.82	F		3.5	54.12	0.80	F	
Stream C-A	1.3	10.15	0.42	B		1.2	9.41	0.41	A	
Stream C-B	0.1	12.29	0.44	B		0.2	10.84	0.45	B	
Do Something - 2021 + Committed + New Dev without BL										
Stream B-C	0.5	33.75	0.36	D	-11 % [Stream B-A]	0.6	26.61	0.39	D	-7 % [Stream B-A]
Stream B-A	3.8	64.15	0.82	F		3.3	50.84	0.79	F	
Stream C-A	1.3	10.16	0.42	B		1.2	9.37	0.41	A	
Stream C-B	0.1	12.31	0.44	B		0.2	10.72	0.45	B	
Do Something - 2026 + Committed										
Stream B-C	0.9	55.57	0.50	F	-13 % [Stream B-A]	1.5	61.08	0.63	F	-12 % [Stream B-A]
Stream B-A	4.9	80.54	0.87	F		5.3	78.82	0.88	F	
Stream C-A	1.4	10.36	0.43	B		1.3	9.66	0.43	A	
Stream C-B	0.1	12.56	0.46	B		0.2	11.11	0.47	B	
Do Something - 2026 + Committed + New Dev with BL										
Stream B-C	1.1	63.01	0.55	F	-14 % [Stream B-A]	1.7	70.23	0.67	F	-12 % [Stream B-A]
Stream B-A	5.1	84.28	0.87	F		5.6	82.73	0.89	F	
Stream C-A	1.4	10.36	0.43	B		1.3	9.70	0.43	A	
Stream C-B	0.1	12.57	0.46	B		0.2	11.22	0.47	B	
Do Something - 2026 + Committed + New Dev without BL										
Stream B-C	1.1	65.18	0.55	F	-14 % [Stream B-A]	1.3	55.59	0.60	F	-11 % [Stream B-A]
Stream B-A	5.2	85.05	0.88	F		5.2	76.09	0.87	F	
Stream C-A	1.4	10.37	0.43	B		1.4	9.67	0.43	A	
Stream C-B	0.1	12.59	0.46	B		0.2	11.10	0.47	B	

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

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

File summary

File Description

Title	The Broadway - Flower Lane Junction
Location	
Site number	
Date	15/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ROBERTWEST\libanbellezza
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2016-2021 AM		1.0370
G2	2016-2021 PM		1.0558
G3	2016-2026 AM		1.0740
G4	2016-2026 PM		1.1116

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do Nothing	✓	✓	D1,D2	100.000	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2016	AM	ONE HOUR	07:45	09:15	15	✓	✓

Do Nothing - 2016, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2016, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	The Broadway - Flower Lane Junction	T-Junction	Two-way	11.92	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-6	Stream B-A

Arms

Arms

Arm	Name	Description	Arm type
A	The Broadway N		Major
B	Flower Lane		Minor
C	The Broadway SW		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.87			50.0		-

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	One lane plus flare	10.00	6.64	5.13	4.58	4.16		2.00	31	31

Pelican/Puffin Crossings

Arm	Space between crossing and junction entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
C	1.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	574	0.092	0.231	0.146	0.331
1	B-C	590	0.079	0.200	-	-
1	C-B	603	0.204	0.204	-	-

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

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

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

Traffic Demand

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		ONE HOUR	✓	613	100.000
B		ONE HOUR	✓	252	100.000
C		ONE HOUR	✓	504	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B		
C	Global	200.00

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	132	481
	B	201	0	51
	C	465	39	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	2	7
	B	12	0	17
	C	6	32	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	0.26	22.77	0.3	C	51	51
B-A	0.75	47.82	2.8	E	201	201
C-A	0.40	9.91	1.2	A	465	465
C-B	0.43	11.97	0.1	B	39	39
A-B					132	132
A-C					481	481

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	46	11		329	0.139	46	0.1	0.2	12.710	B
B-A	181	45		335	0.539	179	0.7	1.1	22.805	C
C-A	418	105	179.80	1329	0.315	417	0.6	0.9	8.552	A
C-B	35	9	179.80	101	0.347	35	0.1	0.1	10.202	B
A-B	119	30				119				
A-C	432	108				432				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	56	14		225	0.249	56	0.2	0.3	21.127	C
B-A	221	55		294	0.752	215	1.1	2.6	42.877	E
C-A	512	128	220.20	1278	0.401	510	0.9	1.2	9.915	A
C-B	43	11	220.20	100	0.427	43	0.1	0.1	11.970	B
A-B	145	36				145				
A-C	530	132				530				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	56	14		214	0.262	56	0.3	0.3	22.773	C
B-A	221	55		294	0.753	221	2.6	2.8	47.820	E
C-A	512	128	220.20	1284	0.399	512	1.2	1.2	9.817	A
C-B	43	11	220.20	102	0.422	43	0.1	0.1	11.796	B
A-B	145	36				145				
A-C	530	132				530				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	46	11		320	0.143	47	0.3	0.2	13.183	B
B-A	181	45		335	0.540	187	2.8	1.2	25.208	D
C-A	418	105	179.80	1337	0.313	419	1.2	0.9	8.451	A
C-B	35	9	179.80	103	0.341	35	0.1	0.1	10.025	B
A-B	119	30				119				
A-C	432	108				432				

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []
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Filename: The Broadway - Flower Lane Junction v3.j9

Path: L:\5545 - Healey Development Solutions (Mill Hill) Ltd\001 - Mill Hill\Analysis & Design\Modelling\J1 - The Broadway - Flower Lane Junction

Report generation date: 23/09/2016 17:14:07

«Do Nothing - 2016, PM

»Junction Network

»Arms

»Traffic Demand

»Origin-Destination Data

»Vehicle Mix

»Results

Summary of junction performance

	AM					PM				
	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
Do Nothing - 2016										
Stream B-C	0.3	22.77	0.26	C	-6 % [Stream B-A]	0.4	18.44	0.30	C	-1 % [Stream B-A]
Stream B-A	2.8	47.82	0.75	E		2.3	36.06	0.71	E	
Stream C-A	1.2	9.91	0.40	A		1.1	9.03	0.38	A	
Stream C-B	0.1	11.97	0.43	B		0.2	10.28	0.42	B	

	AM					PM				
	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
Do Something - 2021 + Committed										
Stream B-C	0.5	31.42	0.34	D	-10 % [Stream B-A]	0.6	27.55	0.40	D	-7 % [Stream B-A]
Stream B-A	3.6	61.28	0.81	F		3.4	52.20	0.79	F	
Stream C-A	1.3	10.15	0.42	B		1.2	9.37	0.41	A	
Stream C-B	0.1	12.28	0.44	B		0.2	10.74	0.45	B	
Do Something - 2021 + Committed + New Dev with BL										
Stream B-C	0.6	33.20	0.37	D	-10 % [Stream B-A]	0.7	28.99	0.42	D	-7 % [Stream B-A]
Stream B-A	3.8	63.64	0.82	F		3.5	54.12	0.80	F	
Stream C-A	1.3	10.15	0.42	B		1.2	9.41	0.41	A	
Stream C-B	0.1	12.29	0.44	B		0.2	10.84	0.45	B	
Do Something - 2021 + Committed + New Dev without BL										
Stream B-C	0.5	33.75	0.36	D	-11 % [Stream B-A]	0.6	26.61	0.39	D	-7 % [Stream B-A]
Stream B-A	3.8	64.15	0.82	F		3.3	50.84	0.79	F	
Stream C-A	1.3	10.16	0.42	B		1.2	9.37	0.41	A	
Stream C-B	0.1	12.31	0.44	B		0.2	10.72	0.45	B	
Do Something - 2026 + Committed										
Stream B-C	0.9	55.57	0.50	F	-13 % [Stream B-A]	1.5	61.08	0.63	F	-12 % [Stream B-A]
Stream B-A	4.9	80.54	0.87	F		5.3	78.82	0.88	F	
Stream C-A	1.4	10.36	0.43	B		1.3	9.66	0.43	A	
Stream C-B	0.1	12.56	0.46	B		0.2	11.11	0.47	B	
Do Something - 2026 + Committed + New Dev with BL										
Stream B-C	1.1	63.01	0.55	F	-14 % [Stream B-A]	1.7	70.23	0.67	F	-12 % [Stream B-A]
Stream B-A	5.1	84.28	0.87	F		5.6	82.73	0.89	F	
Stream C-A	1.4	10.36	0.43	B		1.3	9.70	0.43	A	
Stream C-B	0.1	12.57	0.46	B		0.2	11.22	0.47	B	
Do Something - 2026 + Committed + New Dev without BL										
Stream B-C	1.1	65.18	0.55	F	-14 % [Stream B-A]	1.3	55.59	0.60	F	-11 % [Stream B-A]
Stream B-A	5.2	85.05	0.88	F		5.2	76.09	0.87	F	
Stream C-A	1.4	10.37	0.43	B		1.4	9.67	0.43	A	
Stream C-B	0.1	12.59	0.46	B		0.2	11.10	0.47	B	

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

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

File summary

File Description

Title	The Broadway - Flower Lane Junction
Location	
Site number	
Date	15/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ROBERTWEST\libanbellezza
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2016-2021 AM		1.0370
G2	2016-2021 PM		1.0558
G3	2016-2026 AM		1.0740
G4	2016-2026 PM		1.1116

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do Nothing	✓	✓	D1,D2	100.000	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2016	PM	ONE HOUR	16:45	18:15	15	✓	✓

Do Nothing - 2016, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2016, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	The Broadway - Flower Lane Junction	T-Junction	Two-way	10.19	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-1	Stream B-A

Arms

Arms

Arm	Name	Description	Arm type
A	The Broadway N		Major
B	Flower Lane		Minor
C	The Broadway SW		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.87			50.0		-

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	One lane plus flare	10.00	6.64	5.13	4.58	4.16		2.00	31	31

Pelican/Puffin Crossings

Arm	Space between crossing and junction entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
C	1.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	564	0.090	0.227	0.143	0.324
1	B-C	603	0.081	0.205	-	-
1	C-B	603	0.204	0.204	-	-

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

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

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

Traffic Demand

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		ONE HOUR	✓	550	100.000
B		ONE HOUR	✓	291	100.000
C		ONE HOUR	✓	490	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B		
C	Global	200.00

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	96	454
	B	216	0	75
	C	435	55	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	3	4
	B	1	0	11
	C	4	10	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	0.30	18.44	0.4	C	75	75
B-A	0.71	36.06	2.3	E	216	216
C-A	0.38	9.03	1.1	A	435	435
C-B	0.42	10.28	0.2	B	55	55
A-B					96	96
A-C					454	454

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	67	17		374	0.180	67	0.2	0.2	11.719	B
B-A	194	49		378	0.513	193	0.6	1.0	19.232	C
C-A	391	98	179.80	1307	0.299	390	0.6	0.8	7.813	A
C-B	49	12	179.80	144	0.343	49	0.1	0.1	8.753	A
A-B	86	22				86				
A-C	408	102				408				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	83	21		285	0.290	82	0.2	0.4	17.684	C
B-A	238	59		336	0.707	233	1.0	2.2	33.545	D
C-A	479	120	220.20	1255	0.382	478	0.8	1.1	9.034	A
C-B	61	15	220.20	143	0.423	60	0.1	0.2	10.283	B
A-B	106	26				106				
A-C	500	125				500				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	83	21		278	0.298	83	0.4	0.4	18.444	C
B-A	238	59		336	0.708	237	2.2	2.3	36.061	E
C-A	479	120	220.20	1260	0.380	479	1.1	1.1	8.949	A
C-B	61	15	220.20	145	0.418	61	0.2	0.2	10.133	B
A-B	106	26				106				
A-C	500	125				500				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	67	17		368	0.183	68	0.4	0.2	12.022	B
B-A	194	49		378	0.513	199	2.3	1.1	20.547	C
C-A	391	98	179.80	1315	0.297	392	1.1	0.8	7.729	A
C-B	49	12	179.80	147	0.337	50	0.2	0.1	8.605	A
A-B	86	22				86				
A-C	408	102				408				

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []
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Filename: Bunn's Lane - Flower Lane Junction v3.j9

Path: L:\5545 - Healey Development Solutions (Mill Hill) Ltd\001 - Mill Hill\Analysis & Design\Modelling\J2 - Bunn's Lane - Flower Lane Junction

Report generation date: 23/09/2016 17:29:49

«Do Nothing - 2016, PM

»Junction Network

»Arms

»Traffic Demand

»Origin-Destination Data

»Vehicle Mix

»Results

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
Do Nothing - 2016								
Stream B-C	1.2	31.99	0.56	D	0.6	12.04	0.37	B
Stream B-A	1.8	107.61	0.68	F	0.2	34.64	0.20	D
Stream C-A	2.8	5.94	0.56	A	1.4	4.43	0.41	A
Stream C-B	0.2	3.36	0.28	A	0.2	3.07	0.25	A

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
Do Something - 2021 + Committed								
Stream B-C	1.1	32.70	0.54	D	0.6	12.31	0.36	B
Stream B-A	1.8	126.66	0.69	F	0.3	40.76	0.21	E
Stream C-A	4.9	20.90	0.79	C	2.5	12.97	0.62	B
Stream C-B	2.3	32.99	0.80	D	1.1	20.25	0.69	C
Do Something - 2021 + Committed + New Dev with BL								
Stream B-C	1.9	51.80	0.69	F	0.8	14.08	0.44	B
Stream B-A	2.3	163.25	0.76	F	0.3	45.88	0.23	E
Stream C-A	5.3	22.16	0.81	C	2.6	13.22	0.63	B
Stream C-B	2.4	34.14	0.81	D	1.2	20.82	0.70	C
Do Something - 2021 + Committed + New Dev without BL								
Stream B-C	1.4	40.68	0.60	E	0.5	12.06	0.34	B
Stream B-A	2.1	139.89	0.73	F	0.3	40.46	0.22	E
Stream C-A	4.9	20.82	0.79	C	2.5	12.96	0.62	B
Stream C-B	2.3	32.80	0.80	D	1.1	20.23	0.69	C
Do Something - 2026 + Committed								
Stream B-C	5.7	147.32	1.00	F	0.7	14.08	0.41	B
Stream B-A	3.6	233.37	0.91	F	0.3	52.89	0.27	F
Stream C-A	6.2	25.46	0.84	D	3.0	14.58	0.67	B
Stream C-B	2.8	38.00	0.83	E	1.4	23.65	0.73	C
Do Something - 2026 + Committed + New Dev with BL								
Stream B-C	8.8	203.74	1.06	F	0.9	16.69	0.49	C
Stream B-A	4.6	293.10	0.99	F	0.4	61.91	0.30	F
Stream C-A	6.9	27.54	0.85	D	3.1	14.92	0.68	B
Stream C-B	2.9	39.38	0.83	E	1.5	24.40	0.73	C
Do Something - 2026 + Committed + New Dev without BL								
Stream B-C	6.7	171.01	1.03	F	0.6	13.76	0.39	B
Stream B-A	4.2	253.66	0.94	F	0.4	52.45	0.27	F
Stream C-A	6.2	25.34	0.84	D	3.0	14.57	0.67	B
Stream C-B	2.8	37.76	0.83	E	1.4	23.62	0.73	C

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	Bunn's Lane - Flower Lane Junction
Location	
Site number	
Date	15/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ROBERTWEST\libanbellezza
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2016-2021 AM		1.0370
G2	2016-2021 PM		1.0558
G3	2016-2026 AM		1.0740
G4	2016-2026 PM		1.1116

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do Nothing	✓	✓	D1,D2	100.000	100.000

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	2016	PM	ONE HOUR	16:45	18:15	15	✓

Do Nothing - 2016, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Bunn's Lane - Flower Lane Junction	T-Junction	Two-way	3.40	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Bunn's Lane West		Major
B	Flower Lane		Minor
C	Bunn's Lane East		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Bunn's Lane East	7.40		✓	3.10	70.0		-

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 - Flower Lane	One lane plus flare	10.00	6.01	5.29	5.29	5.24		0.50	45	36

Zebra Crossings

Arm	Space between crossing and junction entry (Right / All) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
C - Bunn's Lane East	5.00	2.80	✓	Distance	4.20	3.00	4.40	3.14

Slope / Intercept / Capacity

Stream Intercept Adjustments

Stream intercept adjustment	Use adjustment	Reason	Direct intercept adjustment (PCU/hr)
C-B	✓		1000

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	439	0.075	0.190	0.119	0.271
1	B-C	760	0.109	0.277	-	-
1	C-B	675	0.245	0.245	-	-

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

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

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

Traffic Demand

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 - Bunn's Lane West		ONE HOUR	✓	806	100.000
B - Flower Lane		ONE HOUR	✓	151	120.000
C - Bunn's Lane East		ONE HOUR	✓	821	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Bunn's Lane West		
B - Flower Lane		
C - Bunn's Lane East	Global	20.00

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Bunn's Lane West	B - Flower Lane	C - Bunn's Lane East
From	A - Bunn's Lane West	0	120	686
	B - Flower Lane	20	0	131
	C - Bunn's Lane East	641	180	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Bunn's Lane West	B - Flower Lane	C - Bunn's Lane East
From	A - Bunn's Lane West	0	0	1
	B - Flower Lane	0	0	4
	C - Bunn's Lane East	1	3	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	0.37	12.04	0.6	B	144	216
B-A	0.20	34.64	0.2	D	22	33
C-A	0.41	4.43	1.4	A	588	882
C-B	0.25	3.07	0.2	A	165	248
A-B					110	165
A-C					629	944

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	118	30		569	0.208	117	0.0	0.3	7.951	A
B-A	18	5		232	0.078	18	0.0	0.1	16.774	C
C-A	483	121	15.06	1883	0.256	480	0.0	0.6	3.547	A
C-B	136	34	15.06	723	0.187	135	0.0	0.1	2.681	A
A-B	90	23				90				
A-C	516	129				516				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	141	35		533	0.265	141	0.3	0.4	9.178	A
B-A	22	5		190	0.114	21	0.1	0.1	21.366	C
C-A	576	144	17.98	1821	0.317	575	0.6	0.8	3.834	A
C-B	162	40	17.98	749	0.216	162	0.1	0.1	2.840	A
A-B	108	27				108				
A-C	617	154				617				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	173	43		473	0.366	172	0.4	0.6	11.923	B
B-A	26	7		131	0.202	26	0.1	0.2	34.214	D
C-A	706	176	22.02	1714	0.412	704	0.8	1.4	4.412	A
C-B	198	50	22.02	796	0.249	198	0.1	0.2	3.066	A
A-B	132	33				132				
A-C	755	189				755				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	173	43		472	0.367	173	0.6	0.6	12.037	B
B-A	26	7		130	0.203	26	0.2	0.2	34.636	D
C-A	706	176	22.02	1715	0.412	706	1.4	1.4	4.426	A
C-B	198	50	22.02	796	0.249	198	0.2	0.2	3.067	A
A-B	132	33				132				
A-C	755	189				755				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	141	35		532	0.266	142	0.6	0.4	9.263	A
B-A	22	5		189	0.114	22	0.2	0.1	21.589	C
C-A	576	144	17.98	1822	0.316	578	1.4	0.9	3.848	A
C-B	162	40	17.98	748	0.216	162	0.2	0.1	2.844	A
A-B	108	27				108				
A-C	617	154				617				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	118	30		568	0.208	119	0.4	0.3	8.015	A
B-A	18	5		231	0.078	18	0.1	0.1	16.897	C
C-A	483	121	15.06	1884	0.256	484	0.9	0.6	3.560	A
C-B	136	34	15.06	723	0.188	136	0.1	0.1	2.684	A
A-B	90	23				90				
A-C	516	129				516				

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []
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Filename: Bunn's Lane - Flower Lane Junction v3.j9

Path: L:\5545 - Healey Development Solutions (Mill Hill) Ltd\001 - Mill Hill\Analysis & Design\Modelling\J2 - Bunn's Lane - Flower Lane Junction

Report generation date: 23/09/2016 17:29:49

«Do Nothing - 2016, PM

»Junction Network

»Arms

»Traffic Demand

»Origin-Destination Data

»Vehicle Mix

»Results

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
Do Nothing - 2016								
Stream B-C	1.2	31.99	0.56	D	0.6	12.04	0.37	B
Stream B-A	1.8	107.61	0.68	F	0.2	34.64	0.20	D
Stream C-A	2.8	5.94	0.56	A	1.4	4.43	0.41	A
Stream C-B	0.2	3.36	0.28	A	0.2	3.07	0.25	A

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
Do Something - 2021 + Committed								
Stream B-C	1.1	32.70	0.54	D	0.6	12.31	0.36	B
Stream B-A	1.8	126.66	0.69	F	0.3	40.76	0.21	E
Stream C-A	4.9	20.90	0.79	C	2.5	12.97	0.62	B
Stream C-B	2.3	32.99	0.80	D	1.1	20.25	0.69	C
Do Something - 2021 + Committed + New Dev with BL								
Stream B-C	1.9	51.80	0.69	F	0.8	14.08	0.44	B
Stream B-A	2.3	163.25	0.76	F	0.3	45.88	0.23	E
Stream C-A	5.3	22.16	0.81	C	2.6	13.22	0.63	B
Stream C-B	2.4	34.14	0.81	D	1.2	20.82	0.70	C
Do Something - 2021 + Committed + New Dev without BL								
Stream B-C	1.4	40.68	0.60	E	0.5	12.06	0.34	B
Stream B-A	2.1	139.89	0.73	F	0.3	40.46	0.22	E
Stream C-A	4.9	20.82	0.79	C	2.5	12.96	0.62	B
Stream C-B	2.3	32.80	0.80	D	1.1	20.23	0.69	C
Do Something - 2026 + Committed								
Stream B-C	5.7	147.32	1.00	F	0.7	14.08	0.41	B
Stream B-A	3.6	233.37	0.91	F	0.3	52.89	0.27	F
Stream C-A	6.2	25.46	0.84	D	3.0	14.58	0.67	B
Stream C-B	2.8	38.00	0.83	E	1.4	23.65	0.73	C
Do Something - 2026 + Committed + New Dev with BL								
Stream B-C	8.8	203.74	1.06	F	0.9	16.69	0.49	C
Stream B-A	4.6	293.10	0.99	F	0.4	61.91	0.30	F
Stream C-A	6.9	27.54	0.85	D	3.1	14.92	0.68	B
Stream C-B	2.9	39.38	0.83	E	1.5	24.40	0.73	C
Do Something - 2026 + Committed + New Dev without BL								
Stream B-C	6.7	171.01	1.03	F	0.6	13.76	0.39	B
Stream B-A	4.2	253.66	0.94	F	0.4	52.45	0.27	F
Stream C-A	6.2	25.34	0.84	D	3.0	14.57	0.67	B
Stream C-B	2.8	37.76	0.83	E	1.4	23.62	0.73	C

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	Bunn's Lane - Flower Lane Junction
Location	
Site number	
Date	15/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ROBERTWEST\libanbellezza
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2016-2021 AM		1.0370
G2	2016-2021 PM		1.0558
G3	2016-2026 AM		1.0740
G4	2016-2026 PM		1.1116

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do Nothing	✓	✓	D1,D2	100.000	100.000

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	2016	PM	ONE HOUR	16:45	18:15	15	✓

Do Nothing - 2016, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Bunn's Lane - Flower Lane Junction	T-Junction	Two-way	3.40	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Bunn's Lane West		Major
B	Flower Lane		Minor
C	Bunn's Lane East		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Bunn's Lane East	7.40		✓	3.10	70.0		-

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 - Flower Lane	One lane plus flare	10.00	6.01	5.29	5.29	5.24		0.50	45	36

Zebra Crossings

Arm	Space between crossing and junction entry (Right / All) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
C - Bunn's Lane East	5.00	2.80	✓	Distance	4.20	3.00	4.40	3.14

Slope / Intercept / Capacity

Stream Intercept Adjustments

Stream intercept adjustment	Use adjustment	Reason	Direct intercept adjustment (PCU/hr)
C-B	✓		1000

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	439	0.075	0.190	0.119	0.271
1	B-C	760	0.109	0.277	-	-
1	C-B	675	0.245	0.245	-	-

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

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

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

Traffic Demand

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 - Bunn's Lane West		ONE HOUR	✓	806	100.000
B - Flower Lane		ONE HOUR	✓	151	120.000
C - Bunn's Lane East		ONE HOUR	✓	821	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Bunn's Lane West		
B - Flower Lane		
C - Bunn's Lane East	Global	20.00

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Bunn's Lane West	B - Flower Lane	C - Bunn's Lane East
From	A - Bunn's Lane West	0	120	686
	B - Flower Lane	20	0	131
	C - Bunn's Lane East	641	180	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Bunn's Lane West	B - Flower Lane	C - Bunn's Lane East
From	A - Bunn's Lane West	0	0	1
	B - Flower Lane	0	0	4
	C - Bunn's Lane East	1	3	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	0.37	12.04	0.6	B	144	216
B-A	0.20	34.64	0.2	D	22	33
C-A	0.41	4.43	1.4	A	588	882
C-B	0.25	3.07	0.2	A	165	248
A-B					110	165
A-C					629	944

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	118	30		569	0.208	117	0.0	0.3	7.951	A
B-A	18	5		232	0.078	18	0.0	0.1	16.774	C
C-A	483	121	15.06	1883	0.256	480	0.0	0.6	3.547	A
C-B	136	34	15.06	723	0.187	135	0.0	0.1	2.681	A
A-B	90	23				90				
A-C	516	129				516				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	141	35		533	0.265	141	0.3	0.4	9.178	A
B-A	22	5		190	0.114	21	0.1	0.1	21.366	C
C-A	576	144	17.98	1821	0.317	575	0.6	0.8	3.834	A
C-B	162	40	17.98	749	0.216	162	0.1	0.1	2.840	A
A-B	108	27				108				
A-C	617	154				617				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	173	43		473	0.366	172	0.4	0.6	11.923	B
B-A	26	7		131	0.202	26	0.1	0.2	34.214	D
C-A	706	176	22.02	1714	0.412	704	0.8	1.4	4.412	A
C-B	198	50	22.02	796	0.249	198	0.1	0.2	3.066	A
A-B	132	33				132				
A-C	755	189				755				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	173	43		472	0.367	173	0.6	0.6	12.037	B
B-A	26	7		130	0.203	26	0.2	0.2	34.636	D
C-A	706	176	22.02	1715	0.412	706	1.4	1.4	4.426	A
C-B	198	50	22.02	796	0.249	198	0.2	0.2	3.067	A
A-B	132	33				132				
A-C	755	189				755				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	141	35		532	0.266	142	0.6	0.4	9.263	A
B-A	22	5		189	0.114	22	0.2	0.1	21.589	C
C-A	576	144	17.98	1822	0.316	578	1.4	0.9	3.848	A
C-B	162	40	17.98	748	0.216	162	0.2	0.1	2.844	A
A-B	108	27				108				
A-C	617	154				617				

18:00 - 18:15

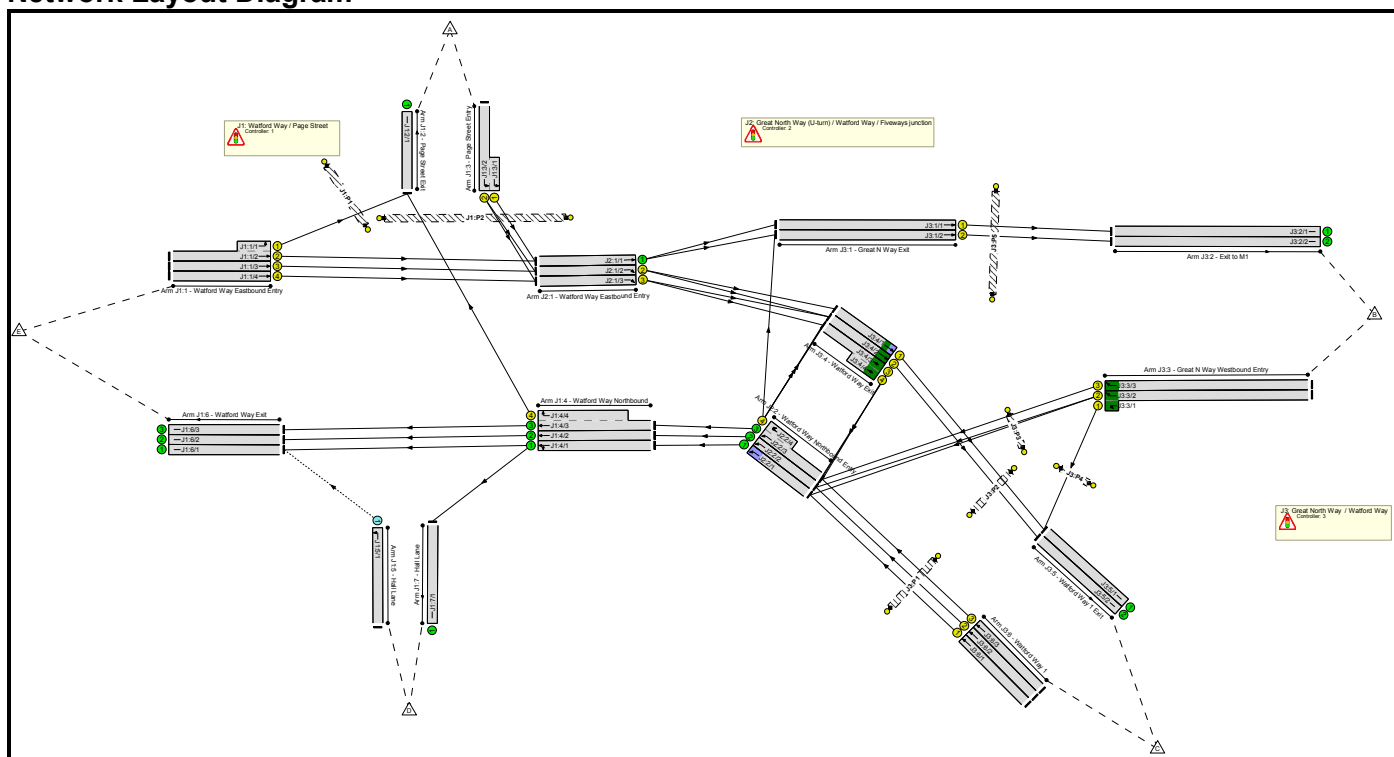
Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-C	118	30		568	0.208	119	0.4	0.3	8.015	A
B-A	18	5		231	0.078	18	0.1	0.1	16.897	C
C-A	483	121	15.06	1884	0.256	484	0.9	0.6	3.560	A
C-B	136	34	15.06	723	0.188	136	0.1	0.1	2.684	A
A-B	90	23				90				
A-C	516	129				516				

Full Input Data And Results Full Input Data And Results

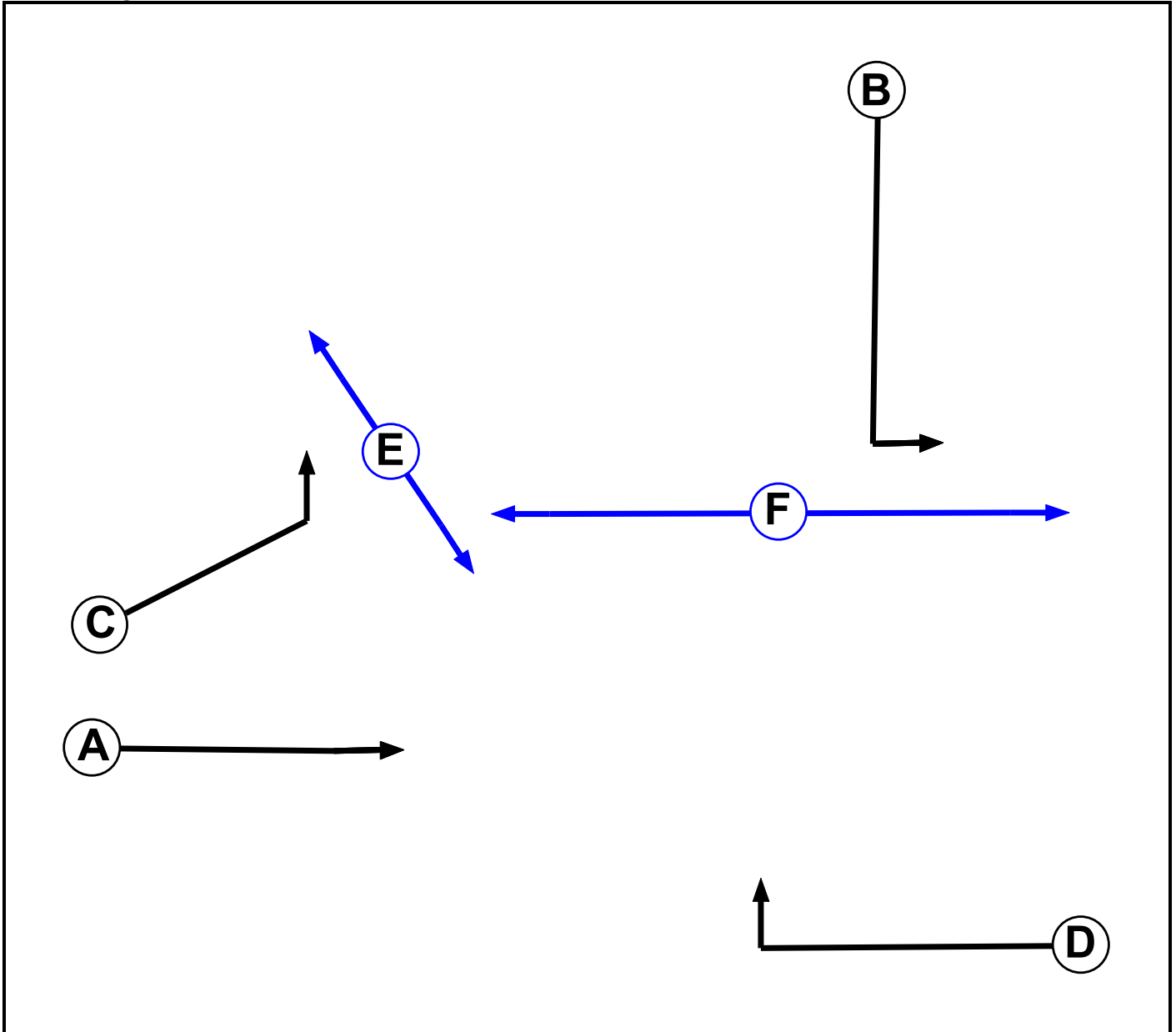
User and Project Details

Project:	Mill Hill
Title:	Five Ways Corner
Location:	Edgware, London
File name:	Five Ways Corner.lsg3x
Author:	Cecilia Thordardottir
Company:	Robert West
Address:	175-177 Borough High Street
Notes:	

Network Layout Diagram



C1
Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	1
B	Traffic	1		7	7
C	Traffic	1		7	0
D	Traffic	1		7	7
E	Pedestrian	1		6	6
F	Pedestrian	1		6	6

Full Input Data And Results

Phase Intergrens Matrix

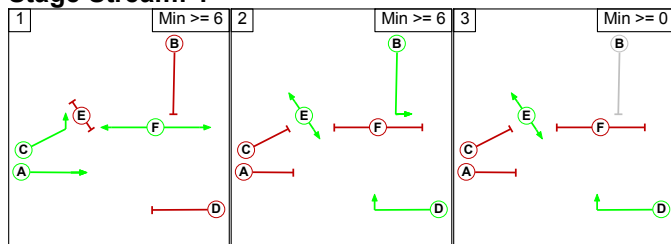
		Starting Phase					
		A	B	C	D	E	F
Terminating Phase	A	7	-	8	-	-	
	B	5	-	-	-	5	
	C	-	-	5	7	-	
	D	7	-	9	-	10	
	E	-	-	8	-	-	
	F	-	14	-	14	-	

Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A C F
1	2	B D E
1	3	D E

Stage Diagram

Stage Stream: 1



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	A	Losing	7	7
1	2	C	Losing	8	8
1	3	A	Losing	6	6
1	3	C	Losing	7	7
2	1	B	Losing	5	5

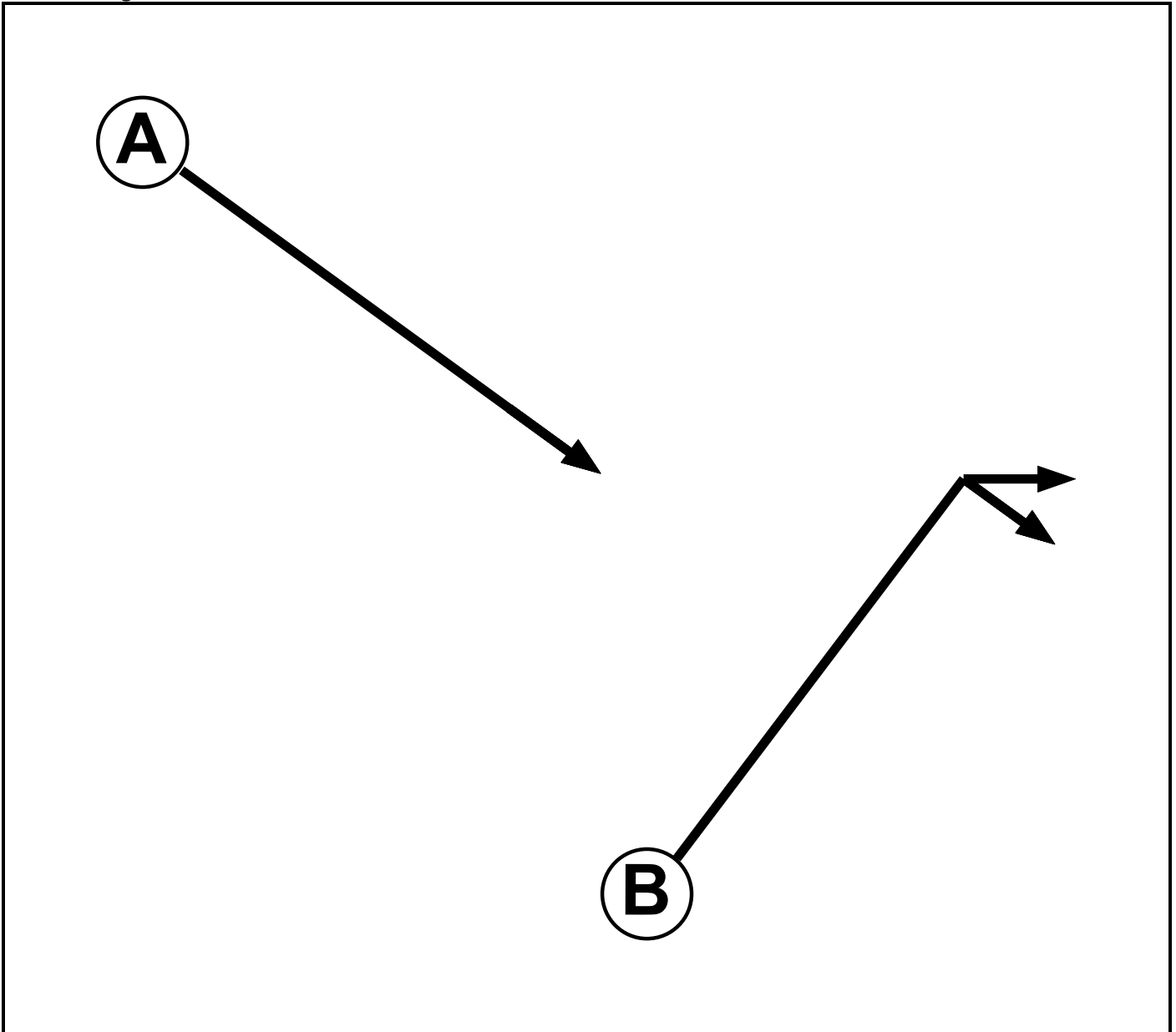
Prohibited Stage Change

Stage Stream: 1

		To Stage		
		1	2	3
From Stage	1	15	14	
	2	10	0	
	3	10	2	

C2

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7

Full Input Data And Results

Phase Intergreens Matrix

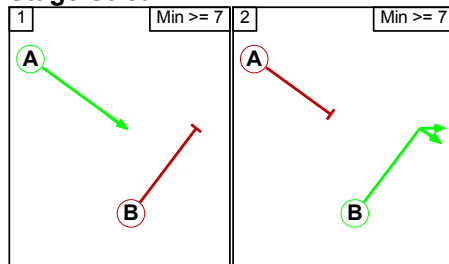
	Starting Phase		
		A	B
Terminating Phase	A		7
	B	7	

Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A
1	2	B

Stage Diagram

Stage Stream: 1



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

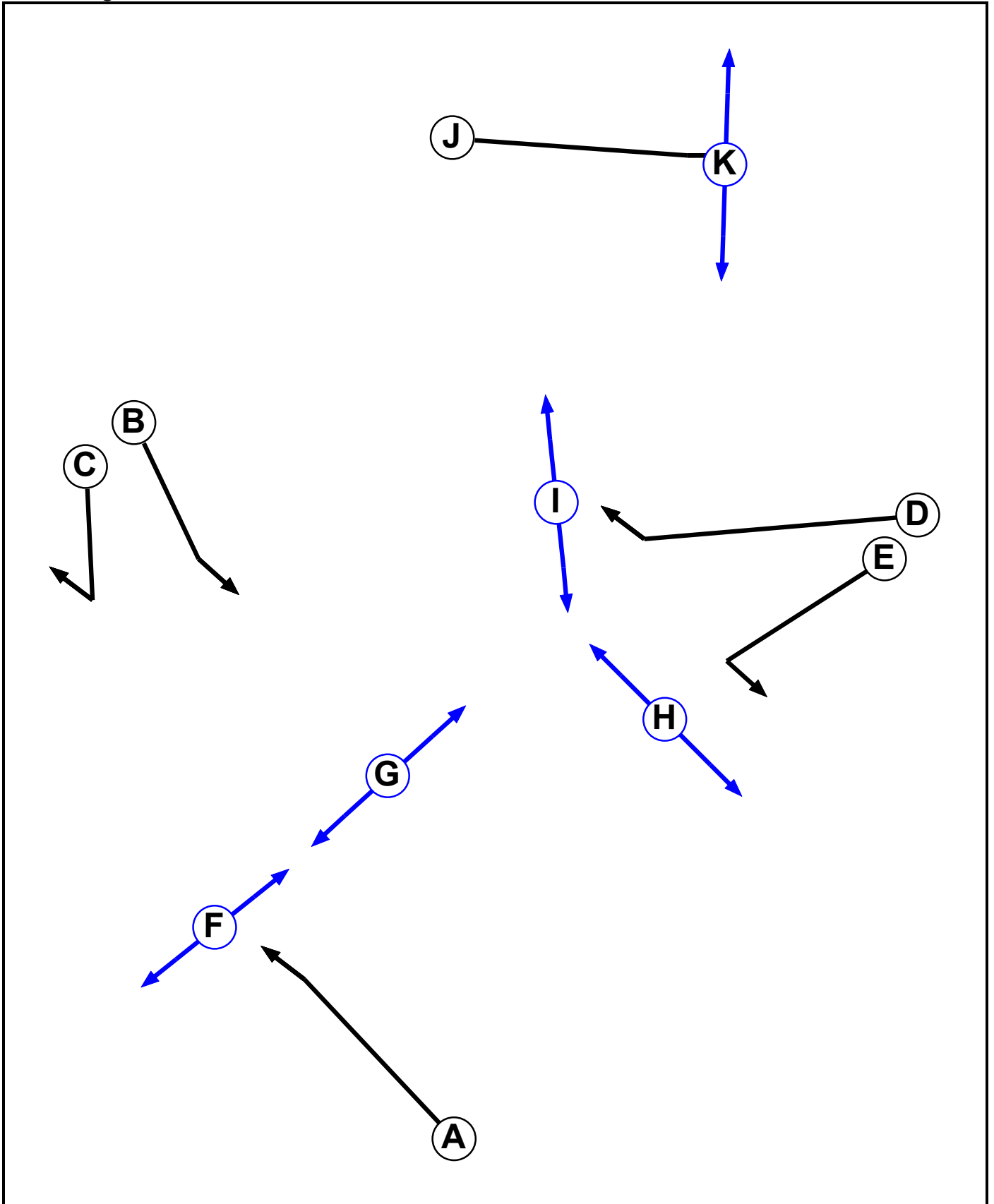
Prohibited Stage Change

Stage Stream: 1

	To Stage	
	1	2
From Stage	1	7
	2	7

C3

Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	1		7	5
D	Traffic	1		7	6
E	Traffic	1		7	5
F	Pedestrian	1		6	6
G	Pedestrian	1		6	6
H	Pedestrian	1		6	6
I	Pedestrian	1		6	6
J	Traffic	2		7	7
K	Pedestrian	2		6	6

Phase Intergreens Matrix

	Starting Phase										
	A	B	C	D	E	F	G	H	I	J	K
Terminating Phase	A	-	7	7	-	7	-	-	-	-	-
B	-	-	7	8	-	8	-	-	-	-	
C	7	-	7	-	-	-	-	-	-	-	
D	9	8	9	-	-	-	-	7	-	-	
E	-	7	-	-	-	-	7	-	-	-	
F	10	-	-	-	-	-	-	-	-	-	
G	-	9	-	-	-	-	-	-	-	-	
H	-	-	-	-	8	-	-	-	-	-	
I	-	-	-	9	-	-	-	-	-	-	
J	-	-	-	-	-	-	-	-	-	7	
K	-	-	-	-	-	-	-	-	-	7	

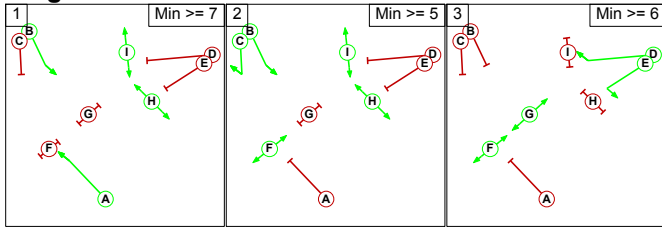
Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A B H I
1	2	B C F H I
1	3	D E F G
2	1	J
2	2	K

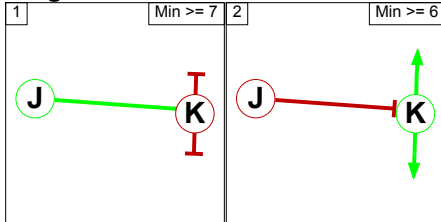
Full Input Data And Results

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	3	A	Losing	2	2
2	1	C	Losing	3	3
2	3	B	Losing	2	2
2	3	C	Losing	2	2
3	1	D	Losing	1	1
3	1	E	Losing	2	2
3	2	D	Losing	1	1
3	2	E	Losing	2	2

Stage Stream: 2

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

Stage Stream: 1

		To Stage		
		1	2	3
From Stage	1		7	9
	2	10		10
	3	10	10	

Stage Stream: 2

		To Stage	
		1	2
From Stage	1		7
	2	7	

Full Input Data And Results

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: Watford Way / Page Street											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
J1:5/1 (Hall Lane)	J1:6/1 (Left)	1439	0	J1:4/1	1.09	To J1:6/1 (Ahead)	-	-	-	-	-

Junction: J2: Great North Way (U-turn) / Watford Way / Fiveways junction

There are no Opposed Lanes in this Junction

Junction: J3: Great North Way / Watford Way

There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: J1: Watford Way / Page Street												
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)
J1:1/1 (Watford Way Eastbound Entry)	U	C	2	3	5.0	User	1960	-	-	-	-	-
J1:1/2 (Watford Way Eastbound Entry)	U	A	2	3	60.0	User	1960	-	-	-	-	-
J1:1/3 (Watford Way Eastbound Entry)	U	A	2	3	60.0	User	1804	-	-	-	-	-
J1:1/4 (Watford Way Eastbound Entry)	U	A	2	3	60.0	User	1905	-	-	-	-	-
J1:2/1 (Page Street Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:3/1 (Page Street Entry)	U	B	2	3	5.0	User	1858	-	-	-	-	-
J1:3/2 (Page Street Entry)	U	B	2	3	60.0	User	1846	-	-	-	-	-
J1:4/1 (Watford Way Northbound)	U		2	3	60.0	Geom	-	3.15	0.00	Y	Arm J1:6 Ahead	Inf
											Arm J1:7 Left	Inf
J1:4/2 (Watford Way Northbound)	U		2	3	60.0	Geom	-	3.31	0.00	N	Arm J1:6 Ahead	Inf
J1:4/3 (Watford Way Northbound)	U		2	3	60.0	Geom	-	3.48	0.00	N	Arm J1:6 Ahead	Inf
J1:4/4 (Watford Way Northbound)	U	D	2	3	24.0	Geom	-	4.00	0.00	Y	Arm J1:2 Right	Inf
J1:5/1 (Hall Lane)	O		2	3	60.0	Geom	-	3.09	0.00	Y	Arm J1:6 Left	Inf
J1:6/1 (Watford Way Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/2 (Watford Way Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/3 (Watford Way Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

J1:7/1 (Hall Lane)	U		2	3	60.0	Inf	-	-	-	-	-	-
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Junction: J2: Great North Way (U-turn) / Watford Way / Fiveways junction												
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)
J2:1/1 (Watford Way Eastbound Entry)	U		2	3	60.0	Geom	-	3.71	0.00	Y	Arm J3:1 Ahead	Inf
J2:1/2 (Watford Way Eastbound Entry)	U	A	2	3	8.7	Geom	-	4.15	0.00	N	Arm J3:4 Ahead	Inf
J2:1/3 (Watford Way Eastbound Entry)	U	A	2	3	8.7	Geom	-	3.97	0.00	Y	Arm J3:4 Ahead	Inf
J2:2/1 (Watford Way Northbound Entry)	U		2	3	60.0	Geom	-	3.16	0.00	Y	Arm J1:4 Ahead	Inf
J2:2/2 (Watford Way Northbound Entry)	U		2	3	60.0	Geom	-	2.66	0.00	N	Arm J1:4 Ahead	Inf
J2:2/3 (Watford Way Northbound Entry)	U		2	3	60.0	Geom	-	2.96	0.00	N	Arm J1:4 Ahead	Inf
J2:2/4 (Watford Way Northbound Entry)	U	B	2	3	5.0	Geom	-	5.00	0.00	Y	Arm J3:1 U-Turn	Inf
											Arm J3:4 U-Turn	Inf

Full Input Data And Results

Junction: J3: Great North Way / Watford Way												
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)
J3:1/1 (Great N Way Exit)	U	J	2	3	60.0	Geom	-	3.80	0.00	Y	Arm J3:2 Ahead	Inf
J3:1/2 (Great N Way Exit)	U	J	2	3	11.7	Geom	-	3.79	0.00	Y	Arm J3:2 Ahead	Inf
J3:2/1 (Exit to M1)	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:2/2 (Exit to M1)	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:3/1 (Great N Way Westbound Entry)	U	E	2	3	2.0	User	1990	-	-	-	-	-
J3:3/2 (Great N Way Westbound Entry)	U	D	2	3	60.0	User	1990	-	-	-	-	-
J3:3/3 (Great N Way Westbound Entry)	U	D	2	3	60.0	User	1923	-	-	-	-	-
J3:4/1 (Watford Way Exit)	U	B	2	3	8.5	Geom	-	3.40	0.00	Y	Arm J3:5 Ahead	Inf
J3:4/2 (Watford Way Exit)	U	B	2	3	8.5	Geom	-	3.66	0.00	N	Arm J3:5 Ahead	Inf
J3:4/3 (Watford Way Exit)	U	C	2	3	8.5	Geom	-	3.36	0.00	N	Arm J2:2 U-Turn	Inf
J3:4/4 (Watford Way Exit)	U	C	2	3	5.0	Geom	-	3.90	0.00	Y	Arm J2:2 U-Turn	Inf
J3:5/1 (Watford Way 1 Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:5/2 (Watford Way 1 Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:6/1 (Watford Way 1)	U	A	2	3	60.0	User	2007	-	-	-	-	-
J3:6/2 (Watford Way 1)	U	A	2	3	60.0	User	1986	-	-	-	-	-
J3:6/3 (Watford Way 1)	U	A	2	3	60.0	User	1930	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Baseline 2016 AM'	08:00	09:00	01:00	
2: 'Baseline 2016 PM'	17:00	18:00	01:00	
3: 'Resi with BLL AM'	08:00	09:00	01:00	
4: 'Resi with BLL PM'	17:00	18:00	01:00	
5: 'Resi without BLL AM'	08:00	09:00	01:00	
6: 'Resi without BLL PM'	17:00	18:00	01:00	
7: 'Non-Resi AM'	08:00	09:00	01:00	
8: 'Non-Resi PM'	17:00	18:00	01:00	
9: 'Ext_Use AM'	08:00	09:00	01:00	
10: 'Ext_Use PM'	17:00	18:00	01:00	
11: '2021 Com_Dev AM'	08:00	09:00	01:00	
12: '2021 Com_Dev PM'	17:00	18:00	01:00	
13: '2026 Com_Dev AM'	08:00	09:00	01:00	
14: '2026 Com_Dev PM'	17:00	18:00	01:00	
15: '2021+Com_Dev AM+Ex Use'	08:00	09:00	01:00	(F1*1.037)+F11+F9
16: '2021+Com_Dev PM+Ex Use'	17:00	18:00	01:00	(F2*1.0558)+F12+F10
17: '2021+Com_Dev + New_Dev with BLL AM '	08:00	09:00	01:00	(F1*1.037)+F11+F3+F7
18: '2021+Com_Dev + New_Dev with BLL PM'	17:00	18:00	01:00	(F2*1.0558)+F12+F4+F8
19: '2021+Com_Dev + New_Dev without BLL AM'	08:00	09:00	01:00	(F1*1.037)+F11+F5+F7
20: '2021+Com_Dev + New_Dev without BLL PM'	17:00	18:00	01:00	(F2*1.0558)+F12+F6+F8
21: '2026+Com_Dev AM+Ex Use'	08:00	09:00	01:00	(F1*1.074)+F13+F9
22: '2026+Com_Dev PM+Ex Use'	17:00	18:00	01:00	(F2*1.1116)+F14+F10
23: '2026+Com_Dev + New_Dev with BLL AM'	08:00	09:00	01:00	(F1*1.074)+F13+F3+F7
24: '2026+Com_Dev + New_Dev with BLL PM'	17:00	18:00	01:00	(F2*1.1116)+F14+F4+F8
25: '2026+Com_Dev + New_Dev without BLL AM'	08:00	09:00	01:00	(F1*1.074)+F13+F5+F7
26: '2026+Com_Dev + New_Dev without BLL PM'	17:00	18:00	01:00	(F2*1.1116)+F14+F6+F8
27: 'Baseline 2016 AM - Adjusted'	08:00	09:00	01:00	
28: 'Baseline 2016 PM - Adjusted'	17:00	18:00	01:00	

Full Input Data And Results

Scenario 1: '2016 AM' (FG1: 'Baseline 2016 AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	1	255	252	15	25	548
	B	174	3	20	12	713	922
	C	227	148	61	6	1015	1457
	D	0	0	0	0	13	13
	E	53	830	1298	28	20	2229
	Tot.	455	1236	1631	61	1786	5169

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2016 AM
Junction: J1: Watford Way / Page Street	
J1:1/1 (short)	53
J1:1/2 (with short)	883(In) 830(Out)
J1:1/3	661
J1:1/4	685
J1:2/1	455
J1:3/1 (short)	255
J1:3/2 (with short)	548(In) 293(Out)
J1:4/1	799
J1:4/2	925
J1:4/3 (with short)	512(In) 110(Out)
J1:4/4 (short)	402
J1:5/1	13
J1:6/1	751
J1:6/2	925
J1:6/3	110
J1:7/1	61
Junction: J2: Great North Way (U-turn) / Watford Way / Fiveways junction	
J2:1/1	1085
J2:1/2	839
J2:1/3	800
J2:2/1	799
J2:2/2	925
J2:2/3 (with short)	724(In) 512(Out)
J2:2/4 (short)	212
Junction: J3: Great North Way / Watford Way	
J3:1/1	605
J3:1/2	631
J3:2/1	605
J3:2/2	631
J3:3/1 (short)	20
J3:3/2 (with short)	664(In) 644(Out)
J3:3/3	258
J3:4/1	753
J3:4/2	858

Full Input Data And Results

J3:4/3 (with short)	89(In) 79(Out)
J3:4/4 (short)	10
J3:5/1	773
J3:5/2	858
J3:6/1	503
J3:6/2	498
J3:6/3	456

Lane Saturation Flows

Junction: J1: Watford Way / Page Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Watford Way Eastbound Entry Lane 1)	This lane uses a directly entered Saturation Flow						1960	1960
J1:1/2 (Watford Way Eastbound Entry Lane 2)	This lane uses a directly entered Saturation Flow						1960	1960
J1:1/3 (Watford Way Eastbound Entry Lane 3)	This lane uses a directly entered Saturation Flow						1804	1804
J1:1/4 (Watford Way Eastbound Entry Lane 4)	This lane uses a directly entered Saturation Flow						1905	1905
J1:2/1 (Page Street Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:3/1 (Page Street Entry Lane 1)	This lane uses a directly entered Saturation Flow						1858	1858
J1:3/2 (Page Street Entry Lane 2)	This lane uses a directly entered Saturation Flow						1846	1846
J1:4/1 (Watford Way Northbound)	3.15	0.00	Y	Arm J1:6 Ahead	Inf	92.4 %	1930	1930
				Arm J1:7 Left	Inf	7.6 %		
J1:4/2 (Watford Way Northbound)	3.31	0.00	N	Arm J1:6 Ahead	Inf	100.0 %	2086	2086
J1:4/3 (Watford Way Northbound)	3.48	0.00	N	Arm J1:6 Ahead	Inf	100.0 %	2103	2103
J1:4/4 (Watford Way Northbound)	4.00	0.00	Y	Arm J1:2 Right	Inf	100.0 %	2015	2015
J1:5/1 (Hall Lane)	3.09	0.00	Y	Arm J1:6 Left	Inf	100.0 %	1924	1924
J1:6/1 (Watford Way Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/2 (Watford Way Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:6/3 (Watford Way Exit Lane 3)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (Hall Lane Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: Great North Way (U-turn) / Watford Way / Fiveways junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Watford Way Eastbound Entry)	3.71	0.00	Y	Arm J3:1 Ahead	Inf	100.0 %	1986	1986
J2:1/2 (Watford Way Eastbound Entry)	4.15	0.00	N	Arm J3:4 Ahead	Inf	100.0 %	2170	2170
J2:1/3 (Watford Way Eastbound Entry)	3.97	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	2012	2012
J2:2/1 (Watford Way Northbound Entry)	3.16	0.00	Y	Arm J1:4 Ahead	Inf	100.0 %	1931	1931
J2:2/2 (Watford Way Northbound Entry)	2.66	0.00	N	Arm J1:4 Ahead	Inf	100.0 %	2021	2021
J2:2/3 (Watford Way Northbound Entry)	2.96	0.00	N	Arm J1:4 Ahead	Inf	100.0 %	2051	2051
J2:2/4 (Watford Way Northbound Entry)	5.00	0.00	Y	Arm J3:1 U-Turn	Inf	71.2 %	2115	2115
				Arm J3:4 U-Turn	Inf	28.8 %		

Full Input Data And Results

Junction: J3: Great North Way / Watford Way								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1 (Great N Way Exit)	3.80	0.00	Y	Arm J3:2 Ahead	Inf	100.0 %	1995	1995
J3:1/2 (Great N Way Exit)	3.79	0.00	Y	Arm J3:2 Ahead	Inf	100.0 %	1995	1995
J3:2/1 (Exit to M1 Lane 1)	Infinite Saturation Flow						Inf	Inf
J3:2/2 (Exit to M1 Lane 2)	Infinite Saturation Flow						Inf	Inf
J3:3/1 (Great N Way Westbound Entry Lane 1)	This lane uses a directly entered Saturation Flow						1990	1990
J3:3/2 (Great N Way Westbound Entry Lane 2)	This lane uses a directly entered Saturation Flow						1990	1990
J3:3/3 (Great N Way Westbound Entry Lane 3)	This lane uses a directly entered Saturation Flow						1923	1923
J3:4/1 (Watford Way Exit)	3.40	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1955	1955
J3:4/2 (Watford Way Exit)	3.66	0.00	N	Arm J3:5 Ahead	Inf	100.0 %	2121	2121
J3:4/3 (Watford Way Exit)	3.36	0.00	N	Arm J2:2 U-Turn	Inf	100.0 %	2091	2091
J3:4/4 (Watford Way Exit)	3.90	0.00	Y	Arm J2:2 U-Turn	Inf	100.0 %	2005	2005
J3:5/1 (Watford Way 1 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J3:5/2 (Watford Way 1 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J3:6/1 (Watford Way 1 Lane 1)	This lane uses a directly entered Saturation Flow						2007	2007
J3:6/2 (Watford Way 1 Lane 2)	This lane uses a directly entered Saturation Flow						1986	1986
J3:6/3 (Watford Way 1 Lane 3)	This lane uses a directly entered Saturation Flow						1930	1930

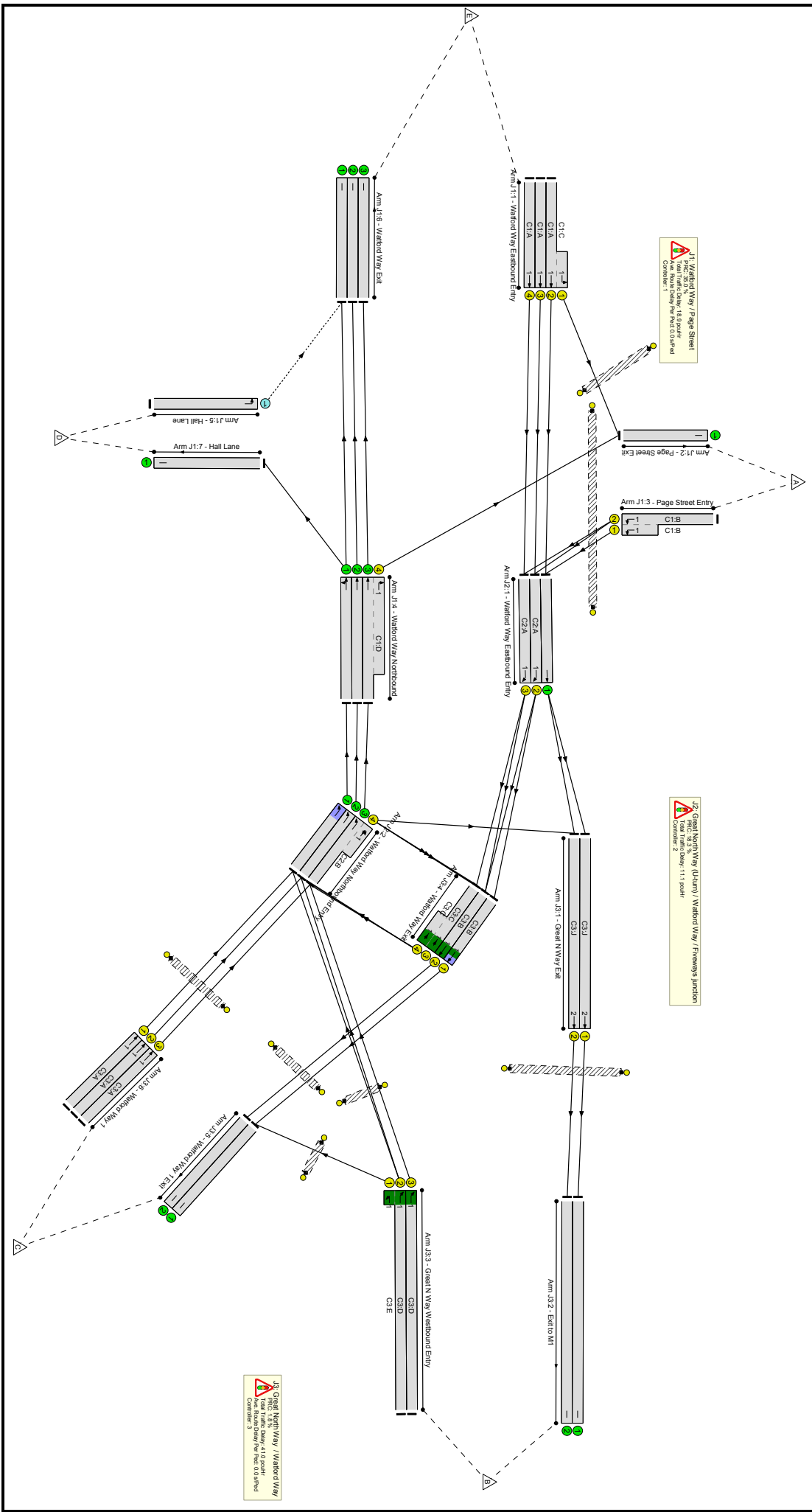
Scenario 2: '2021+Com_Dev AM+Ex Use' (FG15: '2021+Com_Dev AM+Ex Use', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination						
	A	B	C	D	E	Tot.	
Origin	A	1	276	273	16	26	592
	B	180	3	21	12	757	973
	C	235	153	63	6	1079	1536
	D	0	0	0	0	13	13
	E	55	879	1346	29	54	2363
	Tot.	471	1311	1703	63	1929	5477

Full Input Data And Results
 Scenario 8: '2016 PM' (FG2: 'Baseline 2016 PM', Plan 1: 'Network Control Plan 1')
 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: Five Ways Corner	-	-	N/A	-	-	-	-	-	-	-	-	-	88.4%
J1: Watford Way / Page Street	-	-	N/A	-	-	-	-	-	-	-	-	-	66.7%
1/2+1/1	Watford Way Eastbound Entry Left Ahead	U	1:1	N/A	C1:A C1:C		1	49:48	-	663	1960:1960	1044+60	60.0 : 60.0%
1/3	Watford Way Eastbound Entry Ahead	U	1:1	N/A	C1:A		1	49	-	668	1804	1002	66.7%
1/4	Watford Way Eastbound Entry Ahead	U	1:1	N/A	C1:A		1	49	-	678	1905	1058	64.1%
2/1	Page Street Exit	U	N/A	N/A	-		-	-	-	432	Inf	Inf	0.0%
3/2+3/1	Page Street Entry Left	U	1:1	N/A	C1:B		1	26	-	409	1846:1858	411+270	60.1 : 60.1%
4/1	Watford Way Northbound Ahead Left	U	N/A	N/A	-		-	-	-	944	1930	1930	48.9%
4/2	Watford Way Northbound Ahead	U	N/A	N/A	-		-	-	-	1022	2086	2086	49.0%
4/3+4/4	Watford Way Northbound Right Ahead	U	N/A	N/A	- C1:D		-	-	-	980	2103:2015	891+605	65.5 : 65.5%
5/1	Hall Lane Left	O	N/A	N/A	-		-	-	-	4	1924	618	0.6%
6/1	Watford Way Exit	U	N/A	N/A	-		-	-	-	876	Inf	Inf	0.0%
6/2	Watford Way Exit	U	N/A	N/A	-		-	-	-	1022	Inf	Inf	0.0%
6/3	Watford Way Exit	U	N/A	N/A	-		-	-	-	584	Inf	Inf	0.0%
7/1	Hall Lane	U	N/A	N/A	-		-	-	-	72	Inf	Inf	0.0%
Ped Link: P1	Page Street	-	1:1	-	C1:E		1	26	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:1	-	C1:F		1	39	-	0	-	0	0.0%

Full Input Data And Results

J2: Great North Way (U-turn) / Watford Way / Fiveways Junction	-	-	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76.1%
1/1	Watford Way Eastbound Entry Ahead	U	N/A	N/A	-	-	-	-	-	789	1986	1986	1986	39.7%							
1/2	Watford Way Eastbound Entry Ahead	U	2:1	N/A	C2:A	1	51	-	-	829	2170	1254	66.1%								
1/3	Watford Way Eastbound Entry Ahead	U	2:1	N/A	C2:A	1	51	-	-	764	2012	1162	65.7%								
2/1	Watford Way Northbound Entry Ahead	U	N/A	N/A	-	-	-	-	-	944	1931	1931	48.9%								
2/2	Watford Way Northbound Entry Ahead	U	N/A	N/A	-	-	-	-	-	1022	2021	2021	50.6%								
2/3+2/4	Watford Way Northbound Entry U-Turn Ahead U-Turn2	U	N/A	N/A	- C2:B	-	-	-	-	1183	2051:2:115	1288+267	76.1 : 76.1%								
J3: Great North Way / Watford Way	-	-	N/A	-	-	-	-	-	-	-	-	-	88.4%								
1/1	Great N Way Exit Ahead	U	3:2	N/A	C3:J	1	70	-	-	454	1995	1574	28.8%								
1/2	Great N Way Exit Ahead	U	3:2	N/A	C3:J	1	70	-	-	506	1995	1574	32.2%								
2/1	Exit to M1	U	N/A	N/A	-	-	-	-	-	454	Inf	Inf	0.0%								
2/2	Exit to M1	U	N/A	N/A	-	-	-	-	-	506	Inf	Inf	0.0%								
3/2+3/1	Great N Way Westbound Entry Ahead U-Turn	U	3:1	N/A	C3:D:C3:E	1	27	-	-	600	1990:1990	680+22	85.5 : 85.5%								
3/3	Great N Way Westbound Entry Ahead	U	3:1	N/A	C3:D	1	27	-	-	548	1923	684	80.1%								
4/1	Watford Way Exit Ahead	U	3:1	N/A	C3:B	1	48	-	-	731	1955	1108	66.0%								
4/2	Watford Way Exit Ahead	U	3:1	N/A	C3:B	1	48	-	-	821	2121	1202	68.3%								

Full Input Data And Results

4/3+4/4	Watford Way Exit U-Turn	U	3:1	N/A	C3:C	1	7	-	73	2091:2005	217+82	24.5 : 24.5%
5/1	Watford Way 1 Exit	U	N/A	N/A	-	-	-	750	Inf	Inf	Inf	0.0%
5/2	Watford Way 1 Exit	U	N/A	N/A	-	-	-	821	Inf	Inf	Inf	0.0%
6/1	Watford Way 1 Ahead	U	3:1	N/A	C3:A	1	33	-	669	2007	758	88.2%
6/2	Watford Way 1 Ahead	U	3:1	N/A	C3:A	1	33	-	663	1986	750	88.4%
6/3	Watford Way 1 Ahead	U	3:1	N/A	C3:A	1	33	-	615	1930	729	84.3%
Ped Link: P1	Unnamed Ped Link	-	3:1	-	C3:F	1	40	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	3:1	-	C3:G	1	25	-	0	-	0	0.0%
Ped Link: P3	Signalised Crossing	-	3:1	-	C3:I	1	47	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	3:1	-	C3:H	1	46	-	0	-	0	0.0%
Ped Link: P5	Signalised Crossing	-	3:2	-	C3:K	1	6	-	0	-	0	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Average Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Five Ways Corner	-	-	4	0	0	44.0	27.1	0.0	71.0	-	-	-	-
J1: Watford Way / Page Street	-	-	4	0	0	13.6	5.3	0.0	18.9	-	-	-	-
1/2+1/1	663	663	-	-	-	2.4	0.7	-	3.2	17.1	10.6	0.7	11.3
1/3	668	668	-	-	-	2.6	1.0	-	3.6	19.5	11.7	1.0	12.7
1/4	678	678	-	-	-	2.6	0.9	-	3.5	18.5	11.7	0.9	12.6
2/1	432	432	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2+3/1	409	409	-	-	-	2.8	0.7	-	3.6	31.5	4.9	0.7	5.7
4/1	944	944	-	-	-	0.0	0.5	-	0.5	1.8	0.0	0.5	0.5
4/2	1022	1022	-	-	-	0.0	0.5	-	0.5	1.7	0.0	0.5	0.5
4/3+4/4	980	980	-	-	-	3.2	0.9	-	4.1	15.1	8.0	0.9	8.9
5/1	4	4	4	0	0	0.0	0.0	-	0.0	7.1	0.0	0.0	0.0
6/1	876	876	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	1022	1022	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	584	584	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	72	72	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
J2: Great North Way (U-turn) / Watford Way / Fiveways Junction	-	-	0	0	0	6.3	4.8	0.0	11.1	-	-	-	-
1/1	789	789	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
1/2	829	829	-	-	-	2.4	1.0	-	3.4	14.8	16.0	1.0	17.0
1/3	764	764	-	-	-	2.4	1.0	-	3.3	15.6	16.0	1.0	16.9
2/1	944	944	-	-	-	0.0	0.5	-	0.5	1.9	3.3	0.5	3.8
2/2	1022	1022	-	-	-	0.0	0.5	-	0.5	1.8	0.0	0.5	0.5
2/3+2/4	1183	1183	-	-	-	1.5	1.6	-	3.0	9.2	5.0	1.6	6.6

Full Input Data And Results

J3: Great North Way / Watford Way	-	-	0	0	0	24.1	17.0	0.0	41.0	-	-	-	
1/1	454	454	-	-	-	0.2	0.2	-	0.4	3.4	2.0	0.2	2.2
1/2	506	506	-	-	-	0.2	0.2	-	0.4	2.9	1.4	0.2	1.6
2/1	454	454	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	506	506	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2+3/1	600	600	-	-	-	4.5	2.8	-	7.3	43.7	13.8	2.8	16.6
3/3	548	548	-	-	-	4.0	2.0	-	5.9	39.0	12.3	2.0	14.3
4/1	731	731	-	-	-	0.4	1.0	-	1.3	6.5	2.0	1.0	2.9
4/2	821	821	-	-	-	0.3	1.1	-	1.4	6.1	11.9	1.1	13.0
4/3+4/4	73	73	-	-	-	0.5	0.2	-	0.6	31.6	1.1	0.2	1.3
5/1	750	750	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	821	821	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	669	669	-	-	-	4.9	3.5	-	8.3	44.9	15.4	3.5	18.9
6/2	663	663	-	-	-	4.8	3.5	-	8.3	45.2	15.5	3.5	19.0
6/3	615	615	-	-	-	4.4	2.6	-	6.9	40.7	14.0	2.6	16.6
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-
C1	Stream: 1 PRC for Signalled Lanes (%): 35.0												
C2	Stream: 1 PRC for Signalled Lanes (%): 36.1												
C3	Stream: 1 PRC for Signalled Lanes (%): 1.8												
C3	Stream: 2 PRC for Signalled Lanes (%): 179.9												
	PRC Over All Lanes (%): 1.8												
	Total Delay for Signalled Lanes (pouHr): 13.83												
	Total Delay for Signalled Lanes (pouHr): 6.71												
	Total Delay for Signalled Lanes (pouHr): 40.19												
	Total Delay for Signalled Lanes (pouHr): 0.84												
	Total Delay Over All Lanes(pouHr): 71.04												

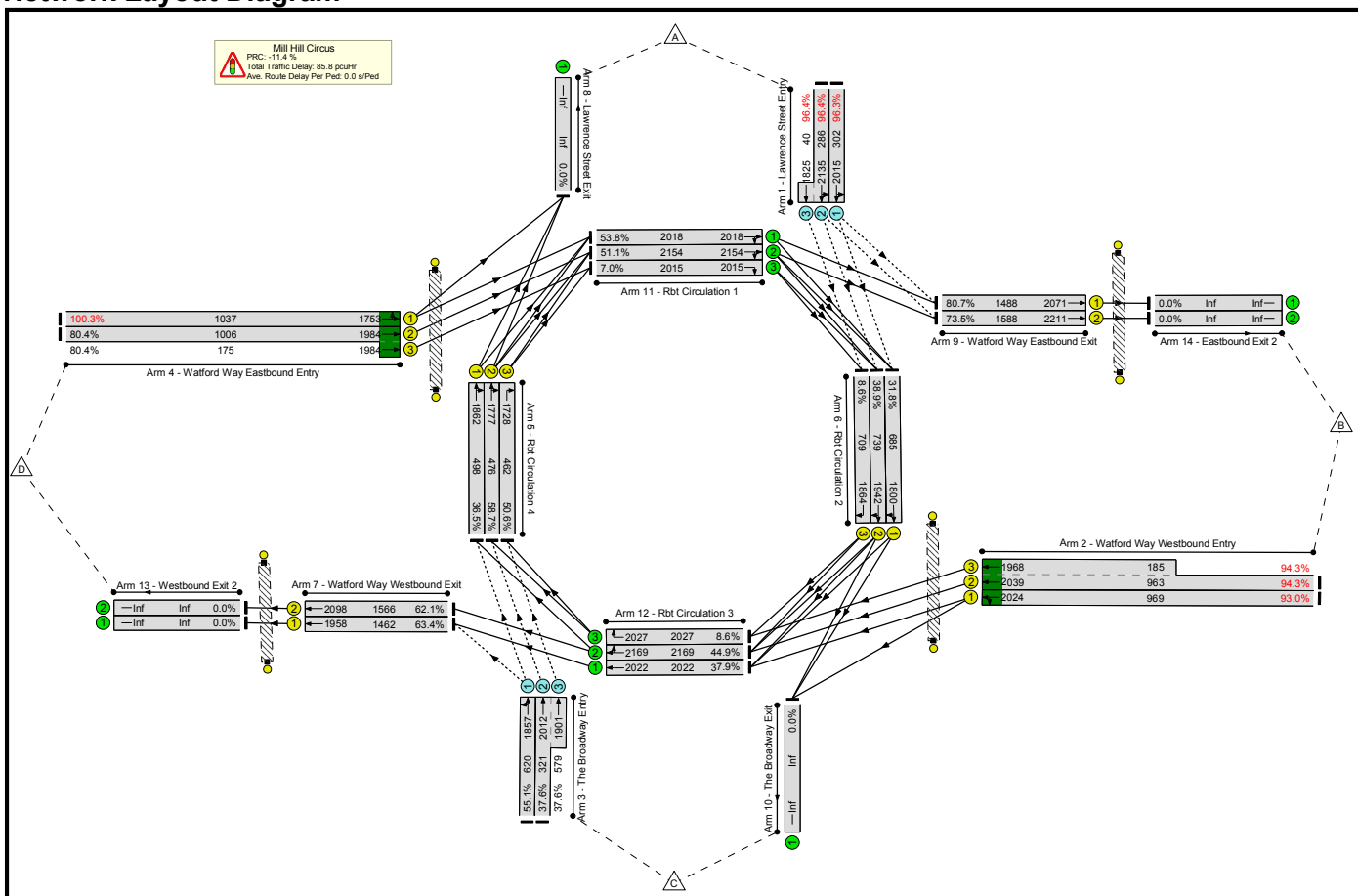
Basic Results Summary
Basic Results Summary

User and Project Details

Project:	Mill Hill
Title:	Mill Hill Circus - Roundabout
Location:	Edgware, London
File name:	Mill Hill Circus 4 test LJB.lsg3x
Author:	Cecilia Thordardottir
Company:	Robert West
Address:	175-177 Borough High Street
Notes:	

Scenario 1: '2016 Baseline AM' (FG1: '2016 AM Peak', 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: Mill Hill Circus - Roundabout																	
	-	-	-		-	-	-	-	-	-	100.3%	1941	0	0	85.8	-	-
1/1	Lawrence Street Entry Ahead Left	O	-		-	-	-	291	2015	302	96.3%	291	0	0	8.2	101.4	11.9
1/2+1/3	Lawrence Street Entry Ahead Left	O	-		-	-	-	315	2135:1825	286+40	96.4 : 96.4%	630	0	0	8.5	97.6	11.8
2/1	Watford Way Westbound Entry Left Ahead	U	D		1	29	-	901	2024	969	93.0%	-	-	-	10.0	40.0	22.2
2/2+2/3	Watford Way Westbound Entry Ahead	U	D		1	29	-	1082	2039:1968	963+185	94.3 : 94.3%	-	-	-	11.7	38.9	23.4
3/1	The Broadway Entry Ahead Left	O	-		-	-	-	342	1857	620	55.1%	342	0	0	1.8	19.3	5.6
3/2+3/3	The Broadway Entry Ahead	O	-		-	-	-	339	2012:1901	321+579	37.6 : 37.6%	678	0	0	1.4	14.6	3.1
4/1	Watford Way Eastbound Entry Left Ahead	U	A		1	39	-	1040	1753	1037	100.3%	-	-	-	21.2	73.3	37.5
4/2+4/3	Watford Way Eastbound Entry Ahead	U	A		1	39	-	950	1984:1984	1006+175	80.4 : 80.4%	-	-	-	5.0	18.8	16.2
5/1	Rbt Circulation 4 Ahead Right	U	B		1	18	-	182	1862	498	36.5%	-	-	-	1.4	26.7	3.8
5/2	Rbt Circulation 4 Ahead Right	U	B		1	18	-	279	1777	476	58.7%	-	-	-	2.1	27.5	5.7
5/3	Rbt Circulation 4 Right	U	B		1	18	-	234	1728	462	50.6%	-	-	-	2.0	30.8	5.0
6/1	Rbt Circulation 2 Ahead Right	U	E		1	26	-	218	1800	685	31.8%	-	-	-	0.6	10.5	2.4

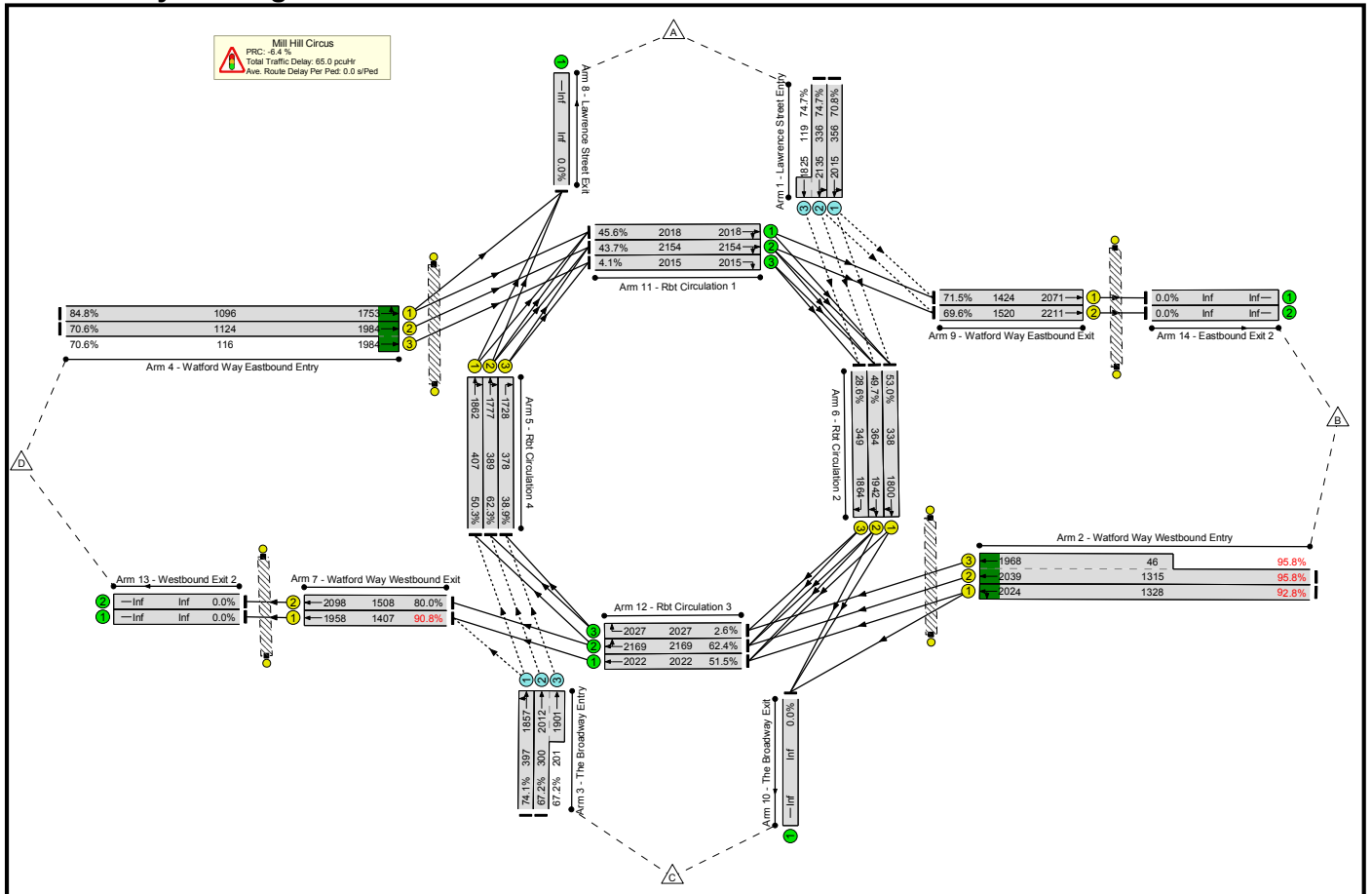
Basic Results Summary

6/2	Rbt Circulation 2 Ahead Right	U	E	1	26	-	287	1942	739	38.9%	-	-	1.2	14.5	3.6
6/3	Rbt Circulation 2 Right	U	E	1	26	-	61	1864	709	8.6%	-	-	0.2	14.6	0.8
7/1	Watford Way Westbound Exit Ahead	U	G	1	52	-	927	1958	1462	63.4%	-	-	1.3	5.1	4.4
7/2	Watford Way Westbound Exit Ahead	U	G	1	52	-	973	2098	1566	62.1%	-	-	1.2	4.3	2.8
9/1	Watford Way Eastbound Exit Ahead	U	I	1	50	-	1203	2071	1488	80.7%	-	-	2.7	8.0	6.7
9/2	Watford Way Eastbound Exit Ahead	U	I	1	50	-	1168	2211	1588	73.5%	-	-	3.4	10.5	17.4
11/1	Rbt Circulation 1 Right Ahead	U	-	-	-	-	1089	2018	2018	53.8%	-	-	0.6	1.9	0.6
11/2	Rbt Circulation 1 Right Ahead	U	-	-	-	-	1101	2154	2154	51.1%	-	-	0.5	1.7	3.5
11/3	Rbt Circulation 1 Right	U	-	-	-	-	141	2015	2015	7.0%	-	-	0.0	1.0	0.0
12/1	Rbt Circulation 3 Ahead	U	-	-	-	-	767	2022	2022	37.9%	-	-	0.3	1.4	0.3
12/2	Rbt Circulation 3 Right Ahead	U	-	-	-	-	973	2169	2169	44.9%	-	-	0.4	1.5	0.4
12/3	Rbt Circulation 3 Right	U	-	-	-	-	174	2027	2027	8.6%	-	-	0.0	1.0	0.0
Ped Link: P1	Watford Way Crossing 1	-	C	1	14	-	0	-	0	0.0%	-	-	-	-	-
Ped Link: P2	Watford Way Crossing 2	-	H	1	6	-	0	-	0	0.0%	-	-	-	-	-
Ped Link: P3	Watford Way Crossing 3	-	F	1	22	-	0	-	0	0.0%	-	-	-	-	-
Ped Link: P4	Watford Way Crossing 4	-	J	1	6	-	0	-	0	0.0%	-	-	-	-	-
<p>C1 Stream: 1 PRC for Signalised Lanes (%): -11.4 Total Delay for Signalised Lanes (pouH): 31.62 Cycle Time (s): 71</p> <p>C1 Stream: 2 PRC for Signalised Lanes (%): -4.7 Total Delay for Signalised Lanes (pouH): 23.74 Cycle Time (s): 71</p> <p>C1 Stream: 3 PRC for Signalised Lanes (%): 41.9 Total Delay for Signalised Lanes (pouH): 2.48 Cycle Time (s): 71</p> <p>C1 Stream: 4 PRC for Signalised Lanes (%): 11.6 Total Delay for Signalised Lanes (pouH): 6.08 Cycle Time (s): 71</p> <p>PRC Over All Lanes (%): -11.4 Total Delay Over All Lanes(pouH): 85.78</p>															

Basic Results Summary

Scenario 2: '2016 Baseline PM' (FG2: '2016 PM Peak', 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: Mill Hill Circus - Roundabout																	
Mill Hill Circus	-	-	-		-	-	-	-	-	-	95.8%	1900	0	0	65.0	-	-
1/1	Lawrence Street Entry Ahead Left	O	-		-	-	-	252	2015	356	70.8%	252	0	0	2.5	36.0	5.2
1/2+1/3	Lawrence Street Entry Ahead Left	O	-		-	-	-	340	2135:1825	336+119	74.7 : 74.7%	680	0	0	3.2	33.7	5.6
2/1	Watford Way Westbound Entry Left Ahead	U	D		1	37	-	1233	2024	1328	92.8%	-	-	-	9.1	26.5	25.0
2/2+2/3	Watford Way Westbound Entry Ahead	U	D		1	37	-	1303	2039:1968	1315+46	95.8 : 95.8%	-	-	-	12.2	33.7	29.1
3/1	The Broadway Entry Ahead Left	O	-		-	-	-	294	1857	397	74.1%	294	0	0	3.0	36.4	6.0
3/2+3/3	The Broadway Entry Ahead	O	-		-	-	-	337	2012:1901	300+201	67.2 : 67.2%	674	0	0	2.9	30.5	4.3
4/1	Watford Way Eastbound Entry Left Ahead	U	A		1	37	-	929	1753	1096	84.8%	-	-	-	5.2	20.0	15.9
4/2+4/3	Watford Way Eastbound Entry Ahead	U	A		1	37	-	876	1984:1984	1124+116	70.6 : 70.6%	-	-	-	3.1	12.9	11.2
5/1	Rbt Circulation 4 Ahead Right	U	B		1	13	-	205	1862	407	50.3%	-	-	-	1.6	28.7	3.6
5/2	Rbt Circulation 4 Ahead Right	U	B		1	13	-	242	1777	389	62.3%	-	-	-	2.8	41.0	5.1
5/3	Rbt Circulation 4 Right	U	B		1	13	-	147	1728	378	38.9%	-	-	-	1.5	37.5	2.9
6/1	Rbt Circulation 2 Ahead Right	U	E		1	11	-	179	1800	338	53.0%	-	-	-	1.3	25.7	2.6

Basic Results Summary

6/2	Rbt Circulation 2 Ahead Right	U	E	1	11	-	181	1942	364	49.7%	-	-	-	1.5	30.6	2.9
6/3	Rbt Circulation 2 Right	U	E	1	11	-	100	1864	349	28.6%	-	-	-	0.5	18.0	1.6
7/1	Watford Way Westbound Exit Ahead	U	G	1	45	-	1278	1958	1407	90.8%	-	-	-	5.6	15.7	18.8
7/2	Watford Way Westbound Exit Ahead	U	G	1	45	-	1206	2098	1508	80.0%	-	-	-	2.5	7.5	4.9
9/1	Watford Way Eastbound Exit Ahead	U	I	1	43	-	1018	2071	1424	71.5%	-	-	-	1.7	6.0	4.3
9/2	Watford Way Eastbound Exit Ahead	U	I	1	43	-	1058	2211	1520	69.6%	-	-	-	2.7	9.1	14.1
11/1	Rbt Circulation 1 Right Ahead	U	-	-	-	-	921	2018	2018	45.6%	-	-	-	0.4	1.6	0.4
11/2	Rbt Circulation 1 Right Ahead	U	-	-	-	-	941	2154	2154	43.7%	-	-	-	0.4	1.5	0.4
11/3	Rbt Circulation 1 Right	U	-	-	-	-	82	2015	2015	4.1%	-	-	-	0.0	0.9	0.0
12/1	Rbt Circulation 3 Ahead	U	-	-	-	-	1042	2022	2022	51.5%	-	-	-	0.5	1.8	0.5
12/2	Rbt Circulation 3 Right Ahead	U	-	-	-	-	1353	2169	2169	62.4%	-	-	-	0.8	2.2	0.8
12/3	Rbt Circulation 3 Right	U	-	-	-	-	52	2027	2027	2.6%	-	-	-	0.0	0.9	0.0
Ped Link: P1	Watford Way Crossing 1	-	C	1	9	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Watford Way Crossing 2	-	H	1	6	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Watford Way Crossing 3	-	F	1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Watford Way Crossing 4	-	J	1	6	-	0	-	0	0.0%	-	-	-	-	-	-
		C1	Stream: 1 PRC for Signalised Lanes (%):	6.1	Total Delay for Signalised Lanes (pouH):	14.24	Cycle Time (s):	64								
		C1	Stream: 2 PRC for Signalised Lanes (%):	-6.4	Total Delay for Signalised Lanes (pouH):	24.60	Cycle Time (s):	64								
		C1	Stream: 3 PRC for Signalised Lanes (%):	-0.9	Total Delay for Signalised Lanes (pouH):	8.09	Cycle Time (s):	64								
		C1	Stream: 4 PRC for Signalised Lanes (%):	25.9	Total Delay for Signalised Lanes (pouH):	4.35	Cycle Time (s):	64								
			PRC Over All Lanes (%):	-6.4	Total Delay Over All Lanes(pouH):	65.02										

Junctions 9
ARCADY 9 - Roundabout Module
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Filename: Bunn's Lane - Grahame Park Way Roundabout - Existing Layout.j9
Path: L:\5545 - Healey Development Solutions (Mill Hill) Ltd\001 - Mill Hill\Analysis & Design\Modelling\J5 - Bunn's Lane - Grahame Park Way Mini Roundabout
Report generation date: 23/09/2016 17:45:13

- «Do Nothing - 2016, AM
 - »Junction Network
 - »Arms
 - »Traffic Demand
 - »Origin-Destination Data
 - »Vehicle Mix
 - »Results

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
Do Nothing - 2016								
Arm A	5.9	24.40	0.87	C	5.7	22.72	0.86	C
Arm B	13.9	56.79	0.96	F	2.2	11.74	0.69	B
Arm C	4.4	29.78	0.83	D	2.2	15.65	0.70	C

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	Bunn's Lane - Grahame Park Way Miniroundabout
Location	
Site number	
Date	15/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ROBERTWEST\libanbellezza
Description	

Units

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

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do Nothing	✓	✓	D1,D2	100.000	100.000

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	2016	AM	ONE HOUR	07:45	09:15	15	✓

Do Nothing - 2016, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Bunn's Lane - Grahame Park Way	Mini-roundabout	A,B,C	37.99	E

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
A	Bunn's Lane NW	
B	Bunn's Lane E	
C	Grahame Park Way	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.53	3.51	5.21	22.9	16.50	14.91	0.0	✓
B	3.00	2.63	4.34	2.0	14.20	9.71	0.0	✓
C	4.54	4.05	5.59	17.3	14.64	12.99	0.0	✓

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
A	None		
B	Direct		262
C	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.574	1146
B	0.484	1048
C	0.574	1077

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

Arm Capacity Adjustments

Arm	Type	Reason	Percentage capacity adjustment (%)
A	Percentage		110.00
B	Percentage		110.00
C	Percentage		100.00

Traffic Demand

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		ONE HOUR	✓	829	100.000
B		ONE HOUR	✓	841	100.000
C		ONE HOUR	✓	510	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	1	543	285
	B	608	0	233
	C	255	237	18

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	100	1	5
	B	0	0	1
	C	4	2	0

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)
A	0.87	24.40	5.9	C	761	1141
B	0.96	56.79	13.9	F	772	1158
C	0.83	29.78	4.4	D	468	702

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)	LOS
A	624	156	190	1111	0.562	619	644	0.0	1.3	7.249	A
B	633	158	227	1023	0.619	627	582	0.0	1.6	8.955	A
C	384	96	454	793	0.484	380	400	0.0	0.9	8.643	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)	LOS
A	745	186	228	1087	0.686	742	772	1.3	2.1	10.327	B
B	756	189	272	998	0.758	751	698	1.6	2.9	14.253	B
C	458	115	544	743	0.617	456	479	0.9	1.6	12.418	B

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)	LOS
A	913	228	276	1057	0.864	900	923	2.1	5.4	21.277	C
B	926	231	330	965	0.959	894	846	2.9	10.9	39.152	E
C	562	140	647	685	0.819	552	576	1.6	3.9	25.362	D

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)	LOS
A	913	228	280	1054	0.866	911	942	5.4	5.9	24.398	C
B	926	231	334	963	0.961	914	857	10.9	13.9	56.793	F
C	562	140	662	677	0.829	560	586	3.9	4.4	29.776	D

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)	LOS
A	745	186	234	1083	0.688	760	812	5.9	2.3	11.586	B
B	756	189	279	994	0.761	798	715	13.9	3.4	21.585	C
C	458	115	578	724	0.633	469	499	4.4	1.8	14.622	B

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)	LOS
A	624	156	194	1109	0.563	628	657	2.3	1.3	7.550	A
B	633	158	230	1021	0.620	640	591	3.4	1.7	9.618	A
C	384	96	464	788	0.487	387	407	1.8	1.0	9.056	A

Junctions 9
ARCADY 9 - Roundabout Module
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Filename: Bunn's Lane - Grahame Park Way Roundabout - Existing Layout.j9
Path: L:\5545 - Healey Development Solutions (Mill Hill) Ltd\001 - Mill Hill\Analysis & Design\Modelling\J5 - Bunn's Lane - Grahame Park Way Mini Roundabout
Report generation date: 23/09/2016 17:45:54

- «Do Nothing - 2016, PM
 - »Junction Network
 - »Arms
 - »Traffic Demand
 - »Origin-Destination Data
 - »Vehicle Mix
 - »Results

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
Do Nothing - 2016								
Arm A	5.9	24.40	0.87	C	5.7	22.72	0.86	C
Arm B	13.9	56.79	0.96	F	2.2	11.74	0.69	B
Arm C	4.4	29.78	0.83	D	2.2	15.65	0.70	C

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	Bunn's Lane - Grahame Park Way Miniroundabout
Location	
Site number	
Date	15/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ROBERTWEST\libanbellezza
Description	

Units

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

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do Nothing	✓	✓	D1,D2	100.000	100.000

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	2016	PM	ONE HOUR	16:45	18:15	15	✓

Do Nothing - 2016, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Bunn's Lane - Grahame Park Way	Mini-roundabout	A,B,C	17.54	C

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
A	Bunn's Lane NW	
B	Bunn's Lane E	
C	Grahame Park Way	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.53	3.51	5.21	22.9	16.50	14.91	0.0	✓
B	3.00	2.63	4.34	2.0	14.20	9.71	0.0	✓
C	4.54	4.05	5.59	17.3	14.64	12.99	0.0	✓

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
A	None		
B	Direct		262
C	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.574	1146
B	0.484	1048
C	0.574	1077

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

Arm Capacity Adjustments

Arm	Type	Reason	Percentage capacity adjustment (%)
A	Percentage		110.00
B	Percentage		110.00
C	Percentage		100.00

Traffic Demand

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		ONE HOUR	✓	857	100.000
B		ONE HOUR	✓	620	100.000
C		ONE HOUR	✓	478	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	587	270
	B	508	2	110
	C	265	211	2

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	1	2
	B	0	0	1
	C	0	0	0

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)
A	0.86	22.72	5.7	C	786	1180
B	0.69	11.74	2.2	B	569	853
C	0.70	15.65	2.2	C	439	658

Main Results for each time segment

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)	LOS
A	645	161	161	1144	0.564	640	578	0.0	1.3	7.070	A
B	467	117	203	1040	0.449	464	598	0.0	0.8	6.206	A
C	360	90	381	859	0.419	357	285	0.0	0.7	7.138	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)	LOS
A	770	193	193	1124	0.685	767	693	1.3	2.1	9.980	A
B	557	139	243	1019	0.547	556	716	0.8	1.2	7.753	A
C	430	107	457	815	0.527	428	342	0.7	1.1	9.268	A

17:15 - 17:30

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)	LOS
A	944	236	235	1098	0.859	931	846	2.1	5.3	20.139	C
B	683	171	295	990	0.689	679	870	1.2	2.1	11.416	B
C	526	132	558	757	0.695	522	416	1.1	2.2	15.044	C

17:30 - 17:45

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)	LOS
A	944	236	237	1097	0.860	942	851	5.3	5.7	22.720	C
B	683	171	299	988	0.691	682	880	2.1	2.2	11.743	B
C	526	132	561	755	0.697	526	420	2.2	2.2	15.652	C

17:45 - 18:00

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)	LOS
A	770	193	195	1123	0.686	784	700	5.7	2.3	11.027	B
B	557	139	249	1016	0.549	561	730	2.2	1.2	7.986	A
C	430	107	462	813	0.529	434	348	2.2	1.1	9.617	A

18:00 - 18:15

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)	LOS
A	645	161	163	1143	0.564	649	584	2.3	1.3	7.339	A
B	467	117	206	1039	0.449	468	606	1.2	0.8	6.330	A
C	360	90	385	856	0.420	362	289	1.1	0.7	7.301	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.1.4646 []
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Filename: The Broadway - Bunn's Lane - Hale Lane Roundabout v3.j9
Path: L:\5545 - Healey Development Solutions (Mill Hill) Ltd\001 - Mill Hill\Analysis & Design\Modelling\J6 - The Broadway - Bunn's Lane - Hale Lane Mini Roundabout
Report generation date: 23/09/2016 17:48:01

- «Do nothing - 2016, AM
 - »Junction Network
 - »Arms
 - »Traffic Demand
 - »Origin-Destination Data
 - »Vehicle Mix
 - »Results

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
Do nothing - 2016						
Arm A	24.7	118.60	1.06	27.7	131.71	1.07
Arm B	17.4	95.16	1.02	20.5	106.34	1.03
Arm C	8.2	85.66	0.96	10.7	95.96	0.99

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
Do something - 2021 + Committed						
Arm A	44.4	202.82	1.14	57.8	292.46	1.19
Arm B	30.3	156.53	1.08	43.6	206.61	1.12
Arm C	13.4	134.18	1.03	20.1	169.63	1.07
Do something - 2021 + Committed + New Dev with BL						
Arm A	42.5	194.27	1.13	54.7	269.11	1.17
Arm B	29.6	151.99	1.08	41.7	197.36	1.11
Arm C	12.9	129.86	1.02	19.1	161.97	1.06
Do something - 2021 + Committed + New Dev without BL						
Arm A	43.7	199.79	1.13	57.5	292.08	1.19
Arm B	30.9	156.96	1.08	42.5	203.74	1.12
Arm C	13.3	133.09	1.02	20.4	170.49	1.07
Do something - 2026 + Committed						
Arm A	61.8	319.04	1.20	87.9	497.07	1.28
Arm B	42.1	209.51	1.13	66.4	366.13	1.21
Arm C	17.8	169.70	1.06	28.4	244.67	1.12
Do something - 2026 + Committed + New Dev with BL						
Arm A	59.9	301.44	1.19	84.5	476.45	1.27
Arm B	41.7	204.89	1.12	64.6	353.32	1.20
Arm C	17.4	165.67	1.06	27.5	231.01	1.12
Do something - 2026 + Committed + New Dev without BL						
Arm A	61.0	310.54	1.20	87.4	496.64	1.28
Arm B	43.2	210.71	1.13	65.0	360.11	1.20
Arm C	17.8	168.85	1.06	28.8	246.74	1.12

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	The Broadway - Bunn's Lane - Hale Lane Miniroundabout
Location	
Site number	
Date	15/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ROBERTWEST\libanbellezza
Description	

Units

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

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2016-2021 AM		1.0370
G2	2016-2021 PM		1.0558
G3	2016-2026 AM		1.0740
G4	2016-2026 PM		1.1116

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do nothing	✓	✓	D1,D2	100.000	100.000

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	2016	AM	ONE HOUR	07:45	09:15	15	✓

Do nothing - 2016, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	The Broadway - Bunn's Lane - Hale Lane	Mini-roundabout	A,B,C	100.52	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
A	Hale Lane	
B	The Broadway	
C	Bunns Lane	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	5.55	5.51	5.73	0.4	14.86	9.25	0.0	✓
B	5.12	5.12	5.12	0.0	16.77	14.07	0.0	✓
C	4.30	4.30	4.30	0.0	8.77	3.62	0.0	✓

Bypass

Arm	Arm has bypass	Bypass utilisation (%)
A		
B		
C	✓	100

Exit Restrictions

Arm	Exit restriction present	Linked exit restriction present	Maximum capacity (PCU/hr)
A			
B	✓		710
C			

Pelican/Puffin Crossings

Arm	Space between crossing and junction entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
B	37.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.579	1061
B	0.575	1204
C	0.528	932

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

Traffic Demand

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		ONE HOUR	✓	624	100.000
B		ONE HOUR	✓	568	100.000
C		ONE HOUR	✓	522	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B	Global	300.00
C		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	1	315	308
	B	215	5	348
	C	207	315	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	4	2
	B	7	0	12
	C	0	11	0

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)
A	1.06	118.60	24.7	F	573	859
B	1.02	95.16	17.4	F	521	782
C	0.96	85.66	8.2	F	460	434

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	470	470	117	0	156	239		881	0.533	465	161	0.0
B	428	428	107	0	0	230	225.86	797	0.537	423	474	0.0
C	378	237	59	156	0	165		756	0.314	235	489	0.0

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	561	561	140	0	186	287		851	0.659	558	194	1.1
B	511	511	128	0	0	276	269.69	846	0.603	509	569	1.1
C	451	283	71	186	0	198		738	0.383	283	587	0.5

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	687	687	172	0	228	336		688	0.999	644	225	1.9
B	625	625	156	0	0	319	330.31	649	0.964	593	661	1.5
C	552	347	87	228	0	231		398	0.871	331	681	0.6

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	687	687	172	0	228	338		651	1.055	639	226	12.7
B	625	625	156	0	0	317	330.31	614	1.018	594	661	9.6
C	552	347	87	228	0	231		362	0.957	333	680	4.7

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	561	561	140	0	186	319		831	0.675	651	219	24.7
B	511	511	128	0	0	322	269.69	923	0.553	575	647	17.4
C	451	283	71	186	0	224		725	0.390	314	674	8.2

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	470	470	117	0	156	242		879	0.534	474	163	2.2
B	428	428	107	0	0	235	225.86	857	0.499	429	481	1.3
C	378	237	59	156	0	167		754	0.314	238	497	0.7



Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.1.4646 []
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Filename: The Broadway - Bunn's Lane - Hale Lane Roundabout v3.j9
Path: L:\5545 - Healey Development Solutions (Mill Hill) Ltd\001 - Mill Hill\Analysis & Design\Modelling\J6 - The Broadway - Bunn's Lane - Hale Lane Mini Roundabout
Report generation date: 23/09/2016 17:50:42

- «Do nothing - 2016, PM
 - »Junction Network
 - »Arms
 - »Traffic Demand
 - »Origin-Destination Data
 - »Vehicle Mix
 - »Results

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
Do nothing - 2016						
Arm A	24.7	118.60	1.06	27.7	131.71	1.07
Arm B	17.4	95.16	1.02	20.5	106.34	1.03
Arm C	8.2	85.66	0.96	10.7	95.96	0.99

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
Do something - 2021 + Committed						
Arm A	44.4	202.82	1.14	57.8	292.46	1.19
Arm B	30.3	156.53	1.08	43.6	206.61	1.12
Arm C	13.4	134.18	1.03	20.1	169.63	1.07
Do something - 2021 + Committed + New Dev with BL						
Arm A	42.5	194.27	1.13	54.7	269.11	1.17
Arm B	29.6	151.99	1.08	41.7	197.36	1.11
Arm C	12.9	129.86	1.02	19.1	161.97	1.06
Do something - 2021 + Committed + New Dev without BL						
Arm A	43.7	199.79	1.13	57.5	292.08	1.19
Arm B	30.9	156.96	1.08	42.5	203.74	1.12
Arm C	13.3	133.09	1.02	20.4	170.49	1.07
Do something - 2026 + Committed						
Arm A	61.8	319.04	1.20	87.9	497.07	1.28
Arm B	42.1	209.51	1.13	66.4	366.13	1.21
Arm C	17.8	169.70	1.06	28.4	244.67	1.12
Do something - 2026 + Committed + New Dev with BL						
Arm A	59.9	301.44	1.19	84.5	476.45	1.27
Arm B	41.7	204.89	1.12	64.6	353.32	1.20
Arm C	17.4	165.67	1.06	27.5	231.01	1.12
Do something - 2026 + Committed + New Dev without BL						
Arm A	61.0	310.54	1.20	87.4	496.64	1.28
Arm B	43.2	210.71	1.13	65.0	360.11	1.20
Arm C	17.8	168.85	1.06	28.8	246.74	1.12

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	The Broadway - Bunn's Lane - Hale Lane Miniroundabout
Location	
Site number	
Date	15/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ROBERTWEST\libanbellezza
Description	

Units

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

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2016-2021 AM		1.0370
G2	2016-2021 PM		1.0558
G3	2016-2026 AM		1.0740
G4	2016-2026 PM		1.1116

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do nothing	✓	✓	D1,D2	100.000	100.000

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	2016	PM	ONE HOUR	16:45	18:15	15	✓

Do nothing - 2016, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	The Broadway - Bunn's Lane - Hale Lane	Mini-roundabout	A,B,C	111.50	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
A	Hale Lane	
B	The Broadway	
C	Bunns Lane	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	5.55	5.51	5.73	0.4	14.86	9.25	0.0	✓
B	5.12	5.12	5.12	0.0	16.77	14.07	0.0	✓
C	4.30	4.30	4.30	0.0	8.77	3.62	0.0	✓

Bypass

Arm	Arm has bypass	Bypass utilisation (%)
A		
B		
C	✓	100

Exit Restrictions

Arm	Exit restriction present	Linked exit restriction present	Maximum capacity (PCU/hr)
A			
B	✓		710
C			

Pelican/Puffin Crossings

Arm	Space between crossing and junction entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
B	37.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.579	1061
B	0.575	1204
C	0.528	932

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

Traffic Demand

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		ONE HOUR	✓	626	100.000
B		ONE HOUR	✓	593	100.000
C		ONE HOUR	✓	594	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B	Global	500.00
C		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	1	281	344
	B	249	10	334
	C	237	356	1

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	4	1
	B	5	0	9
	C	0	8	0

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)
A	1.07	131.71	27.7	F	574	862
B	1.03	106.34	20.5	F	544	816
C	0.99	95.96	10.7	F	529	491

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	471	471	118	0	178	274		869	0.542	467	186	0.0
B	446	446	112	0	0	258	376.43	765	0.584	441	483	0.0
C	434	269	67	178	0	193		764	0.352	267	506	0.0

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	563	563	141	0	213	329		836	0.673	559	224	1.2
B	533	533	133	0	0	309	449.49	842	0.633	532	579	1.4
C	518	321	80	213	0	233		743	0.432	320	608	0.5

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	689	689	172	0	261	382		679	1.015	640	258	2.0
B	653	653	163	0	0	354	550.51	660	0.989	613	669	1.7
C	635	393	98	261	0	269		431	0.912	372	698	0.7

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	689	689	172	0	261	385		645	1.069	635	260	14.2
B	653	653	163	0	0	351	550.51	633	1.031	618	669	11.6
C	635	393	98	261	0	271		398	0.988	374	698	6.0

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	563	563	141	0	213	371		811	0.694	664	257	27.7
B	533	533	133	0	0	367	449.49	925	0.577	609	668	20.5
C	518	321	80	213	0	267		726	0.442	360	709	10.7

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)
A	471	471	118	0	178	277		867	0.543	476	189	2.5
B	446	446	112	0	0	263	376.43	841	0.531	447	490	1.4
C	434	269	67	178	0	196		762	0.353	270	514	0.8



Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.1.4646 []
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Filename: Bunns Lane - Pursley Road - Page Street Miniroundabouts with Direct Input.j9
Path: L:\5545 - Healey Development Solutions (Mill Hill) Ltd\001 - Mill Hill\Analysis & Design\Modelling\J7 - Bunn's Lane - Pursley Road - Page Street Mini Roundabouts\Network
Report generation date: 23/09/2016 18:08:46

«Do nothing - 2016, AM

- »Junction Network
- »Arms
- »Traffic Demand
- »Origin-Destination Data
- »Vehicle Mix
- »Detailed Demand Data
- »Results

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
Do nothing - 2016								
1 - Page Street - Bunns Lane - A1 - Page Street N	25.1	338.60	1.25	F	2.9	45.30	0.79	E
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.85	0.93	E	7.9	39.54	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	91.3	462.57	1.30	F	20.1	105.15	1.01	F
2 - Page Street - Pursley Road - A2 - Pursley Road	163.7	882.77	1.32	F	82.2	431.48	1.20	F
2 - Page Street - Pursley Road - B2 - Page Street S	100.7	955.41	1.36	F	83.7	561.02	1.34	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	37.75	0.91	E	7.9	35.67	0.92	E

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
Do something - 2021 Future								
1 - Page Street - Bunns Lane - A1 - Page Street N	34.3	401.62	1.28	F	6.7	121.74	0.95	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.69	0.93	E	7.9	39.56	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	126.1	690.02	1.38	F	77.3	358.31	1.15	F
2 - Page Street - Pursley Road - A2 - Pursley Road	200.0	1046.58	1.38	F	126.1	660.02	1.28	F
2 - Page Street - Pursley Road - B2 - Page Street S	119.6	1115.30	1.43	F	108.9	735.15	1.40	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	37.87	0.91	E	7.9	37.03	0.91	E
Do something - 2021 Future + New Dev with BL								
1 - Page Street - Bunns Lane - A1 - Page Street N	38.8	450.64	1.32	F	6.8	124.28	0.95	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.58	0.93	E	7.9	39.69	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	187.3	978.09	1.47	F	88.3	404.90	1.16	F
2 - Page Street - Pursley Road - A2 - Pursley Road	201.9	1058.33	1.39	F	140.8	746.33	1.30	F
2 - Page Street - Pursley Road - B2 - Page Street S	120.1	1120.99	1.43	F	116.8	805.88	1.43	F

2 - Page Street - Pursley Road - C2 - Page Street N	7.9	38.08	0.91	E	7.9	36.94	0.91	E
Do something - 2021 Future + New Dev without BL								
1 - Page Street - Bunns Lane - A1 - Page Street N	40.7	449.48	1.31	F	6.9	124.38	0.95	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.59	0.93	E	7.9	39.55	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	132.8	732.51	1.40	F	72.5	338.37	1.14	F
2 - Page Street - Pursley Road - A2 - Pursley Road	201.9	1058.39	1.38	F	128.9	668.91	1.28	F
2 - Page Street - Pursley Road - B2 - Page Street S	120.0	1119.90	1.43	F	107.5	722.18	1.40	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	38.09	0.91	E	7.9	37.07	0.91	E
Do something - 2026 Future								
1 - Page Street - Bunns Lane - A1 - Page Street N	42.7	473.81	1.33	F	9.7	164.66	1.02	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.74	0.93	E	7.9	39.62	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	153.8	829.76	1.43	F	124.3	574.41	1.24	F
2 - Page Street - Pursley Road - A2 - Pursley Road	241.1	1241.39	1.44	F	171.3	898.00	1.35	F
2 - Page Street - Pursley Road - B2 - Page Street S	141.5	1315.10	1.50	F	138.0	943.07	1.48	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	38.01	0.91	E	7.9	36.31	0.92	E
Do something - 2026 Future + New Dev with BL								
1 - Page Street - Bunns Lane - A1 - Page Street N	46.9	530.57	1.36	F	9.7	165.36	1.02	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.65	0.93	E	7.9	39.74	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	215.1	1114.14	1.52	F	136.0	624.15	1.25	F
2 - Page Street - Pursley Road - A2 - Pursley Road	242.9	1252.84	1.45	F	186.3	988.45	1.38	F
2 - Page Street - Pursley Road - B2 - Page Street S	142.0	1320.99	1.51	F	144.9	1009.22	1.51	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	38.09	0.91	E	7.9	36.42	0.92	E
Do something - 2026 Future + New Dev without BL								
1 - Page Street - Bunns Lane - A1 - Page Street N	49.9	537.79	1.36	F	10.3	171.86	1.03	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.62	0.93	E	7.9	39.61	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	160.2	870.78	1.45	F	119.8	556.69	1.24	F
2 - Page Street - Pursley Road - A2 - Pursley Road	242.7	1251.28	1.44	F	174.2	905.94	1.35	F
2 - Page Street - Pursley Road - B2 - Page Street S	141.8	1318.50	1.50	F	136.7	930.29	1.48	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	38.11	0.91	E	7.9	36.13	0.92	E

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.

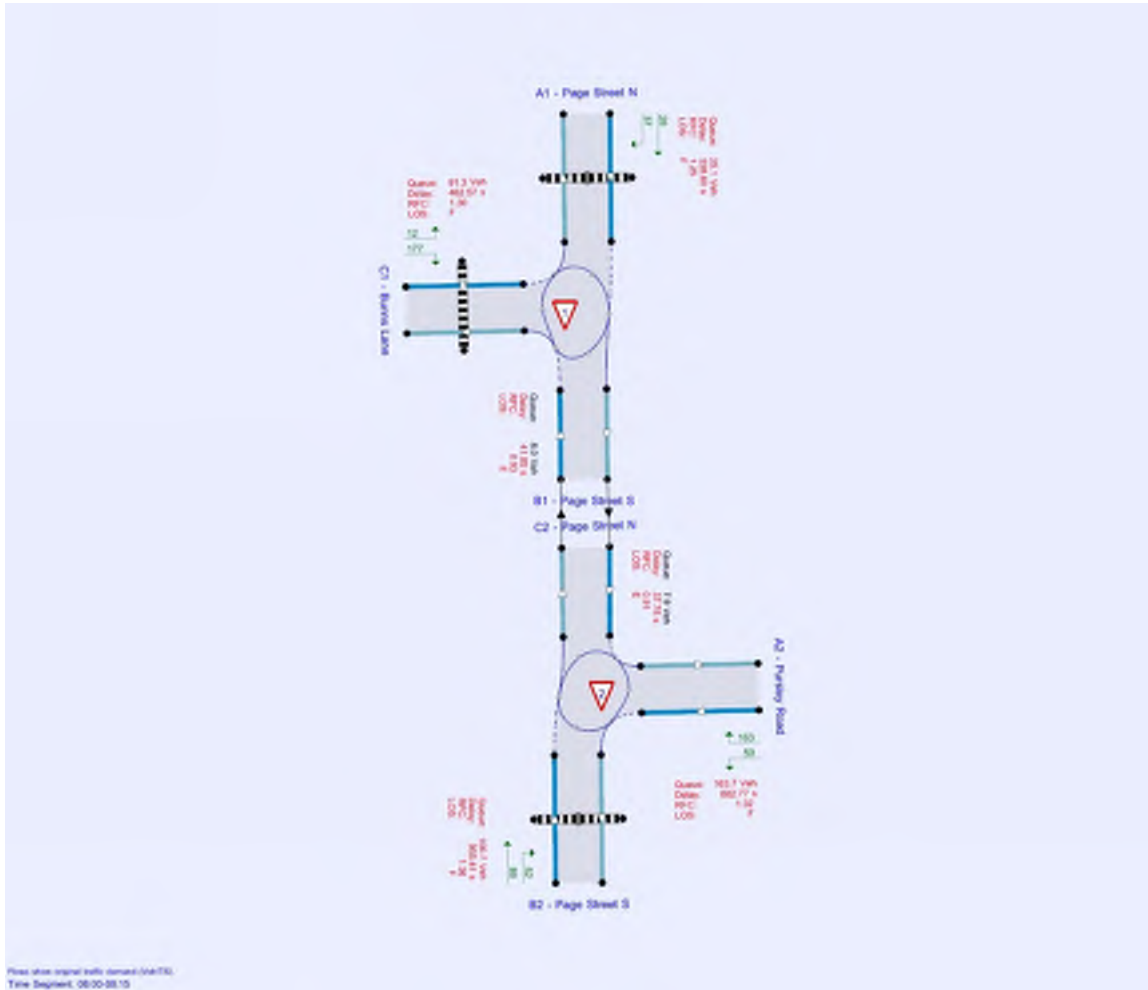
File summary

File Description

Title	Bunns Lane - Pursley Road - Page Street Miniroundabouts
Location	
Site number	
Date	15/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ROBERTWEST\libanbellezza
Description	

Units

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



Please refer original traffic demand file (J9).
Time Displayed: 08:00-08:15

The junction diagram reflects the last run of Junctions.

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2016-2021 AM		1.0370
G2	2016-2021 PM		1.0558
G3	2016-2026 AM		1.0740
G4	2016-2026 PM		1.1116

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do nothing	✓	✓	D1,D2	100.000	100.000

Demand Set Details

ID	Scenario name	Time period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2016	AM	DIRECT	08:00	09:00	60	15	✓

Do nothing - 2016, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout	1 - Page Street - Bunns Lane	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms B1 and C1 have 86% of the total flow for the roundabout for one or more time segments]
Last Run	Last Run	1 - Page Street - Bunns Lane - B1 - Page Street S - Capacity	Pedestrian Crossing causes blocking on previous arm due to traffic queuing to leave the junction in 4 timesegment(s).

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Page Street - Bunns Lane	Mini-roundabout	A1,B1,C1	273.57	F
2	Page Street - Pursley Road	Mini-roundabout	A2,B2,C2	581.94	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Junction	Arm	Name	Description
1 - Page Street - Bunns Lane	A1	Page Street N	
	B1	Page Street S	
	C1	Bunns Lane	
2 - Page Street - Pursley Road	A2	Pursley Road	
	B2	Page Street S	
	C2	Page Street N	

Mini Roundabout Geometry

Junction	Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - Page Street - Bunns Lane	A1 - Page Street N	3.37	3.11	5.39	9.2	16.05	13.16	0.0	✓
	B1 - Page Street S	3.92	3.55	5.68	8.1	19.15	15.69	0.0	✓
	C1 - Bunns Lane	3.82	3.09	4.47	11.1	16.00	10.80	0.0	
2 - Page Street - Pursley Road	A2 - Pursley Road	4.58	4.30	5.76	1.9	9.56	5.53	0.0	
	B2 - Page Street S	3.58	3.26	3.97	5.8	16.78	16.76	0.0	
	C2 - Page Street N	3.42	3.02	3.70	1.0	12.98	8.81	0.0	

Zebra Crossings

Junction	Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side)
1 - Page Street - Bunns Lane	A1 - Page Street N	3.50	3.50	✓	Distance			3.13	2.2
	C1 - Bunns Lane	1.00	1.20		Distance	7.70	5.50		
2 - Page Street - Pursley Road	B2 - Page Street S	3.00	3.00	✓	Distance			3.29	2.3

Slope / Intercept / Capacity

Arm Intercept Adjustments

Junction	Arm	Type	Reason	Direct intercept adjustment (PCU/TS)
1 - Page Street - Bunns Lane	A1 - Page Street N	Direct		-59.70
	B1 - Page Street S	Direct		-21.36
	C1 - Bunns Lane	Direct		-13.89
2 - Page Street - Pursley Road	A2 - Pursley Road	Direct		15.25
	B2 - Page Street S	Direct		-26.77
	C2 - Page Street N	Direct		20.89

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/TS)
1 - Page Street - Bunns Lane	A1 - Page Street N	0.541	171.137
	B1 - Page Street S	0.579	245.305
	C1 - Bunns Lane	0.634	210.179
2 - Page Street - Pursley Road	A2 - Pursley Road	0.655	253.069
	B2 - Page Street S	0.679	227.945
	C2 - Page Street N	0.600	246.604

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

Traffic Demand

Vehicle mix varies over time	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/TS)	Flow multiplier (%)	Internal storage space (PCU)
1 - Page Street - Bunns Lane	B1 - Page Street S	2	C2	Queue limited	Normal	0.00	100.00	8.00
2 - Page Street - Pursley Road	C2 - Page Street N	1	B1	Queue limited	Normal	0.00	100.00	8.00

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Page Street - Bunns Lane	A1 - Page Street N		DIRECT	✓	100.000
	B1 - Page Street S	✓			
	C1 - Bunns Lane		DIRECT	✓	100.000
2 - Page Street - Pursley Road	A2 - Pursley Road		DIRECT	✓	100.000
	B2 - Page Street S		DIRECT	✓	100.000
	C2 - Page Street N	✓			

Demand overview (Pedestrians)

Junction	Arm	Profile type
1 - Page Street - Bunns Lane	A1 - Page Street N	Global
	B1 - Page Street S	
	C1 - Bunns Lane	Global
2 - Page Street - Pursley Road	A2 - Pursley Road	
	B2 - Page Street S	Global
	C2 - Page Street N	

Origin-Destination Data

1 - Page Street - Bunns Lane
08:00 - 08:15

Demand (Veh/TS)

From	To			
	A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane	
A1 - Page Street N	0.00	28.00	37.00	
B1 - Page Street S	49.00	0.00	202.00	
C1 - Bunns Lane	12.00	177.00	0.00	

Proportions

From	To			
	A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane	
A1 - Page Street N	0.00	0.43	0.57	
B1 - Page Street S	0.20	0.00	0.80	
C1 - Bunns Lane	0.06	0.94	0.00	

1 - Page Street - Bunns Lane
08:15 - 08:30

Demand (Veh/TS)

From	To			
	A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane	
A1 - Page Street N	0.00	57.00	37.00	
B1 - Page Street S	26.00	0.00	205.00	
C1 - Bunns Lane	15.00	180.00	0.00	

Proportions

From	To			
	A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane	
A1 - Page Street N	0.00	0.61	0.39	
B1 - Page Street S	0.11	0.00	0.89	
C1 - Bunns Lane	0.08	0.92	0.00	

1 - Page Street - Bunns Lane
08:30 - 08:45

Demand (Veh/TS)

From	To			
	A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane	
A1 - Page Street N	0.00	36.00	32.00	
B1 - Page Street S	31.00	0.00	183.00	
C1 - Bunns Lane	18.00	204.00	0.00	

Proportions

From	To			
	A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane	
A1 - Page Street N	0.00	0.53	0.47	
B1 - Page Street S	0.14	0.00	0.86	
C1 - Bunns Lane	0.08	0.92	0.00	

1 - Page Street - Bunns Lane
08:45 - 09:00

Demand (Veh/TS)

From	To			
	A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane	
A1 - Page Street N	0.00	42.00	36.00	
B1 - Page Street S	15.00	0.00	188.00	
C1 - Bunns Lane	18.00	140.00	0.00	

Proportions

From	To			
	A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane	
A1 - Page Street N	0.00	0.54	0.46	
B1 - Page Street S	0.07	0.00	0.93	
C1 - Bunns Lane	0.11	0.89	0.00	

2 -
Page
Street -
Pursley
Road
08:00 -
08:15

Demand (Veh/TS)

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From				
	A2 - Pursley Road	0.00	59.00	163.00
	B2 - Page Street S	52.00	0.00	88.00
	C2 - Page Street N	137.00	68.00	0.00

Proportions

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From				
	A2 - Pursley Road	0.00	0.27	0.73
	B2 - Page Street S	0.37	0.00	0.63
	C2 - Page Street N	0.67	0.33	0.00

2 -
Page
Street -
Pursley
Road
08:15 -
08:30

Demand (Veh/TS)

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From				
	A2 - Pursley Road	0.00	45.00	155.00
	B2 - Page Street S	52.00	0.00	76.00
	C2 - Page Street N	152.00	85.00	0.00

Proportions

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From				
	A2 - Pursley Road	0.00	0.23	0.78
	B2 - Page Street S	0.41	0.00	0.59
	C2 - Page Street N	0.64	0.36	0.00

2 -
Page
Street -
Pursley
Road
08:30 -
08:45

Demand (Veh/TS)

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From				
	A2 - Pursley Road	0.00	47.00	147.00
	B2 - Page Street S	59.00	0.00	67.00
	C2 - Page Street N	175.00	93.00	0.00

Proportions

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From				
	A2 - Pursley Road	0.00	0.24	0.76
	B2 - Page Street S	0.47	0.00	0.53
	C2 - Page Street N	0.65	0.35	0.00

2 -
Page
Street -
Pursley
Road
08:45 -
09:00

Demand (Veh/TS)

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From				
	A2 - Pursley Road	0.00	34.00	145.00
	B2 - Page Street S	41.00	0.00	58.00
	C2 - Page Street N	100.00	82.00	0.00

Proportions

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From				
	A2 - Pursley Road	0.00	0.19	0.81
	B2 - Page Street S	0.41	0.00	0.59
	C2 - Page Street N	0.55	0.45	0.00

Vehicle Mix

1 -
Page
Street
-
Bunns
Lane
08:00 -
08:15

Heavy Vehicle Percentages

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From				
	A1 - Page Street N	0	11	3
	B1 - Page Street S	0	0	1
	C1 - Bunns Lane	0	1	0

Average PCU Per Veh

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From				
	A1 - Page Street N	1.000	1.110	1.030
	B1 - Page Street S	1.000	1.000	1.010
	C1 - Bunns Lane	1.000	1.010	1.000

1 -
Page
Street
-
Bunns
Lane
08:15 -
08:30

Heavy Vehicle Percentages

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	0	0	3
	B1 - Page Street S	0	0	1
	C1 - Bunns Lane	7	2	0

Average PCU Per Veh

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	1.000	1.000	1.030
	B1 - Page Street S	1.000	1.000	1.010
	C1 - Bunns Lane	1.070	1.020	1.000

1 -
Page
Street
-
Bunns
Lane
08:30 -
08:45

Heavy Vehicle Percentages

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	0	0	0
	B1 - Page Street S	0	0	3
	C1 - Bunns Lane	0	1	0

Average PCU Per Veh

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	1.000	1.000	1.000
	B1 - Page Street S	1.000	1.000	1.030
	C1 - Bunns Lane	1.000	1.010	1.000

1 -
Page
Street
-
Bunns
Lane
08:45 -
09:00

Heavy Vehicle Percentages

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	0	0	0
	B1 - Page Street S	0	0	2
	C1 - Bunns Lane	0	1	0

Average PCU Per Veh

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	1.000	1.000	1.000
	B1 - Page Street S	1.000	1.000	1.020
	C1 - Bunns Lane	1.000	1.010	1.000

2 -
Page
Street -
Pursley
Road
08:00 -
08:15

Heavy Vehicle Percentages

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	0	2	1
	B2 - Page Street S	0	0	2
	C2 - Page Street N	1	4	0

Average PCU Per Veh

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	1.000	1.020	1.010
	B2 - Page Street S	1.000	1.000	1.020
	C2 - Page Street N	1.010	1.040	1.000

2 -
Page
Street -
Pursley
Road
08:15 -
08:30

Heavy Vehicle Percentages

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	0	7	1
	B2 - Page Street S	4	0	0
	C2 - Page Street N	3	0	0

Average PCU Per Veh

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	1.000	1.070	1.010
	B2 - Page Street S	1.040	1.000	1.000
	C2 - Page Street N	1.030	1.000	1.000

2 -
Page
Street -
Pursley
Road
08:30 -
08:45

Heavy Vehicle Percentages

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	0	0	3
	B2 - Page Street S	0	0	1
	C2 - Page Street N	1	1	0

Average PCU Per Veh

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	1.000	1.000	1.030
	B2 - Page Street S	1.000	1.000	1.010
	C2 - Page Street N	1.010	1.010	1.000

2 -
Page
Street -
Pursley
Road
08:45 -
09:00

Heavy Vehicle Percentages

From	To			
	A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N	
A2 - Pursley Road	0	0	3	
B2 - Page Street S	2	0	0	
C2 - Page Street N	2	0	0	

Average PCU Per Veh

From	To			
	A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N	
A2 - Pursley Road	1.000	1.000	1.030	
B2 - Page Street S	1.020	1.000	1.000	
C2 - Page Street N	1.020	1.000	1.000	

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (Veh/TS)	Demand in PCU (PCU/TS)	Pedestrian Demand (Ped/TS)
08:00-08:15	1 - Page Street - Bunns Lane	A1 - Page Street N	65.00	69.19	3.76
		B1 - Page Street S	251.00	253.02	
		C1 - Bunns Lane	189.00	190.77	3.76
	2 - Page Street - Pursley Road	A2 - Pursley Road	222.00	224.81	
		B2 - Page Street S	140.00	141.76	3.76
		C2 - Page Street N	205.00	209.09	
08:15-08:30	1 - Page Street - Bunns Lane	A1 - Page Street N	94.00	95.11	4.49
		B1 - Page Street S	231.00	233.05	
		C1 - Bunns Lane	195.00	199.65	4.49
	2 - Page Street - Pursley Road	A2 - Pursley Road	200.00	204.70	
		B2 - Page Street S	128.00	130.08	4.49
		C2 - Page Street N	237.00	241.56	
08:30-08:45	1 - Page Street - Bunns Lane	A1 - Page Street N	68.00	68.00	5.51
		B1 - Page Street S	214.00	219.49	
		C1 - Bunns Lane	222.00	224.04	5.51
	2 - Page Street - Pursley Road	A2 - Pursley Road	194.00	198.41	
		B2 - Page Street S	126.00	126.67	5.51
		C2 - Page Street N	268.00	270.68	
08:45-09:00	1 - Page Street - Bunns Lane	A1 - Page Street N	78.00	78.00	5.51
		B1 - Page Street S	203.00	206.76	
		C1 - Bunns Lane	158.00	159.40	5.51
	2 - Page Street - Pursley Road	A2 - Pursley Road	179.00	183.35	
		B2 - Page Street S	99.00	99.82	5.51
		C2 - Page Street N	182.00	184.00	

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Page Street - Bunns Lane	A1 - Page Street N	1.25	338.60	25.1	F	76.11	304.43
	B1 - Page Street S	0.93	41.85	8.0	E	176.89	707.57
	C1 - Bunns Lane	1.30	462.57	91.3	F	190.91	763.63
2 - Page Street - Pursley Road	A2 - Pursley Road	1.32	882.77	163.7	F	198.90	795.61
	B2 - Page Street S	1.36	955.41	100.7	F	123.16	492.65
	C2 - Page Street N	0.91	37.75	7.9	E	194.67	778.68

Main Results for each time segment

08:00 - 08:15

Junction	Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Pedestrian demand (Ped/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Th (e (
1 - Page Street - Bunns Lane	A1 - Page Street N	65.00	65.00	163.38	3.76	76.84	0.846	61.11	
	B1 - Page Street S	185.24	185.24	34.79		199.65	0.928	177.31	
	C1 - Bunns Lane	189.00	189.00	34.61	3.76	186.46	1.014	174.46	
2 - Page Street - Pursley Road	A2 - Pursley Road	222.00	222.00	61.40		167.81	1.323	164.92	
	B2 - Page Street S	140.00	140.00	121.09	3.76	103.05	1.359	100.50	
	C2 - Page Street N	190.44	190.44	37.33		219.82	0.866	185.11	

08:15 - 08:30

Junction	Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Pedestrian demand (Ped/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Th (e (
1 - Page Street - Bunns Lane	A1 - Page Street N	94.00	94.00	156.84	4.49	74.70	1.253	73.11	
	B1 - Page Street S	177.28	177.28	29.49		199.57	0.888	177.28	
	C1 - Bunns Lane	195.00	195.00	20.61	4.49	171.05	1.141	169.71	
2 - Page Street - Pursley Road	A2 - Pursley Road	200.00	200.00	70.63		154.84	1.296	154.66	
	B2 - Page Street S	128.00	128.00	117.59	4.49	98.18	1.306	98.10	
	C2 - Page Street N	199.88	199.88	38.49		218.73	0.914	197.35	

08:30 - 08:45

Junction	Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Pedestrian demand (Ped/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Th (e (
1 - Page Street - Bunns Lane	A1 - Page Street N	68.00	68.00	156.50	5.51	68.57	0.987	67.04	
	B1 - Page Street S	175.21	175.21	29.63		197.80	0.886	175.22	
	C1 - Bunns Lane	222.00	222.00	25.13	5.51	170.31	1.299	170.12	
2 - Page Street - Pursley Road	A2 - Pursley Road	194.00	194.00	67.38		156.58	1.238	156.48	
	B2 - Page Street S	126.00	126.00	120.36	5.51	99.44	1.257	99.31	
	C2 - Page Street N	193.91	193.91	42.18		218.32	0.888	193.91	

08:45 - 09:00

Junction	Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Pedestrian demand (Ped/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Th (e (
1 - Page Street - Bunns Lane	A1 - Page Street N	78.00	78.00	152.28	5.51	82.93	0.941	79.99	
	B1 - Page Street S	169.83	169.83	37.15		191.39	0.887	169.82	
	C1 - Bunns Lane	158.00	158.00	13.11	5.51	170.30	0.928	168.46	
2 - Page Street - Pursley Road	A2 - Pursley Road	179.00	179.00	86.79		155.88	1.150	155.83	
	B2 - Page Street S	99.00	99.00	118.91	5.51	94.16	1.055	94.02	
	C2 - Page Street N	194.51	194.51	44.02		217.78	0.893	194.43	



Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.1.4646 []
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Filename: Bunns Lane - Pursley Road - Page Street Miniroundabouts with Direct Input.j9
Path: L:\5545 - Healey Development Solutions (Mill Hill) Ltd\001 - Mill Hill\Analysis & Design\Modelling\J7 - Bunn's Lane - Pursley Road - Page Street Mini Roundabouts\Network
Report generation date: 23/09/2016 18:10:13

- «Do nothing - 2016, PM
 - »Junction Network
 - »Arms
 - »Traffic Demand
 - »Origin-Destination Data
 - »Vehicle Mix
 - »Detailed Demand Data
 - »Results

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
Do nothing - 2016								
1 - Page Street - Bunns Lane - A1 - Page Street N	25.1	338.60	1.25	F	2.9	45.30	0.79	E
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.85	0.93	E	7.9	39.54	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	91.3	462.57	1.30	F	20.1	105.15	1.01	F
2 - Page Street - Pursley Road - A2 - Pursley Road	163.7	882.77	1.32	F	82.2	431.48	1.20	F
2 - Page Street - Pursley Road - B2 - Page Street S	100.7	955.41	1.36	F	83.7	561.02	1.34	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	37.75	0.91	E	7.9	35.67	0.92	E

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
Do something - 2021 Future								
1 - Page Street - Bunns Lane - A1 - Page Street N	34.3	401.62	1.28	F	6.7	121.74	0.95	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.69	0.93	E	7.9	39.56	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	126.1	690.02	1.38	F	77.3	358.31	1.15	F
2 - Page Street - Pursley Road - A2 - Pursley Road	200.0	1046.58	1.38	F	126.1	660.02	1.28	F
2 - Page Street - Pursley Road - B2 - Page Street S	119.6	1115.30	1.43	F	108.9	735.15	1.40	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	37.87	0.91	E	7.9	37.03	0.91	E
Do something - 2021 Future + New Dev with BL								
1 - Page Street - Bunns Lane - A1 - Page Street N	38.8	450.64	1.32	F	6.8	124.28	0.95	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.58	0.93	E	7.9	39.69	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	187.3	978.09	1.47	F	88.3	404.90	1.16	F
2 - Page Street - Pursley Road - A2 - Pursley Road	201.9	1058.33	1.39	F	140.8	746.33	1.30	F
2 - Page Street - Pursley Road - B2 - Page Street S	120.1	1120.99	1.43	F	116.8	805.88	1.43	F

2 - Page Street - Pursley Road - C2 - Page Street N	7.9	38.08	0.91	E	7.9	36.94	0.91	E
Do something - 2021 Future + New Dev without BL								
1 - Page Street - Bunns Lane - A1 - Page Street N	40.7	449.48	1.31	F	6.9	124.38	0.95	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.59	0.93	E	7.9	39.55	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	132.8	732.51	1.40	F	72.5	338.37	1.14	F
2 - Page Street - Pursley Road - A2 - Pursley Road	201.9	1058.39	1.38	F	128.9	668.91	1.28	F
2 - Page Street - Pursley Road - B2 - Page Street S	120.0	1119.90	1.43	F	107.5	722.18	1.40	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	38.09	0.91	E	7.9	37.07	0.91	E
Do something - 2026 Future								
1 - Page Street - Bunns Lane - A1 - Page Street N	42.7	473.81	1.33	F	9.7	164.66	1.02	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.74	0.93	E	7.9	39.62	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	153.8	829.76	1.43	F	124.3	574.41	1.24	F
2 - Page Street - Pursley Road - A2 - Pursley Road	241.1	1241.39	1.44	F	171.3	898.00	1.35	F
2 - Page Street - Pursley Road - B2 - Page Street S	141.5	1315.10	1.50	F	138.0	943.07	1.48	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	38.01	0.91	E	7.9	36.31	0.92	E
Do something - 2026 Future + New Dev with BL								
1 - Page Street - Bunns Lane - A1 - Page Street N	46.9	530.57	1.36	F	9.7	165.36	1.02	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.65	0.93	E	7.9	39.74	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	215.1	1114.14	1.52	F	136.0	624.15	1.25	F
2 - Page Street - Pursley Road - A2 - Pursley Road	242.9	1252.84	1.45	F	186.3	988.45	1.38	F
2 - Page Street - Pursley Road - B2 - Page Street S	142.0	1320.99	1.51	F	144.9	1009.22	1.51	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	38.09	0.91	E	7.9	36.42	0.92	E
Do something - 2026 Future + New Dev without BL								
1 - Page Street - Bunns Lane - A1 - Page Street N	49.9	537.79	1.36	F	10.3	171.86	1.03	F
1 - Page Street - Bunns Lane - B1 - Page Street S	8.0	41.62	0.93	E	7.9	39.61	0.93	E
1 - Page Street - Bunns Lane - C1 - Bunns Lane	160.2	870.78	1.45	F	119.8	556.69	1.24	F
2 - Page Street - Pursley Road - A2 - Pursley Road	242.7	1251.28	1.44	F	174.2	905.94	1.35	F
2 - Page Street - Pursley Road - B2 - Page Street S	141.8	1318.50	1.50	F	136.7	930.29	1.48	F
2 - Page Street - Pursley Road - C2 - Page Street N	7.9	38.11	0.91	E	7.9	36.13	0.92	E

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.

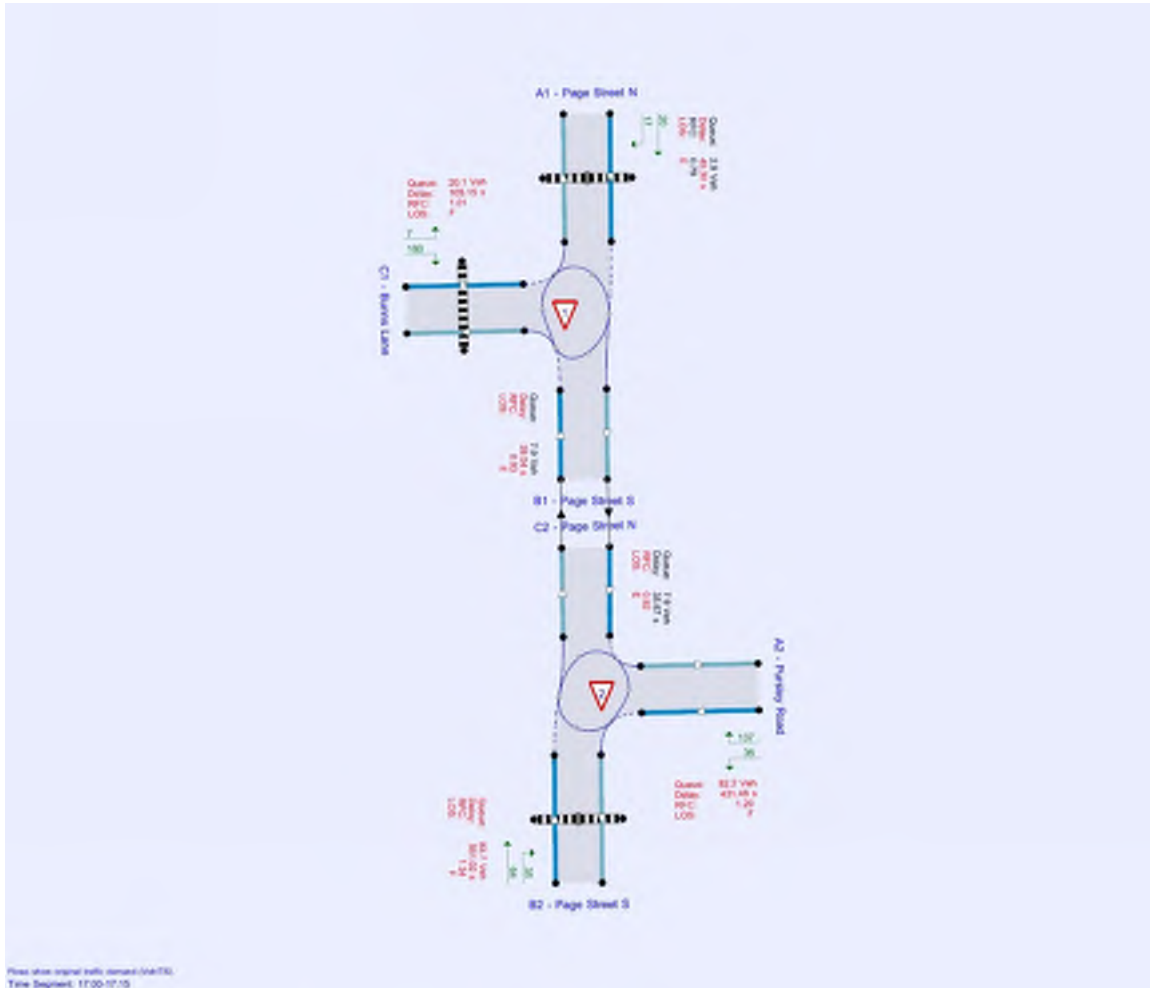
File summary

File Description

Title	Bunns Lane - Pursley Road - Page Street Miniroundabouts
Location	
Site number	
Date	15/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ROBERTWEST\libanbellezza
Description	

Units

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



Please refer original traffic demand file (J9).
Time Display: 17:00-17:05

The junction diagram reflects the last run of Junctions.

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2016-2021 AM		1.0370
G2	2016-2021 PM		1.0558
G3	2016-2026 AM		1.0740
G4	2016-2026 PM		1.1116

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Do nothing	✓	✓	D1,D2	100.000	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2016	PM	DIRECT	17:00	18:00	60	15	✓



Do nothing - 2016, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout	1 - Page Street - Bunns Lane	Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms B1 and C1 have 91% of the total flow for the roundabout for one or more time segments]
Last Run	Last Run	1 - Page Street - Bunns Lane - B1 - Page Street S - Capacity	Pedestrian Crossing causes blocking on previous arm due to traffic queuing to leave the junction in 2 timesegment(s).

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Page Street - Bunns Lane	Mini-roundabout	A1,B1,C1	69.26	F
2	Page Street - Pursley Road	Mini-roundabout	A2,B2,C2	304.54	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Junction	Arm	Name	Description
1 - Page Street - Bunns Lane	A1	Page Street N	
	B1	Page Street S	
	C1	Bunns Lane	
2 - Page Street - Pursley Road	A2	Pursley Road	
	B2	Page Street S	
	C2	Page Street N	

Mini Roundabout Geometry

Junction	Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - Page Street - Bunns Lane	A1 - Page Street N	3.37	3.11	5.39	9.2	16.05	13.16	0.0	✓
	B1 - Page Street S	3.92	3.55	5.68	8.1	19.15	15.69	0.0	✓
	C1 - Bunns Lane	3.82	3.09	4.47	11.1	16.00	10.80	0.0	
2 - Page Street - Pursley Road	A2 - Pursley Road	4.58	4.30	5.76	1.9	9.56	5.53	0.0	
	B2 - Page Street S	3.58	3.26	3.97	5.8	16.78	16.76	0.0	
	C2 - Page Street N	3.42	3.02	3.70	1.0	12.98	8.81	0.0	

Zebra Crossings

Junction	Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (PCU)	Central Refuge	Crossing data type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side)
1 - Page Street - Bunns Lane	A1 - Page Street N	3.50	3.50	✓	Distance			3.13	2.2
	C1 - Bunns Lane	1.00	1.20		Distance	7.70	5.50		
2 - Page Street - Pursley Road	B2 - Page Street S	3.00	3.00	✓	Distance			3.29	2.3

Slope / Intercept / Capacity

Arm Intercept Adjustments

Junction	Arm	Type	Reason	Direct intercept adjustment (PCU/TS)
1 - Page Street - Bunns Lane	A1 - Page Street N	Direct		-59.70
	B1 - Page Street S	Direct		-21.36
	C1 - Bunns Lane	Direct		-13.89
2 - Page Street - Pursley Road	A2 - Pursley Road	Direct		15.25
	B2 - Page Street S	Direct		-26.77
	C2 - Page Street N	Direct		20.89

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/TS)
1 - Page Street - Bunns Lane	A1 - Page Street N	0.541	171.137
	B1 - Page Street S	0.579	245.305
	C1 - Bunns Lane	0.634	210.179
2 - Page Street - Pursley Road	A2 - Pursley Road	0.655	253.069
	B2 - Page Street S	0.679	227.945
	C2 - Page Street N	0.600	246.604

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

Traffic Demand

Vehicle mix varies over time	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/TS)	Flow multiplier (%)	Internal storage space (PCU)
1 - Page Street - Bunns Lane	B1 - Page Street S	2	C2	Queue limited	Normal	0.00	100.00	8.00
2 - Page Street - Pursley Road	C2 - Page Street N	1	B1	Queue limited	Normal	0.00	100.00	8.00

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Page Street - Bunns Lane	A1 - Page Street N		DIRECT	✓	100.000
	B1 - Page Street S	✓			
	C1 - Bunns Lane		DIRECT	✓	100.000
2 - Page Street - Pursley Road	A2 - Pursley Road		DIRECT	✓	100.000
	B2 - Page Street S		DIRECT	✓	100.000
	C2 - Page Street N	✓			

Demand overview (Pedestrians)

Junction	Arm	Profile type
1 - Page Street - Bunns Lane	A1 - Page Street N	Global
	B1 - Page Street S	
	C1 - Bunns Lane	Global
2 - Page Street - Pursley Road	A2 - Pursley Road	
	B2 - Page Street S	Global
	C2 - Page Street N	

Origin-Destination Data

1 - Page Street - Bunns Lane
17:00 - 17:15

Demand (Veh/TS)

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From				
	A1 - Page Street N	0.00	20.00	17.00
	B1 - Page Street S	22.00	0.00	175.00
	C1 - Bunns Lane	7.00	180.00	0.00

Proportions

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From				
	A1 - Page Street N	0.00	0.54	0.46
	B1 - Page Street S	0.11	0.00	0.89
	C1 - Bunns Lane	0.04	0.96	0.00

1 - Page Street - Bunns Lane
17:15 - 17:30

Demand (Veh/TS)

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From				
	A1 - Page Street N	0.00	19.00	10.00
	B1 - Page Street S	39.00	0.00	202.00
	C1 - Bunns Lane	11.00	170.00	0.00

Proportions

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From				
	A1 - Page Street N	0.00	0.66	0.34
	B1 - Page Street S	0.16	0.00	0.84
	C1 - Bunns Lane	0.06	0.94	0.00

1 - Page Street - Bunns Lane
17:30 - 17:45

Demand (Veh/TS)

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From				
	A1 - Page Street N	0.00	36.00	22.00
	B1 - Page Street S	29.00	0.00	167.00
	C1 - Bunns Lane	11.00	178.00	0.00

Proportions

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From				
	A1 - Page Street N	0.00	0.62	0.38
	B1 - Page Street S	0.15	0.00	0.85
	C1 - Bunns Lane	0.06	0.94	0.00

1 - Page Street - Bunns Lane
17:45 - 18:00

Demand (Veh/TS)

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From				
	A1 - Page Street N	0.00	30.00	19.00
	B1 - Page Street S	41.00	0.00	198.00
	C1 - Bunns Lane	9.00	170.00	0.00

Proportions

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From				
	A1 - Page Street N	0.00	0.61	0.39
	B1 - Page Street S	0.17	0.00	0.83
	C1 - Bunns Lane	0.05	0.95	0.00

2 -
Page
Street -
Pursley
Road
17:00 -
17:15

Demand (Veh/TS)

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From	A2 - Pursley Road	0.00	36.00	137.00
	B2 - Page Street S	35.00	0.00	64.00
	C2 - Page Street N	115.00	85.00	0.00

Proportions

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From	A2 - Pursley Road	0.00	0.21	0.79
	B2 - Page Street S	0.35	0.00	0.65
	C2 - Page Street N	0.58	0.43	0.00

2 -
Page
Street -
Pursley
Road
17:15 -
17:30

Demand (Veh/TS)

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From	A2 - Pursley Road	0.00	32.00	141.00
	B2 - Page Street S	36.00	0.00	100.00
	C2 - Page Street N	109.00	80.00	0.00

Proportions

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From	A2 - Pursley Road	0.00	0.18	0.82
	B2 - Page Street S	0.26	0.00	0.74
	C2 - Page Street N	0.58	0.42	0.00

2 -
Page
Street -
Pursley
Road
17:30 -
17:45

Demand (Veh/TS)

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From	A2 - Pursley Road	0.00	40.00	125.00
	B2 - Page Street S	35.00	0.00	71.00
	C2 - Page Street N	124.00	90.00	0.00

Proportions

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From	A2 - Pursley Road	0.00	0.24	0.76
	B2 - Page Street S	0.33	0.00	0.67
	C2 - Page Street N	0.58	0.42	0.00

2 -
Page
Street -
Pursley
Road
17:45 -
18:00

Demand (Veh/TS)

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From	A2 - Pursley Road	0.00	43.00	133.00
	B2 - Page Street S	39.00	0.00	106.00
	C2 - Page Street N	123.00	77.00	0.00

Proportions

		To		
		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
From	A2 - Pursley Road	0.00	0.24	0.76
	B2 - Page Street S	0.27	0.00	0.73
	C2 - Page Street N	0.62	0.39	0.00

Vehicle Mix

1 -
Page
Street
-
Bunns
Lane
17:00 -
17:15

Heavy Vehicle Percentages

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From	A1 - Page Street N	0	0	6
	B1 - Page Street S	0	0	2
	C1 - Bunns Lane	0	2	0

Average PCU Per Veh

		To		
		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
From	A1 - Page Street N	1.000	1.000	1.060
	B1 - Page Street S	1.000	1.000	1.020
	C1 - Bunns Lane	1.000	1.020	1.000

1 - Page Street - Bunns Lane 17:15 - 17:30

Heavy Vehicle Percentages

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	0	0	10
	B1 - Page Street S	3	0	1
	C1 - Bunns Lane	0	1	0

Average PCU Per Veh

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	1.000	1.000	1.100
	B1 - Page Street S	1.030	1.000	1.010
	C1 - Bunns Lane	1.000	1.010	1.000

1 - Page Street - Bunns Lane 17:30 - 17:45

Heavy Vehicle Percentages

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	0	0	0
	B1 - Page Street S	0	0	1
	C1 - Bunns Lane	0	2	0

Average PCU Per Veh

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	1.000	1.000	1.000
	B1 - Page Street S	1.000	1.000	1.010
	C1 - Bunns Lane	1.000	1.020	1.000

1 - Page Street - Bunns Lane 17:45 - 18:00

Heavy Vehicle Percentages

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	0	0	0
	B1 - Page Street S	0	0	0
	C1 - Bunns Lane	0	1	0

Average PCU Per Veh

		To		
From		A1 - Page Street N	B1 - Page Street S	C1 - Bunns Lane
	A1 - Page Street N	1.000	1.000	1.000
	B1 - Page Street S	1.000	1.000	1.000
	C1 - Bunns Lane	1.000	1.010	1.000

2 - Page Street - Pursley Road 17:00 - 17:15

Heavy Vehicle Percentages

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	0	0	2
	B2 - Page Street S	3	0	0
	C2 - Page Street N	3	1	0

Average PCU Per Veh

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	1.000	1.000	1.020
	B2 - Page Street S	1.030	1.000	1.000
	C2 - Page Street N	1.030	1.010	1.000

2 - Page Street - Pursley Road 17:15 - 17:30

Heavy Vehicle Percentages

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	0	0	1
	B2 - Page Street S	0	0	1
	C2 - Page Street N	2	0	0

Average PCU Per Veh

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	1.000	1.000	1.010
	B2 - Page Street S	1.000	1.000	1.010
	C2 - Page Street N	1.020	1.000	1.000

2 - Page Street - Pursley Road 17:30 - 17:45

Heavy Vehicle Percentages

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	0	0	2
	B2 - Page Street S	0	0	0
	C2 - Page Street N	2	0	0

Average PCU Per Veh

		To		
From		A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N
	A2 - Pursley Road	1.000	1.000	1.020
	B2 - Page Street S	1.000	1.000	1.000
	C2 - Page Street N	1.020	1.000	1.000

2 -
Page
Street -
Pursley
Road
17:45 -
18:00

Heavy Vehicle Percentages

From	To			
	A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N	
A2 - Pursley Road	0	0	0	
B2 - Page Street S	0	0	0	
C2 - Page Street N	1	1	0	

Average PCU Per Veh

From	To			
	A2 - Pursley Road	B2 - Page Street S	C2 - Page Street N	
A2 - Pursley Road	1.000	1.000	1.000	
B2 - Page Street S	1.000	1.000	1.000	
C2 - Page Street N	1.010	1.010	1.000	

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (Veh/TS)	Demand in PCU (PCU/TS)	Pedestrian Demand (Ped/TS)
17:00-17:15	1 - Page Street - Bunns Lane	A1 - Page Street N	37.00	38.02	3.76
		B1 - Page Street S	197.00	200.50	
		C1 - Bunns Lane	187.00	190.60	3.76
	2 - Page Street - Pursley Road	A2 - Pursley Road	173.00	175.74	
		B2 - Page Street S	99.00	100.05	3.76
		C2 - Page Street N	200.00	204.30	
17:15-17:30	1 - Page Street - Bunns Lane	A1 - Page Street N	29.00	30.00	4.49
		B1 - Page Street S	241.00	244.19	
		C1 - Bunns Lane	181.00	182.70	4.49
	2 - Page Street - Pursley Road	A2 - Pursley Road	173.00	174.41	
		B2 - Page Street S	136.00	137.00	4.49
		C2 - Page Street N	189.00	191.18	
17:30-17:45	1 - Page Street - Bunns Lane	A1 - Page Street N	58.00	58.00	5.51
		B1 - Page Street S	196.00	197.67	
		C1 - Bunns Lane	189.00	192.56	5.51
	2 - Page Street - Pursley Road	A2 - Pursley Road	165.00	167.50	
		B2 - Page Street S	106.00	106.00	5.51
		C2 - Page Street N	214.00	216.48	
17:45-18:00	1 - Page Street - Bunns Lane	A1 - Page Street N	49.00	49.00	5.51
		B1 - Page Street S	239.00	239.00	
		C1 - Bunns Lane	179.00	180.70	5.51
	2 - Page Street - Pursley Road	A2 - Pursley Road	176.00	176.00	
		B2 - Page Street S	145.00	145.00	5.51
		C2 - Page Street N	200.00	202.00	

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Page Street - Bunns Lane	A1 - Page Street N	0.79	45.30	2.9	E	43.24	172.97
	B1 - Page Street S	0.93	39.54	7.9	E	188.20	752.81
	C1 - Bunns Lane	1.01	105.15	20.1	F	183.97	735.90
2 - Page Street - Pursley Road	A2 - Pursley Road	1.20	431.48	82.2	F	171.52	686.06
	B2 - Page Street S	1.34	561.02	83.7	F	121.40	485.61
	C2 - Page Street N	0.92	35.67	7.9	E	195.59	782.37

Main Results for each time segment

17:00 - 17:15

Junction	Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Pedestrian demand (Ped/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Th (e (
1 - Page Street - Bunns Lane	A1 - Page Street N	37.00	37.00	169.95	3.76	75.20	0.492	36.08	
	B1 - Page Street S	190.70	190.70	16.58		206.11	0.925	182.84	
	C1 - Bunns Lane	187.00	187.00	20.42	3.76	193.48	0.967	176.56	
2 - Page Street - Pursley Road	A2 - Pursley Road	173.00	173.00	78.14		183.83	0.941	164.49	
	B2 - Page Street S	99.00	99.00	130.26	3.76	116.77	0.848	94.71	
	C2 - Page Street N	188.79	188.79	33.48		221.15	0.854	183.86	

17:15 - 17:30

Junction	Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Pedestrian demand (Ped/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Th (e (
1 - Page Street - Bunns Lane	A1 - Page Street N	29.00	29.00	167.87	4.49	76.64	0.378	29.29	
	B1 - Page Street S	189.52	189.52	10.20		213.43	0.888	189.53	
	C1 - Bunns Lane	181.00	181.00	30.29	4.49	188.51	0.960	178.48	
2 - Page Street - Pursley Road	A2 - Pursley Road	173.00	173.00	79.05		144.44	1.197	143.02	
	B2 - Page Street S	136.00	136.00	116.37	4.49	101.94	1.334	100.79	
	C2 - Page Street N	186.59	186.59	27.07		227.65	0.819	186.74	

17:30 - 17:45

Junction	Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Pedestrian demand (Ped/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Th (e (
1 - Page Street - Bunns Lane	A1 - Page Street N	58.00	58.00	171.60	5.51	73.70	0.787	55.66	
	B1 - Page Street S	184.53	184.53	21.09		206.84	0.892	184.49	
	C1 - Bunns Lane	189.00	189.00	27.41	5.51	187.48	1.009	182.24	
2 - Page Street - Pursley Road	A2 - Pursley Road	165.00	165.00	85.79		149.96	1.102	149.41	
	B2 - Page Street S	106.00	106.00	115.40	5.51	98.71	1.071	98.27	
	C2 - Page Street N	207.08	207.08	29.86		226.07	0.916	203.95	

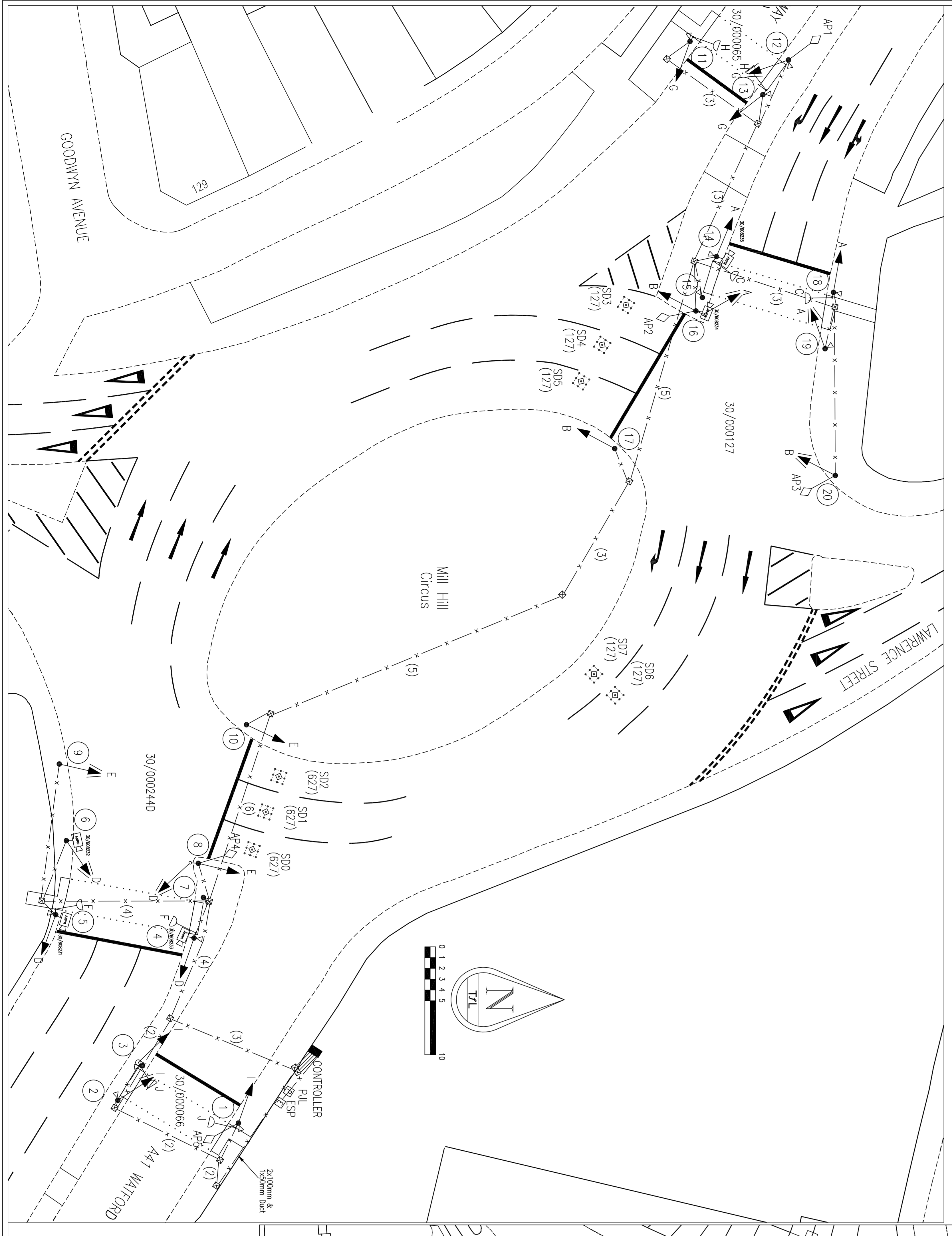
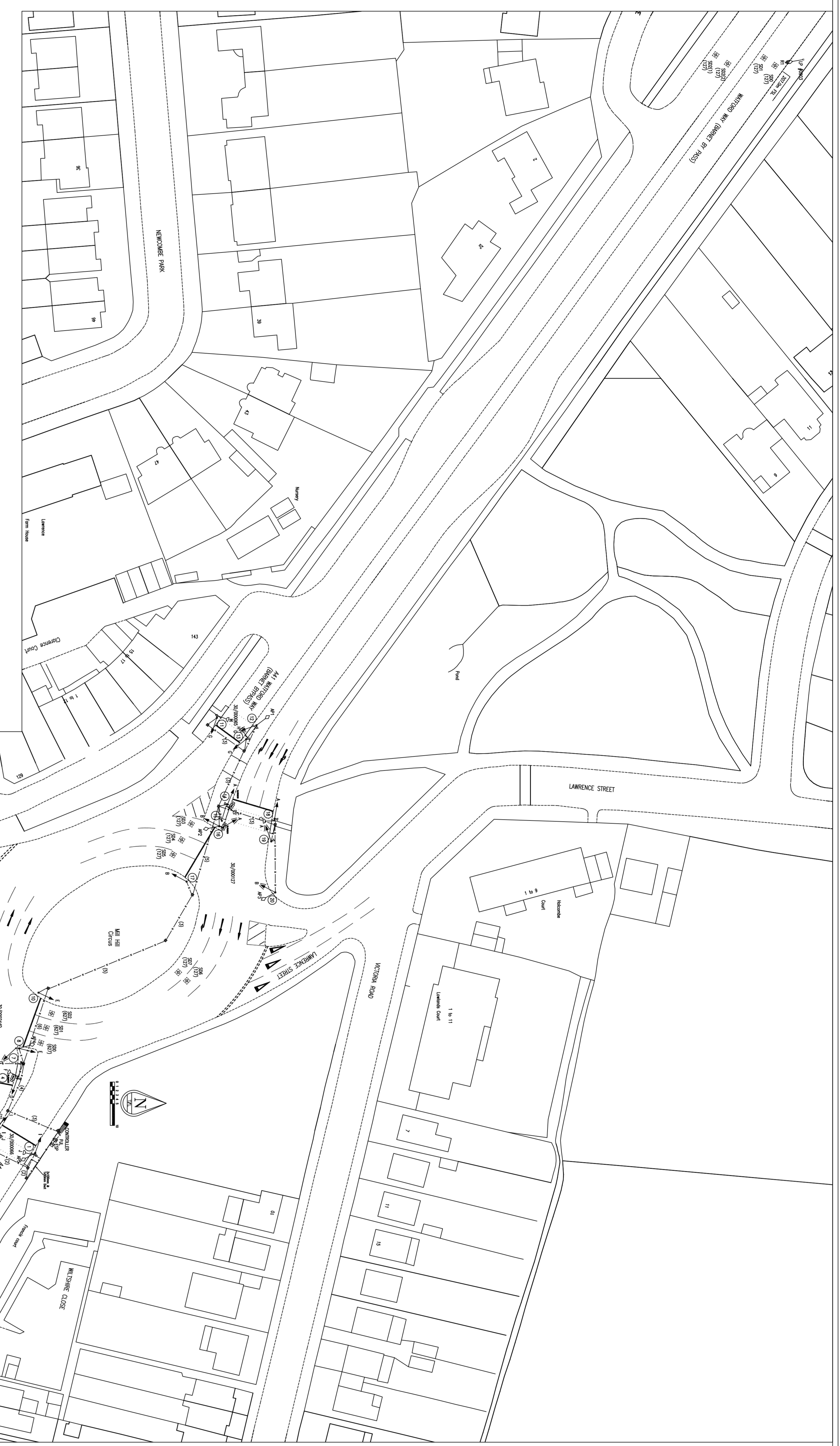
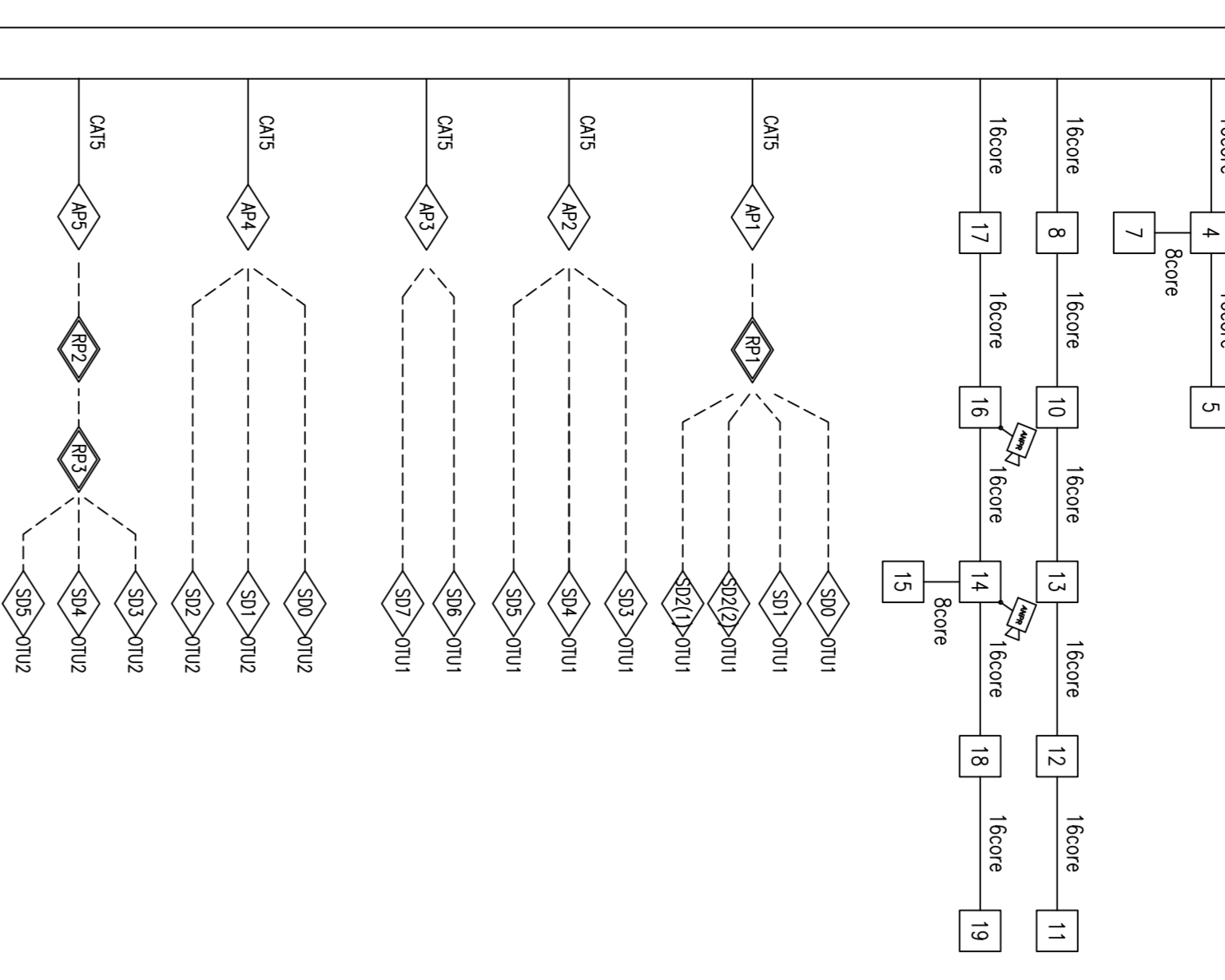
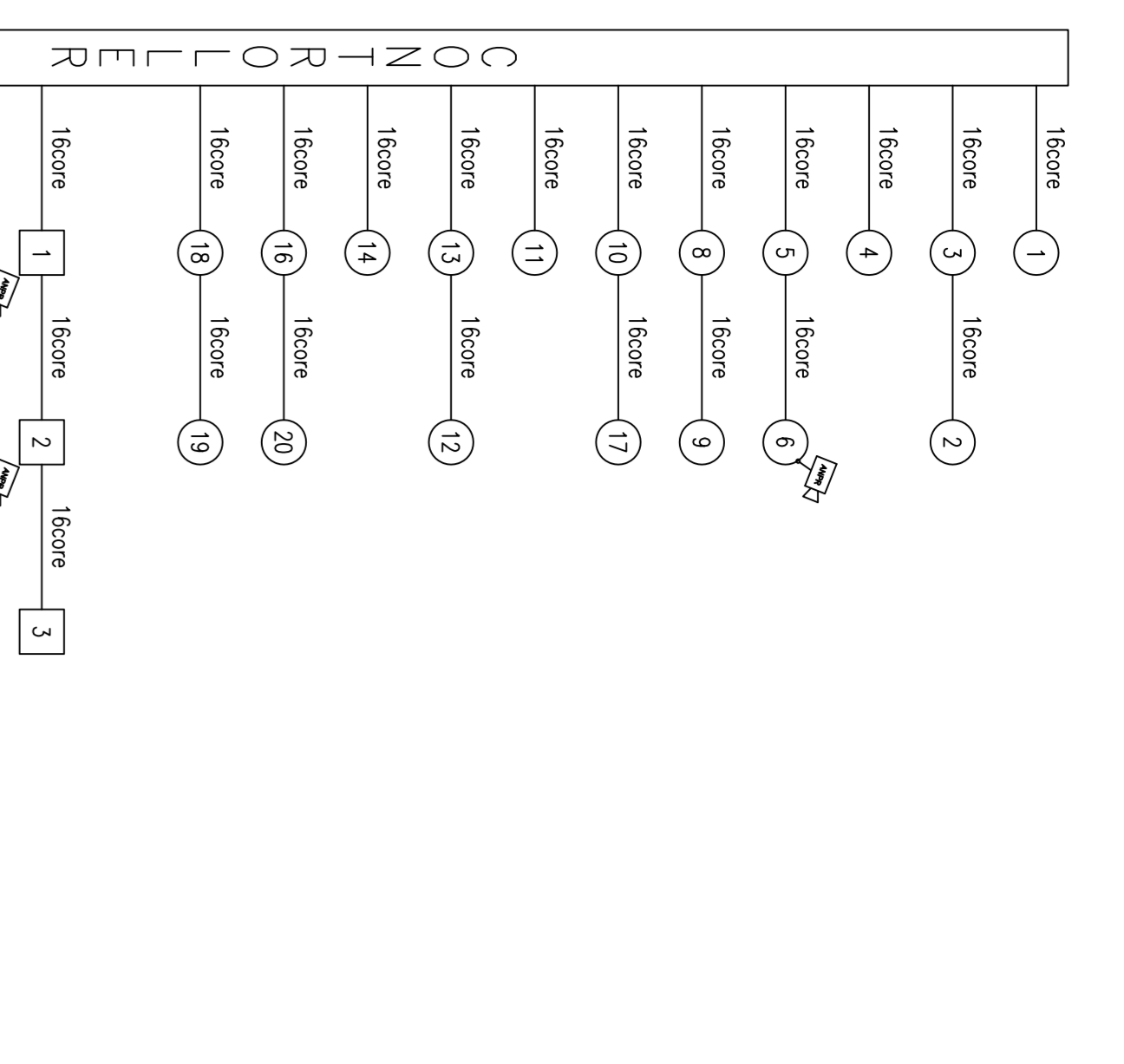
17:45 - 18:00

Junction	Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Pedestrian demand (Ped/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Th (e (
1 - Page Street - Bunns Lane	A1 - Page Street N	49.00	49.00	169.40	5.51	76.62	0.640	50.04	
	B1 - Page Street S	188.12	188.12	19.38		210.74	0.892	188.08	
	C1 - Bunns Lane	179.00	179.00	32.08	5.51	185.63	0.963	178.53	
2 - Page Street - Pursley Road	A2 - Pursley Road	176.00	176.00	77.26		147.12	1.190	146.95	
	B2 - Page Street S	145.00	145.00	111.15	5.51	108.22	1.340	108.12	
	C2 - Page Street N	199.94	199.94	31.97		225.14	0.888	199.94	



Appendix K

SIGNAL TIMING SHEETS



NUMBER	CHANNEL	OTU NUMBER	MAGNETOMETER DIMENSION & POSITION DISTANCE TO SURFACE (METRES)			SURFACE STRIKE (METRES)	REFERENCE POINT	ACCESS POINT OR REFLECTOR	PROPOSED OR EXISTING
			A	B	C				
S00	-	30/127	2.1	1.1	7.0	207.0	S20 (207.0)	EXISTING	
S01	-	30/127	5.2	1.1	7.0	207.0	S20 (207.0)	EXISTING	
S02	-	30/127	1.6	1.1	6.7	N/A	S20 (207.0)	EXISTING	
S03	-	30/127	5.0	1.1	6.7	N/A	S20 (207.0)	EXISTING	
S04	-	30/127	2.2	1.1	12.3	2.5	S20 (207.0)	EXISTING	
S05	-	30/127	10.4	1.1	12.3	2.5	S20 (207.0)	EXISTING	
S06	-	30/127	13.0	1.1	17.5	30.0	S20 (207.0)	EXISTING	
S07	-	30/127	13.1	1.1	17.2	30.0	S20 (207.0)	EXISTING	



NOTES

- SYMBOLS ARE IN ACCORDANCE WITH CURRENT VERSION OF SSI/SDN/S/ISSB
- EXISTING DIMENSIONS
- 30mm BOLT FROM CONTROLLER TO ESP
- 30mm BOLT UNDER KEYS TO LOOP FEEDERS
- 30mm BOLT UNDER KEYS TO LOOP FEEDERS
- ALL VEHICLE SIGNALS HAVE BACKING BANDS
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scheme L B OF BARNET
 A41 WAITFORD WAY /
 THE BROADWAY /
 MILL HILL CIRCUS
 TRAFFIC SIGNALS LAYOUT
 ddle SEP 1990 scale AS SHOWN/BAO
 No. SID/30/000127, 000065,
 000066 & 0002440/05

 Translated for London
Traffic Directorate
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 London SE1 1UN
 Telephone 020 7325 8600

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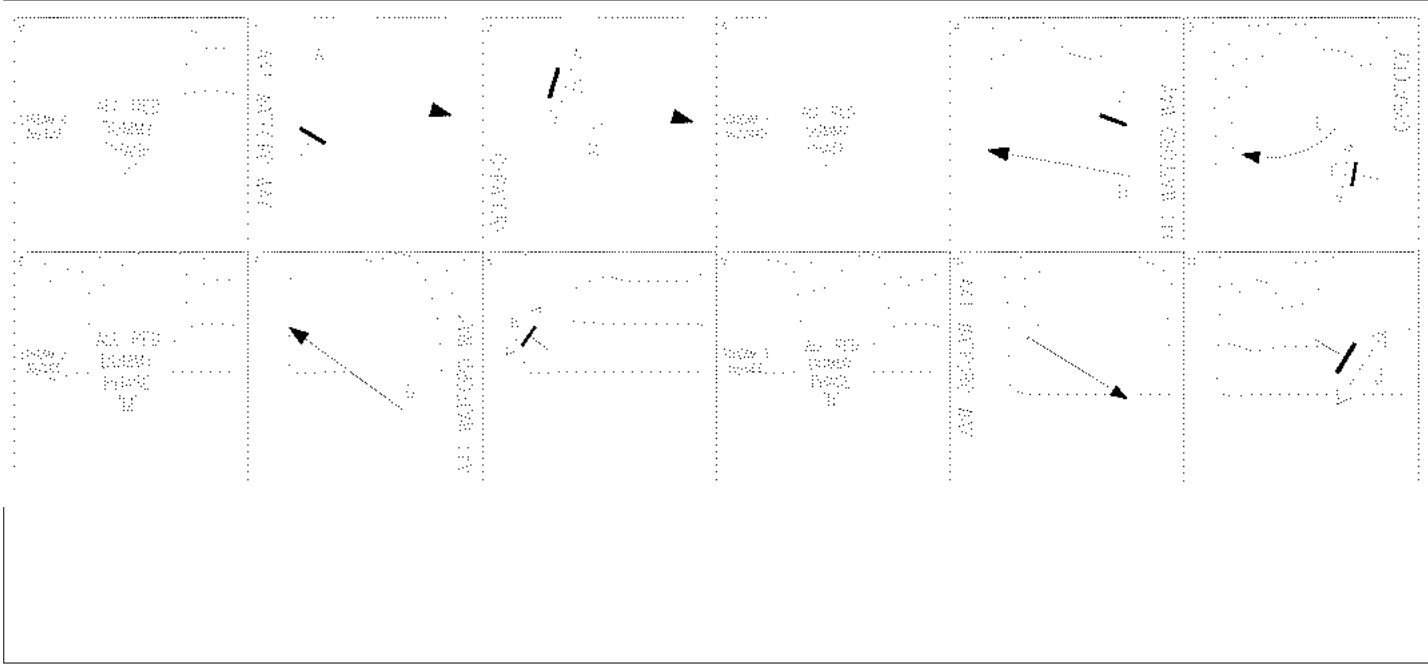


TfL Street Management

Timing Sheets

UTC Micro

London Borough Of	Grid Reference	UTC Type	Bt Line No	Issue	Date Implemented	Initials	Site Number
BARNET	521619/192348	NOR8	AXJK 242464	10	08-MAR-2015	CAMPLINGG	30/000127/
Address							
A41 WATFORD WAY - THE BROADWAY - MILL HILL CIRCUS							
PDU Rate	Controller Installed Date	Engineer Responsible	Linking				
68	02-FEB-2013	CAMPLINGG	30/000065/T	30/000066/	30/000627/		
Computer	Control	Control	Concentrator	Prom Number	Firmware	Controller Type	
Takeover Date	Group	Subgroup	Subgroup				
07-MAR-2013	713	30/000127/		EM30929 V5	PB801-13	STCL LV T900 MK 1 UTC Semi VA Controller	



Stage Diagram for Issue No 10

TFL Drg No	HI Signal YES															
Sig Drg No	Dimming Volts															
PRO/30/127&244D/01	01	02	03	04	05	06	07	08	09	13	14	15	16			
Word Bit	1F1	1F2	2F1	2F2	1TS				1PV	1PX	2PV	2PX				
75	REPLY1	1G1	1G2	2G1	2G2	1RT	1JD	1JL	1RF1	1RF2	1GX	2GX				



Phase Timings						
Phase	Min	Ext	Max	Ped Black	Phase Type	Alternative Maximums
A	7				T	
B	7				T	
C	6			5	P	
D	7				T	
E	7				T	
F	6			6	P	
G	7				T	
H	6			3	P	
I	7				T	
J	6			4	P	
K	3				D	
L	3				D	
M	3				D	
N	3				D	

Issue	Site Number
10	30/000127/

Phase Intergreens

		To Phase														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	
From Phase	A		9	7									3			
	B	5											3			
	C	11											5			
	D													3		
	E				7									3		
	F				13									6		
	G														3	
	H								8						3	
	I															3
	J										10					4
	K	2	2	2												
	L				2	2	2									
	M								2	2						
	N										2	2				



TfL Street Management

Timing Sheets

UTC Micro

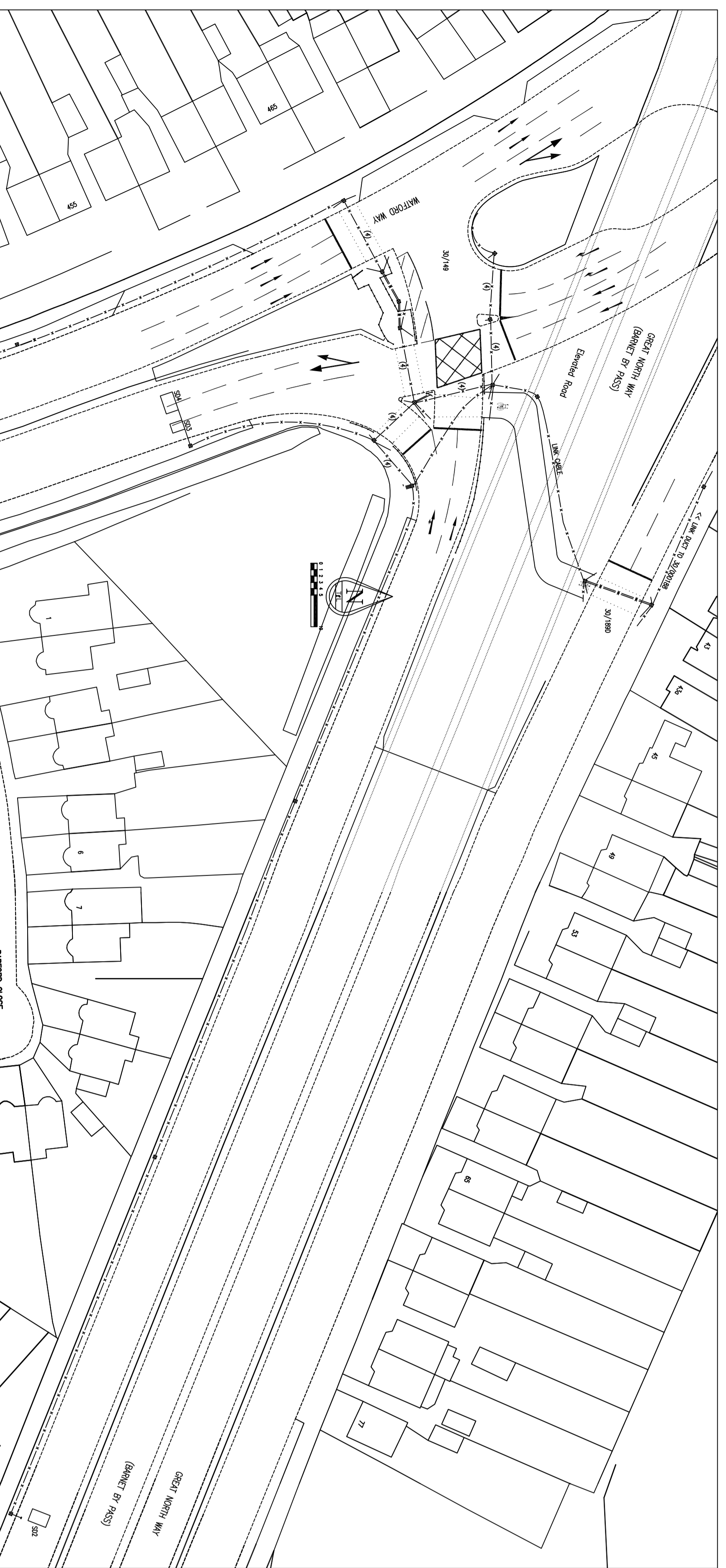
Mode Priority	CLF PLAN1		CLF PLAN2		CLF PLAN3		CLF PLAN4		CLF PLAN5		CLF PLAN7		Issue	Site Number
	Time Of Day	Operation Type	Time Of Day	Operation Type	Time Of Day	Operation Type	Time Of Day	Operation Type	Time Of Day	Operation Type	Time Of Day	Operation Type		
UTC													10	30/000127/
Hand Control														
Manual Select	05:00	9	10:30	9	15:00	9	06:30	9	00:00	7	21:00	7		
Hurry (1)	08:30	9	08:00	0										
Hurry (2)			08:00	1										
VA														
CLF														
Fix Time														
Bus Priority														
	Cycle Time		Cycle Time		Cycle Time		Cycle Time		Cycle Time		Cycle Time			
	64		64		64		72		64		64			

Phase Delays				Phase Delays				Phase Delays				Phase Delays			
Stage From	Stage To	Phase Associated	Delay Period	Stage From	Stage To	Phase Associated	Delay Period	Stage From	Stage To	Phase Associated	Delay Period	Stage From	Stage To	Phase Associated	Delay Period
2	1	B	6												
5	4	E	5												

DET	Function	Phase	DET	Function	Phase	DET	Function	Phase	DET	Function	Phase
PB P1	CAL	J	PB P14	CAL	C	SD4	SCM	A	SD5 (1)	SCM	A
PB P2	CAL	J	PB P15	CAL	C	SD5	SCM	A			
PB P3	CAL	J	PB P18	CAL	C	SD6	SCM	A			
PB P4	CAL	F	PB P19	CAL	C	SD7	SCM	A			
PB P5	CAL	F	SD0	SCM	A	SD0 (1)	SCM	A			
PB P7	CAL	F	SD1	SCM	A	SD1 (1)	SCM	A			
PB P11	CAL	H	SD2:1	SCM	A	SD2 (1)	SCM	A			
PB P12	CAL	H	SD2:2	SCM	A	SD3 (1)	SCM	A			
PB P13	CAL	H	SD3	SCM	A	SD4 (1)	SCM	A			

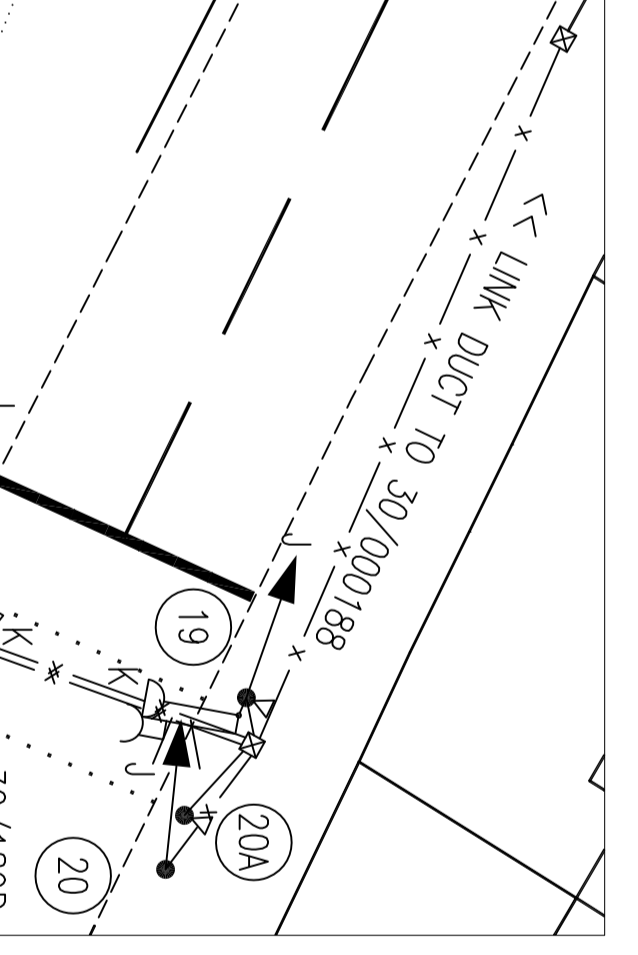
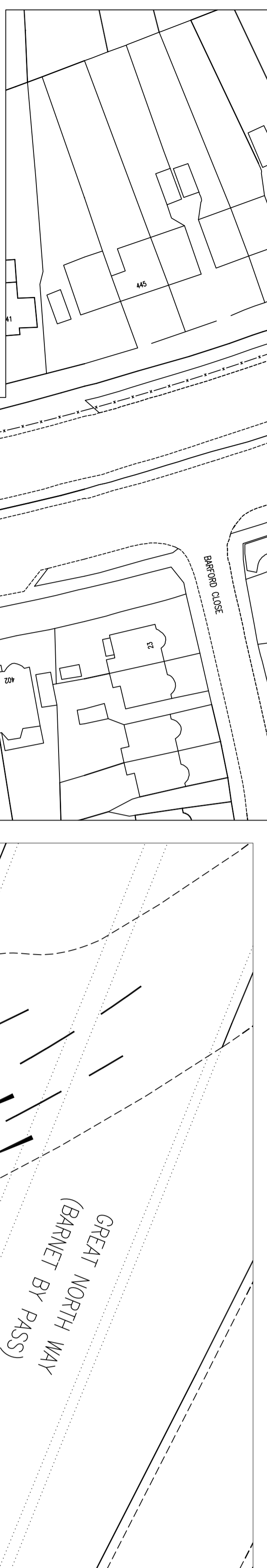
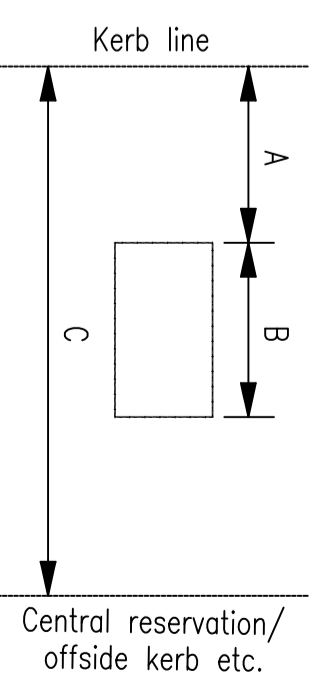
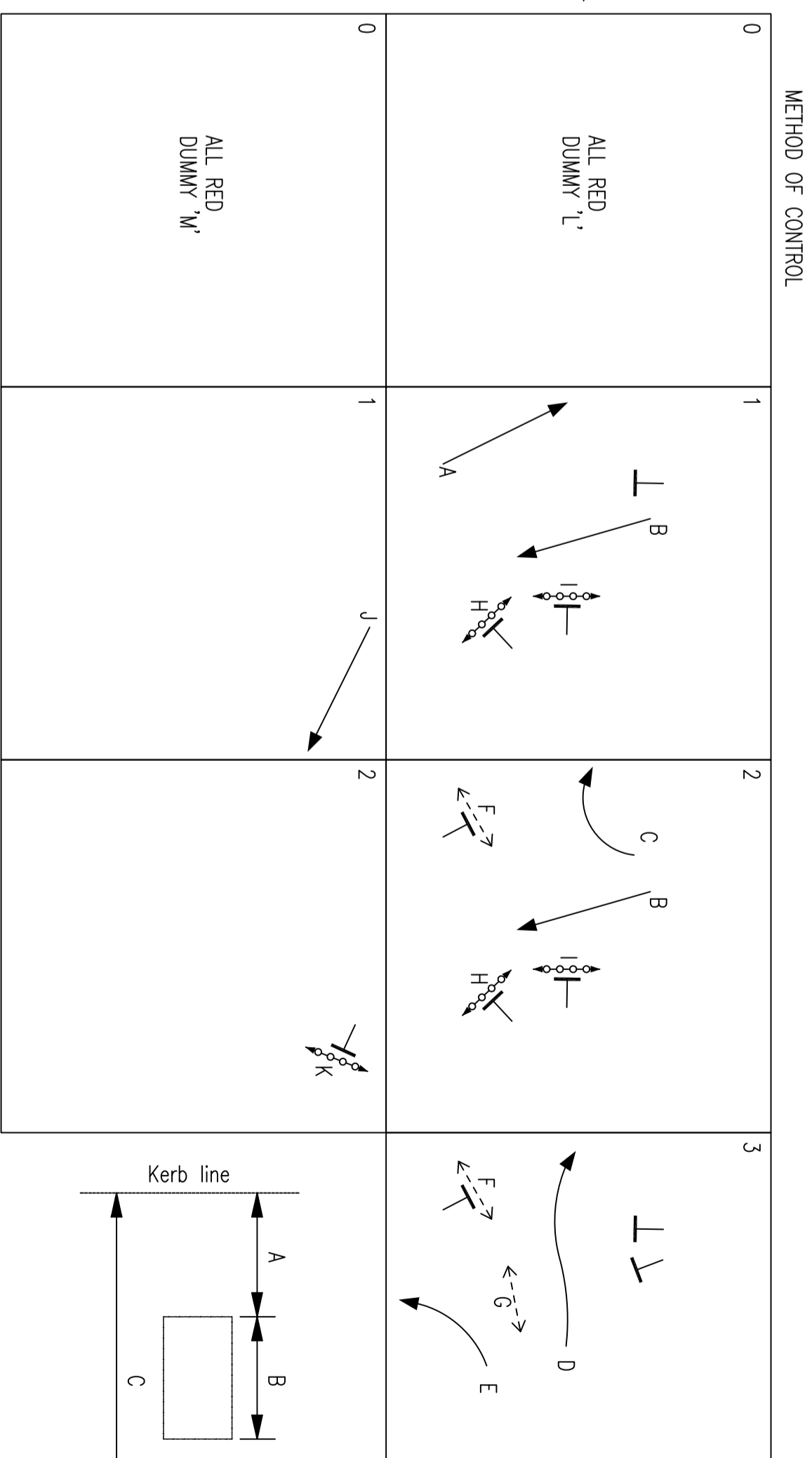
Issue	Historical Amendments
10.3	DAMAGED PB REPLACED P5 08-MAR-2015 COLEJ
10.2	EQUIPMENT ASSOCIATED TO INCORPORATE MICROSWITCH REPLACED P5 03-NOV-2014 BRADYK
10.1	DETECTORS UPDATED FOR TCMS 2 - 1 JUL 2014 MARVIN JONES
10	NEW CONFIG PROM (TFL SPEC REMAINS ISSUE 4) & SCOOT LOOPS (MAGNETOMETER) INSTALLED & UTC COMMISSIONED. 07-MAR-2013 CAMPLINGG
9	SITE CONVERTED TO UTC & MODERNISED TO TFL SPEC ISSUE 4 - CONTROLLER, CABLE & EQUIPMENT REPLACED & UTC COMMISSIONED. 02-FEB-2013. CAMPLINGG
8	REMOTE MONITORING CAPABILITY LOST AS BT LINE HAS BEEN UPGRADED TO PRIVATE WIRE AT SITE IN PREPARATION FOR UTC CONVERSION. 24-APR-2012 CAMPLINGG
7.1	CLF PLANS & TIMETABLE CHANGED IN RAM ONLY 07-FEB-2011 GAZELYN

Remarks	
Version No	4
Linking	30/066 AND 30/065
Comments	TFL SPEC ISSUE 4.
Det Strategy	PUSH BUTTONS / TACTILES - SCOOT LOOPS (MAGNETOMETER)
Amendment	DAMAGED PB REPLACED P5 08-MAR-2015 COLEJ

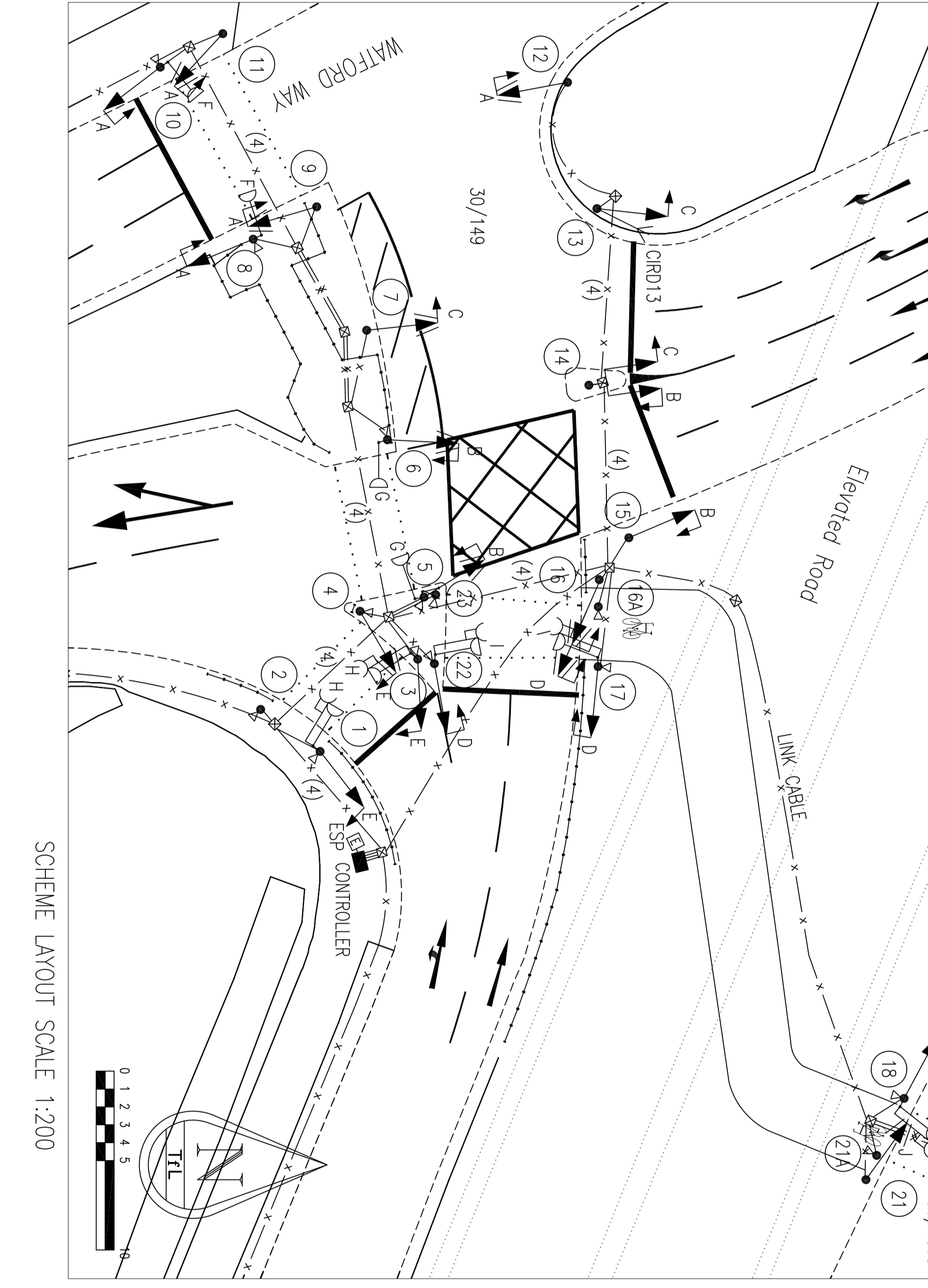
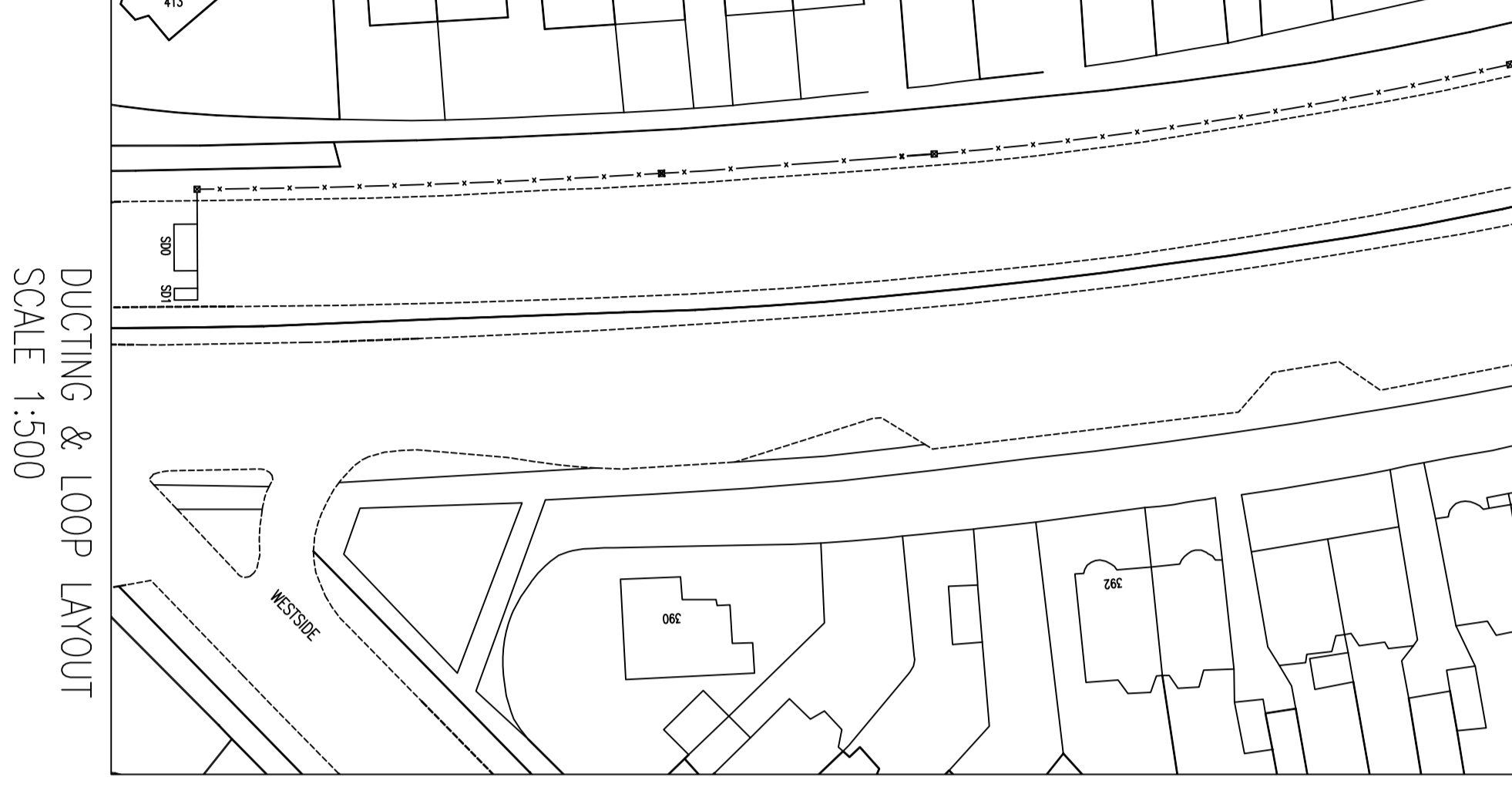


STREAM "1" 30/000189D
 STREAM "0" 30/000149

OTU NUMBER: 30/149		LOOP DIMENSION & POSITION (METRES)	DISTANCE TO STIPOLINE (METRES)	BUS DETECTOR CONNECTION	REFERENCE POINT	DISTANCE TO LOOP LEAVING EDGE OR EXISTING	PROPOSED
LOOP NUMBER	SERIES						
SD0	A	2.0	4.0	9.8	216.7	17.3	EXISTING
SD1	B	7.5	1.0	9.8	216.7	17.3	EXISTING
SD2	C	2.0	3.0	7.2	184.0	9.3	EXISTING
SD3	D	1.5	1.5	9.2	N/A	40.0	EXISTING
SD4	E	4.7	3.0	9.2	N/A	40.0	EXISTING



CONTROLLER	
16c	1 - 4c
16c	3 - 16c
16c	4 - 16c
16c	5 - 16c
16c	6 - 16c
16c	7 - 16c
16c	8 - 16c
16c	9 - 16c
16c	10 - 16c
16c	11 - 16c
16c	12 - 16c
16c	13 - 16c
16c	14 - 16c
16c	15 - 16c
16c	16 - 16c
16c	17 - 16c
16c	18 - 16c
16c	19 - 16c
16c	20 - 16c
16c	21 - 16c
16c	22 - 4c
16c	23 - 16c
16c	1 - 16c
16c	2 - 16c
16c	3 - 16c
16c	4 - 16c
16c	5 - 16c
16c	6 - 16c
16c	7 - 16c
16c	8 - 16c
16c	9 - 16c
16c	10 - 16c
16c	11 - 16c
16c	12 - 16c
16c	13 - 16c
16c	14 - 16c
16c	15 - 16c
16c	16 - 16c
16c	17 - 16c
16c	18 - 16c
16c	19 - 16c
16c	20 - 16c
16c	21 - 16c
16c	22 - 4c
16c	23 - 16c
1pr	SD0
1pr	SD1
1pr	SD2
1pr	SD3
1pr	SD4



- NOTES
- 1 SYMBOLS ARE IN ACCORDANCE WITH CURRENT VERSION OF DRG No SI/0/GEN/S/1526
 - 2 EXISTING DUCT $\text{---} \times \text{---} \times \text{---}$
 - 3 EXISTING DRAWINGS $\text{---} \times \text{---} \times \text{---}$
 - 4 50mm DUCT FROM CONTROLLER TO ESP
 - 5 50mm DUCT UNDER KERB TO LOOP FEEDERS
 - 6 ALL VEHICLE SIGNALS HAVE BACKING BOARDS
 - 7 TACTILE ROTATING CONES FITTED TO ALL PUSHBUTTONS
 - 8 TOUCH HOODS FITTED TO POLES 1, 3, 17, 18, 19 & 22
 - 9 POLES 2, 16A, 20A, 21A & 23 ARE 2.0M. POLES
 - 10 POLE 16 IS A 6.0m POLE WITH DOUBLE SIGNAL ASPECT
 - 11 LOUNGERS FITTED TO PEDESTRIAN ASPECTS ON POLES 8, 9, 10, 11 & 12 ARE PEEL ELITE, OTHERS ARE SIEMENS TYPE
 - 12 ALL POLES ARE BLACK IN COLOUR
 - 13

REV	DATE	DETAILS	CONTRACT
01	OCT 99	NEW INSTALLATION	TSJK LTD
02	16/06/00	POLE 16 NOW 6m LOUNGERS HOODS FITTED TO PEDESTRIAN ASPECTS ON POLES 8 & 10 R/A/V/G ON POLES 8,9,10,11,12 REPLACED WITH PEEL ELITE	TSJK LTD KS
03	19/02/03	DMG CORRECTION: SIGNAL HEADS ON POLES 1, 3, 4 & 16 CORRECTED. NOTES CORRECTED AS PER SITE VISIT	TL - BMM
04	12/03/08	DMG FOR FAULTS	GA8 RE
05	07/07/12	SIG CHANGED - ENG. JAI DATE: 07/07/2012	TF/SIGS-OH
06	05.12.13	IRD REMOVED FROM POLE 14	TF/TCO-PWG

Transport for London
Surface Transport
 Traffic Directorate
 40, Whitehall Road
 London SW1A 2NL
 Telephone 020 7222 5600

scheme LB OF BARNET
 GREAT NORTH WAY/
 WATFORD WAY
TRAFFIC SIGNALS LAYOUT

date OCT 1999 scale AS SHOWN@A1
 No. SLD/30/000149 & 000189D/06

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TfL Street Management

Timing Sheets

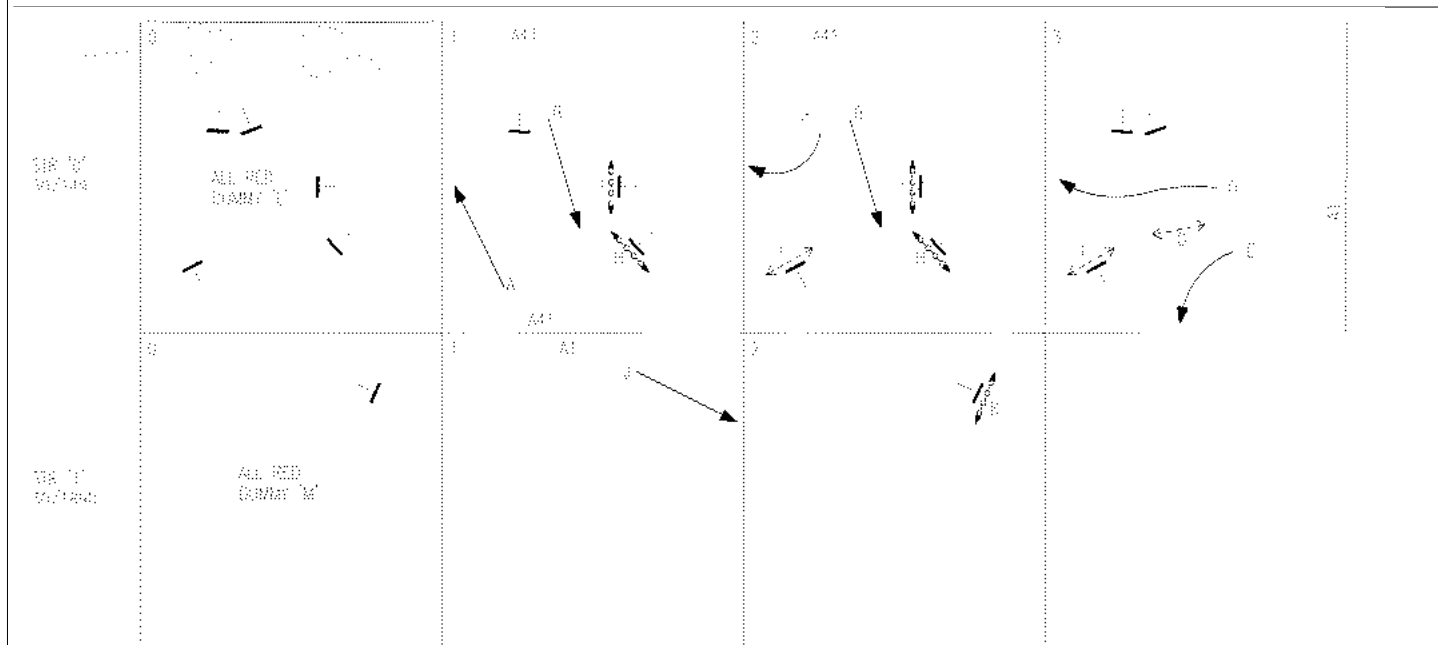
UTC Micro

London Borough Of	Grid Reference	UTC Type	Bt Line No	Issue	Date Implemented	Initials	Site Number
BARNET	522407/190594	NOR8	'SEE 30/188'	7	03-FEB-2015	NEWELLM	30/000149/T

Address
A1 WATFORD WAY - A41 GREAT NORTH WAY - FIVE WAYS CORNER

PDU Rate	Controller Installed Date	Engineer Responsible	Linking
75	11-OCT-1999	SIG_KSS	

Computer Takeover Date	Control Group	Control Subgroup	Concentrator Subgroup	Prom Number	Firmware	Controller Type
07-JUL-2012				EM27758 V7		STCL T400 MK 1 UTC Cntr with Integral Facilities



Unable to establish Issue No for Stage Diagram

TFL Drg No	HI Signal	YES										
Sig Drg No	Dimming	Volts										
Word	Bit	01	02	03	04	05	06	07	08	09	10	11
Type	CONTRO	1F1	1F2	1F3	1DX	1TS				2F1	2F2	2DX
27	REPLY1	1G1	1G2	1G3		1RT	1JL	1RF1	1RF2	2G1	2G2	2JD



Phase Timings						
Phase	Min	Ext	Max	Ped Black	Phase Type	Alternative Maximums
A	7				T	
B	7				T	
C	7				T	
D	7				T	
E	7				T	
F	6			4	P	
G	6			4	P	
H	6			3	P	
I	6			4	P	
J	7				T	
K	6			4	P	
L	3				D	
M	3				D	

Issue	Site Number
7	30/000149/T

Phase Intergreens

		To Phase												
		A	B	C	D	E	F	G	H	I	J	K	L	M
From Phase	A	■		7	7		7							3
	B		■		7	8		8						3
	C	7		■	7									3
	D	9	8	9	■					7				3
	E		7			■			7					3
	F	10					■							4
	G		9					■						4
	H					8			■					3
	I				9					■				4
	J										■	7		3
	K											■	9	4
	L	2	2	2	2	2	2	2	2	2			■	
	M											2	2	■



TfL Street Management

Timing Sheets

UTC Micro

Mode Priority	CLF PLAN1	CLF PLAN2	CLF PLAN3	CLF PLAN4	Issue	Site Number
	Time Of Day Operation Type	Time Of Day Operation Type	Time Of Day Operation Type	Time Of Day Operation Type		
	UTC					
	Hand Control					
	Manual Select	06:30 9	09:30 9	15:30 9	22:00 7	
	Hurry (1)		19:30 9			
	Hurry (2)					
	VA		08:00 0			
	CLF		08:00 1			
Fix Time						
Bus Priority						
	Cycle Time 80	Cycle Time 70	Cycle Time 90	Cycle Time 60		

Phase Delays				Phase Delays				Phase Delays			
Stage From	Stage To	Phase Associated	Delay Period	Stage From	Stage To	Phase Associated	Delay Period	Stage From	Stage To	Phase Associated	Delay Period
2	3	B	2								
2	3	C	2								
3	1	D	1								
3	2	D	1								

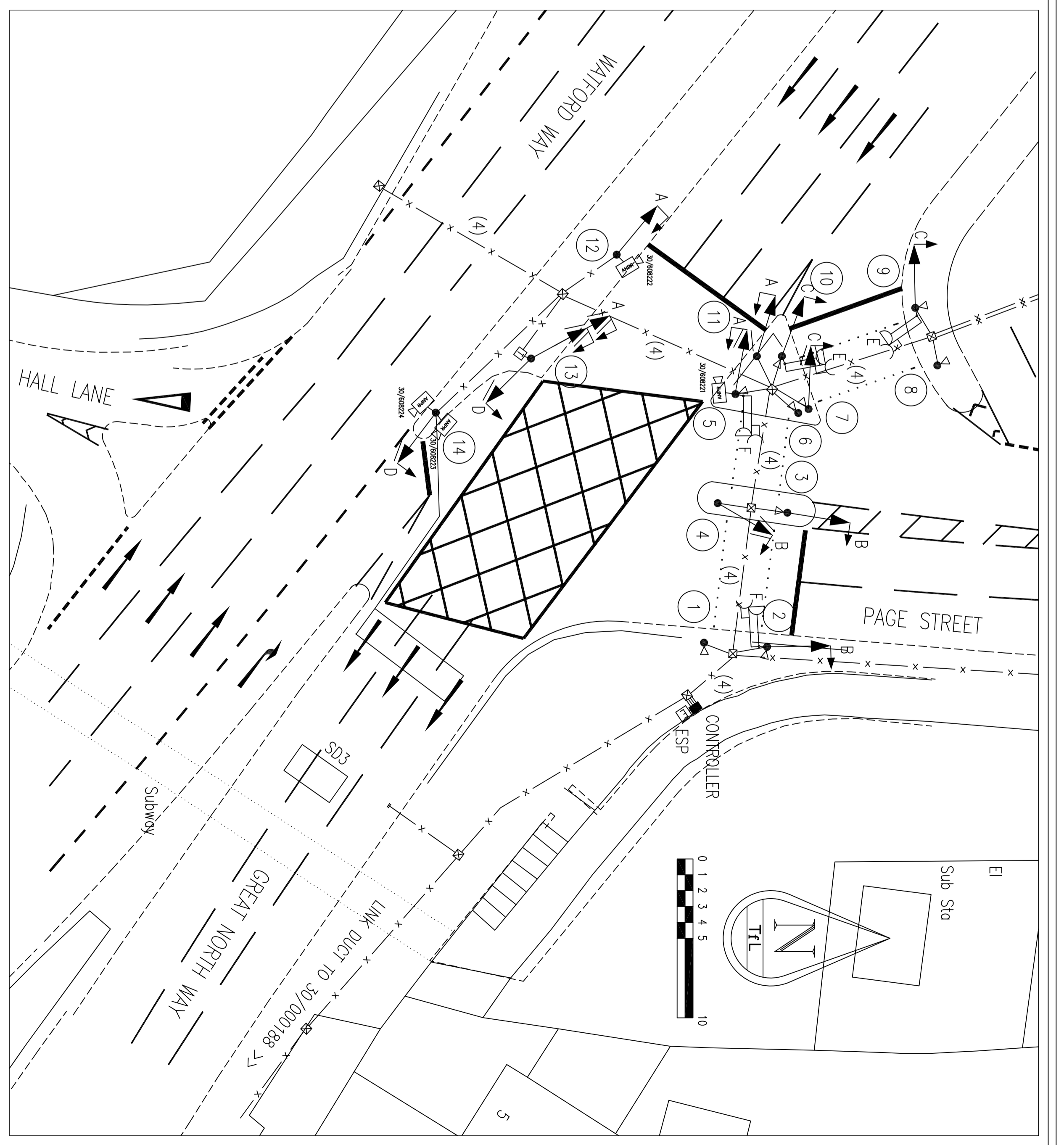
DET	Function	Phase	DET	Function	Phase	DET	Function	Phase	DET	Function	Phase
CIRD13	CAL	C	PB P16	WLO	I	SD1	SCT	A			
PB P1	WLO	H	PB P17	WLO	I	SD2	SCT	A			
PB P2	WLO	H	PB P22	WLO	I	SD3	SCT	A			
PB P3	WLO	H	PB P23	WLO	I	SD4	SCT	A			
PB P4	WLO	H	PB P18	CAL	K						
PB P5	WLO	G	PB P19	CAL	K						
PB P6	WLO	G	PB P20A	CAL	K						
PB P8	WLO	F	PB P21A	CAL	K						
PB P10	WLO	F	SD0	SCT	A						

Issue	Historical Amendments
7.1	INITIAL SFM EQUIPMENT VERSION UPLOAD. 03-FEB-2015. NEWELLM
7	INITIAL SFM EQUIPMENT VERSION LOOP UPLOAD. 10-SEP-2014. NEWELLM
6	CIRD14 REMOVED. CIRD13 SET TO 2-LANE DETECTION MODE. 05-DEC-2013 VANGELDERP
5	SITE CONVERTED TO UTC - NEW PROM (TFL SPEC ISSUE 3) INSTALLED & UTC COMMISSIONED. 07-JUL-2012 TAVAREST
4	SCOOT LOOPS CUT & TESTED. 20-DEC-2011 DONCASTERR
3.1	EQUIPMENT & RAM CHANGES FOUND ON SITE UPDATED AS PER SITE VISIT. 13-JAN-2011 DTA_BM
3	TIMING SHEET INFORMATION CORRECTED AS PER TFL SPEC ISSUE 1. 03-MAY-07 DTA_BM
2	IMU ON LINE. 02-MAY-07 FC_PVG
1.2	POLES & 3 ASPECTS CORRECTED. DEMOUNTABLE POLE SOCKETS ADDED AS PER SITE VISIT. 19-FEB-03 FCC BJM

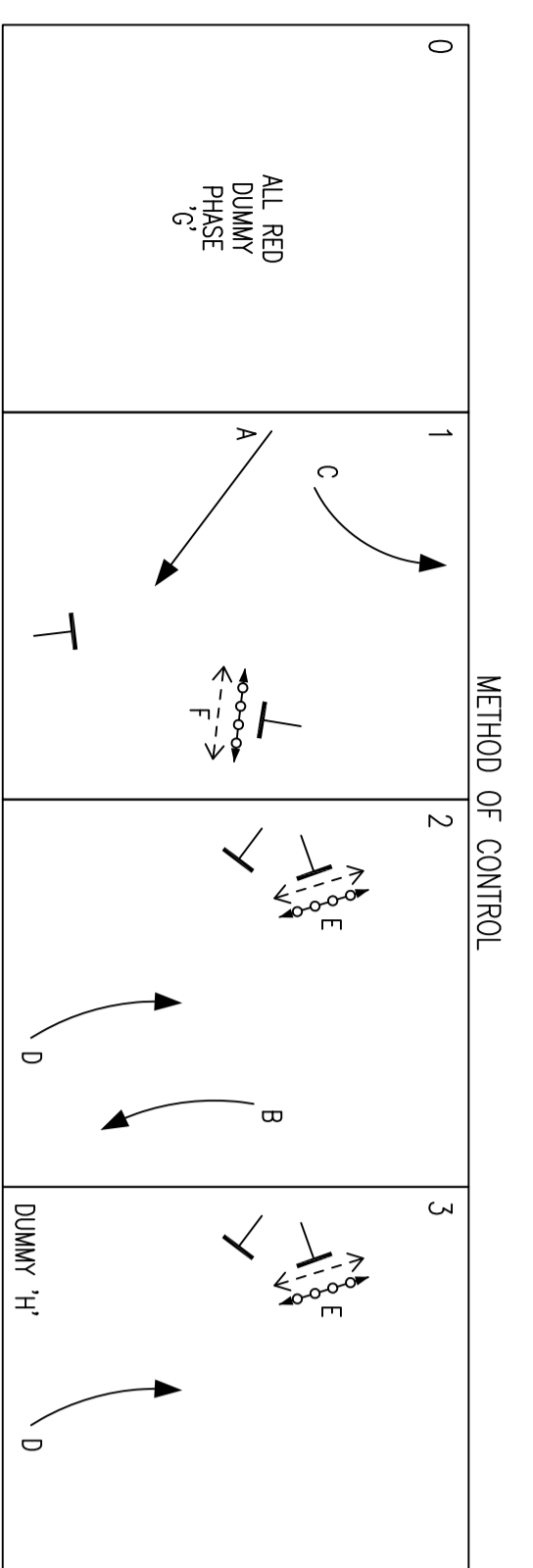
Remarks	
Version No	
Linking	CLF - 30/188. BT LINE LOCATED AT 30/188.
Comments	TFL SPEC ISSUE 3. **SUMCHECK: ENC63FEA0 & ENC63FF04.**
Det Strategy	IRD - PUSH BUTTONS / TACTILES - SCOOT LOOPS
Amendment	INITIAL SFM EQUIPMENT VERSION UPLOAD. 03-FEB-2015. NEWELLM



DUCTING & LOOP LAYOUT SCALE 1:500

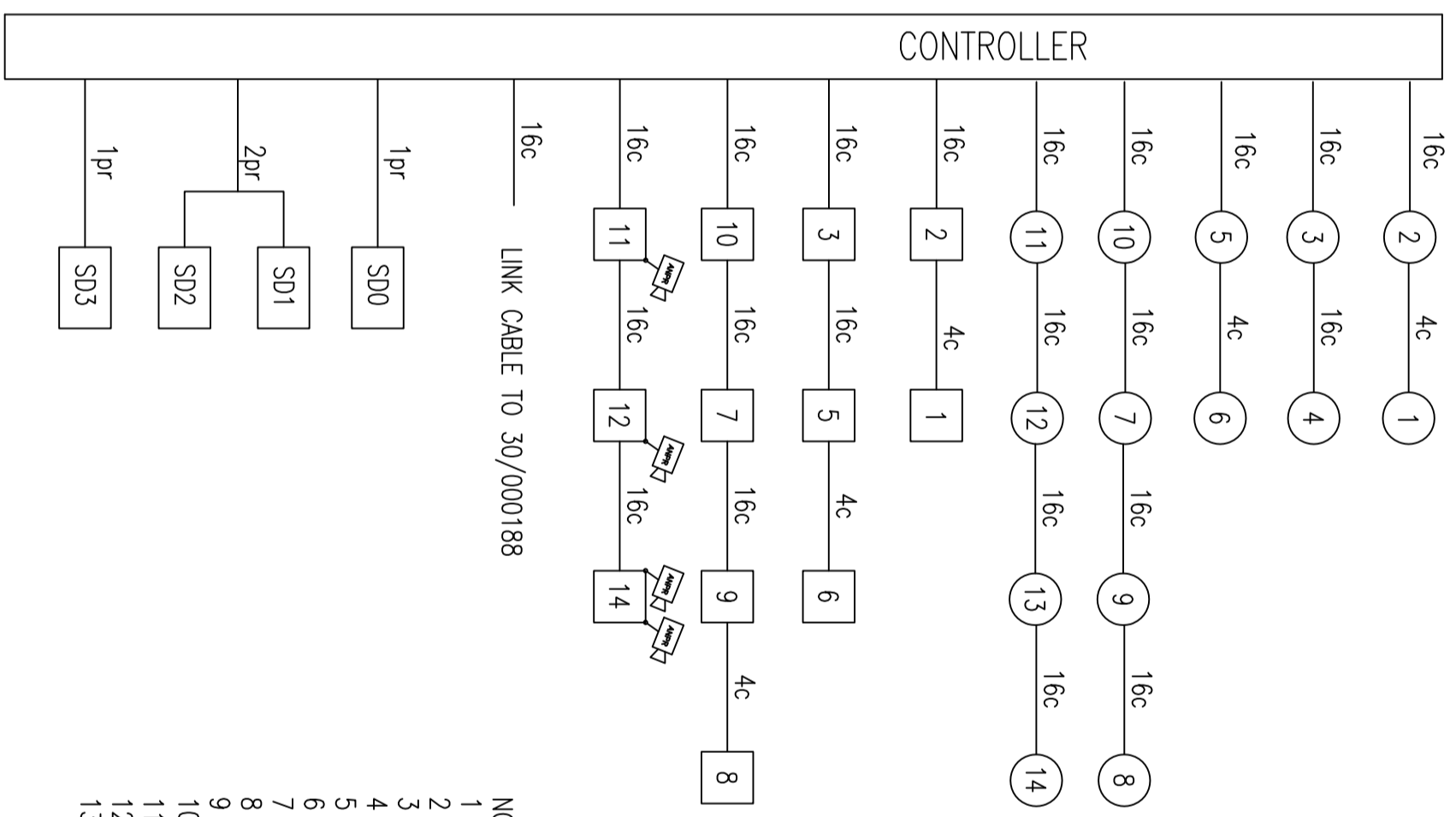
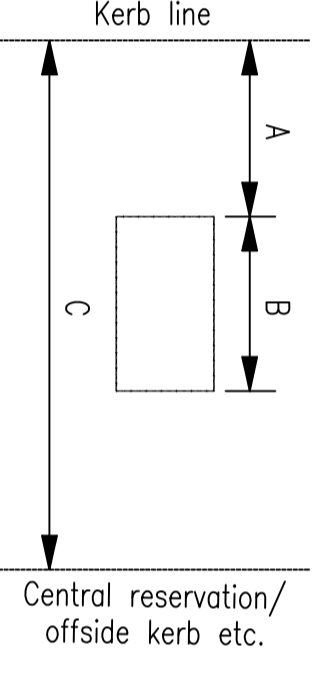


SCHEME LAYOUT SCALE 1:200



METHOD OF CONTROL

LOOP NUMBER	OTU NUMBER	LOOP DIMENSION & POSITION (METRES)			DISTANCE TO STOPLINE (METRES)	BUS DETECTOR CONNECTION		REFERENCE POINT	DISTANCE TO LOOP LEADING EDGE	PROPOSED OR EXISTING
		A	B	C		SERIES	PARALLEL			
S00	30/152	1.5	1.0	7.5	131.0	-	-	STATION END OF BRIDGE OF BALANCE LINE	0.0	EXISTING
S01	30/152	2.0	2.0	10.6	204.0	-	-	EDGE OF BALANCE LINE	0.0	EXISTING
S02	30/152	6.0	3.0	10.6	204.0	-	-	EDGE OF BALANCE LINE	0.0	EXISTING
S03	30/152	4.0	3.5	9.2	69.0	-	-	EDGE OF BALANCE LINE	4.7	EXISTING



CONTROLLER

- NOTES
- SYMBOLS ARE IN ACCORDANCE WITH CURRENT VERSION OF DRG No. SIG/GEN/S/1526
 - EXISTING DUCT
 - EXISTING DRAWINGS
 - 30mm DUCT FROM CONTROLLER TO ESP
 - 30mm DUCT UNDER KERB TO LOOP FEEDERS
 - ALL VEHICLE SIGNALS HAVE BRACKING BOARDS
 - TACTILE ROILING CONES FITTED TO ALL PUSHBUTTONS EXCEPT ON POLE 3
 - POLE 13 IS A 4.85m POLE
 - POLE 1, 6 & 8 ARE 2.0m POLES
 - POLE 5 SIGNAL IS OFFSET USING 200mm EXTENSION BRACKET
 - TYPE C TERMINATION PILLAR FOR 4.85m POLE
 - POLES 1, 7, 8, 9, 12 & 14 ARE DEMOUNTABLE
 - POLES ARE BLACK IN COLOUR

05	14.03.14	ARR CAMERA'S INSTALLED ON POLES 11, 12 & 14	TL-17/PS
04	07.07.12	SCOTT LOOPS COMMISSIONED Site checked - ENG. JAI DATE: 07.07.2012	TL/SIGS-GBH
03	13.01.11	PMC CORRECTION: PILE REMOVED, ROAD MARKINGS & NOTES CORRECTED AND DOUBLE ASPECT ADDED TO POLE 13 AS PER SITE VISIT	TF/CC BM
02	10.01.03	PMC CORRECTION: NOTE RE: TACTILES CORRECTED & DEMOUNTABLE POLES ADDED. DOUBLE ASPECT ON POLE 12 REMOVED AS PER SITE VISIT.	TL - BM
01	SEP 99	NEW INSTALLATION	TSUK 01656
REV	DATE	DETAILS	CONTRACT

Transport for London
Surface Transport

Traffic Directorate
Wickford House
45-47 York Way
London, SM1 1HL
Telephone 020 7222 5600

scheme L B OF BARNET
A1 WATFORD WAY /
PAGE STREET

TRAFFIC SIGNALS LAYOUT

date SEP 1999 scale AS SHOWN@A1

No. SLD/30/000152/05

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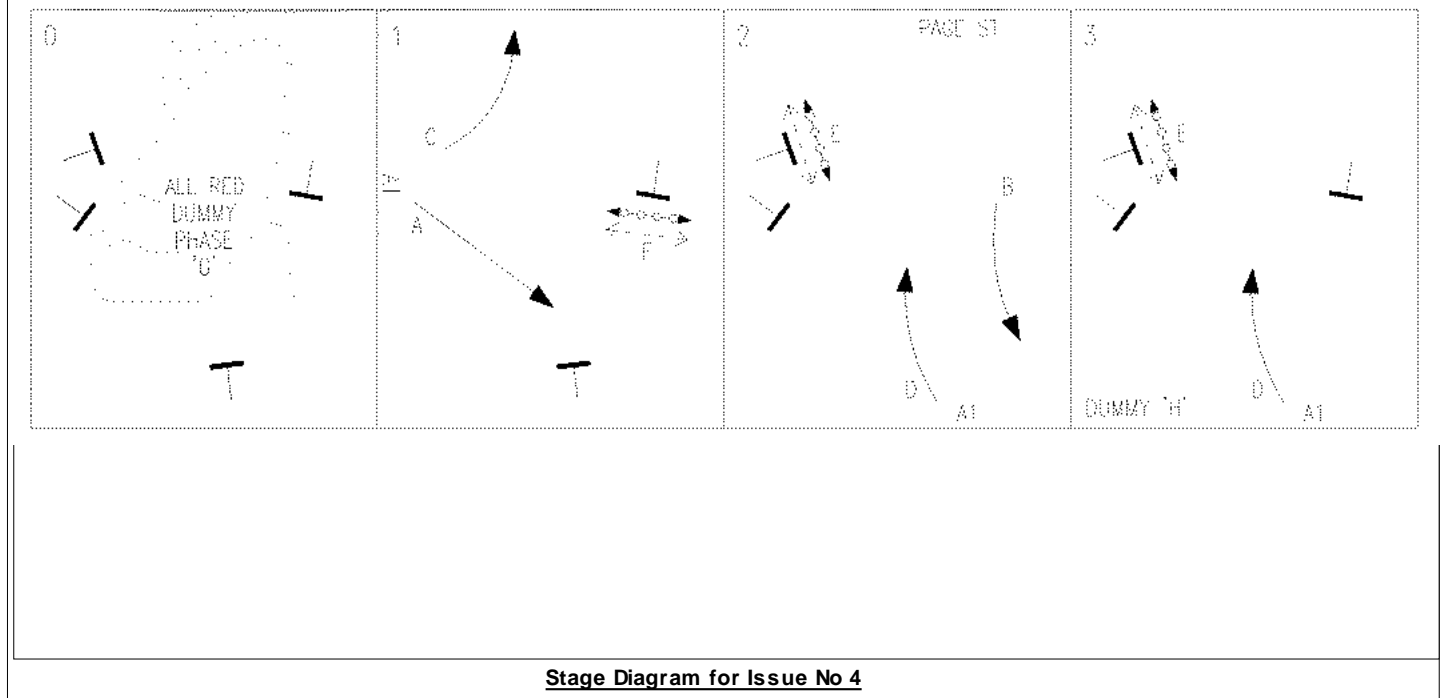


TfL Street Management

Timing Sheets

UTC Micro

London Borough Of	Grid Reference	UTC Type	Bt Line No	Issue	Date Implemented	Initials	Site Number
BARNET	522304/190727	NOR8	'SEE 30/188'	5	13-JAN-2015	NEWELLM	30/000152/T
Address							
A1 WATFORD WAY - PAGE STREET - FIVE WAYS CORNER							
PDU Rate	Controller Installed Date	Engineer Responsible	Linking				
75	29-SEP-1999	SIG_KSS					
Computer	Control Group	Control Subgroup	Concentrator Subgroup	Prom Number	Firmware	Controller Type	
Takeover Date				EM27744 V4	PB322-8	STCL T400 MK 1 UTC Cntr with Integral Facilities	
07-JUL-2012							



TfL Drg No	HI Signal	YES						
Sig Drg No	Dimming	Volts						
Word	Bit	01	02	03	04	05	06	07
Type	CONTROL	1F1	1F2	1F3			1TS	
28	REPLY1	1G1	1G2	1G3	1RF1	1RF2	1RT	1JL



Phase Timings						
Phase	Min	Ext	Max	Ped Black	Phase Type	Alternative Maximums
A	7				T	
B	7				T	
C	7				T	
D	7				T	
E	6			3	P	
F	6			7	P	
G	3				D	
H	1				D	

Issue	Site Number
5	30/000152/T

Phase Intergreens

		To Phase							
		A	B	C	D	E	F	G	H
From Phase	A		7		8			3	8
	B	5					5	3	3
	C				5	7		3	7
	D	7		9			10	3	
	E			8				3	
	F		14		14			7	14
	G	2	2	2	2	2	2		2
	H	7	2	9			10	3	



TfL Street Management

Timing Sheets

UTC Micro

Mode Priority	CLF PLAN0		CLF PLAN1		CLF PLAN2		CLF PLAN3	
	Time Of Day	Operation Type	Time Of Day	Operation Type	Time Of Day	Operation Type	Time Of Day	Operation Type
UTC								
Hand Control								
Manual Select	22:00	7	06:30	9	09:30	9	15:30	9
Hurry (1)					19:30	9		
Hurry (2)					08:00	0		
VA					08:30	1		
CLF								
Fix Time								
Bus Priority								
	Cycle Time		Cycle Time		Cycle Time		Cycle Time	
	60		80		70		90	

Issue	Site Number
5	30/000152/T

Phase Delays															
Stage From	Stage To	Phase Associated	Delay Period	Stage From	Stage To	Phase Associated	Delay Period	Stage From	Stage To	Phase Associated	Delay Period	Stage From	Stage To	Phase Associated	Delay Period
1	2	A	6												
1	2	C	7												
2	1	B	3												

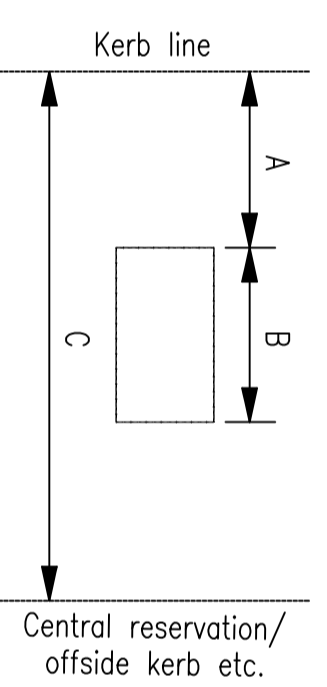
DET	Function	Phase	DET	Function	Phase	DET	Function	Phase	DET	Function	Phase
PB P1	WLO	F	SD0	SCT	A						
PB P2	WLO	F	SD1	SCT	A						
PB P3	WLO	F	SD2	SCT	A						
PB P5	WLO	F	SD3	SCT	A						
PB P6	WLO	F									
PB P7	WLO	E									
PB P8	WLO	E									
PB P9	WLO	E									
PB P10	WLO	E									

Issue	Historical Amendments
5.2	RTA POLE 14 - POLE & RAG/A REPLACED 13-JAN-2015 KINGA
5.1	EQUIPMENT ASSOCIATION FOR TCMS 2. 1 AUGUST 2014. MARVIN JONES
5	INITIAL SFM EQUIPMENT VERSION LOOP UPLOAD. 10-SEP-2014. NEWELLM
4	SITE CONVERTED TO UTC - NEW PROM (TFL SPEC ISSUE 3) INSTALLED & UTC COMMISSIONED. SCOOT LOOPS COMMISSIONED. 07-JUL-2012 TAVAREST
3	SCOOT LOOPS CUT & TESTED. 20-DEC-2011 DONCASTERR
2.1	EQUIPMENT & RAM CHANGES FOUND ON SITE UPDATED AS PER SITE VISIT. 13-JAN-2011 DTA_BM
2	IMU ON LINE. 04-OCT-06 FC_PVG
1.2	3 ASPECTS, W/INDICATOR LEGENDS, LANTERN MANUFACTURERS AND MICROSWITCH SENSOR ASSEMBLIES CORRECTED AS PER SITE VISIT. 10-JAN-03 FCC BJM

Remarks	
Version No	
Linking	CLF TO 30/188 & 30/149. BT LINE LOCATED AT 30/188.
Comments	TFL SPEC ISSUE 3. **SUMCHECK: ENC63FE06 & ENC63FFCF.**
Det Strategy	PUSH BUTTONS / TACTILES - SCOOT LOOPS
Amendment	RTA POLE 14 - POLE & RAG/A REPLACED 13-JAN-2015 KINGA

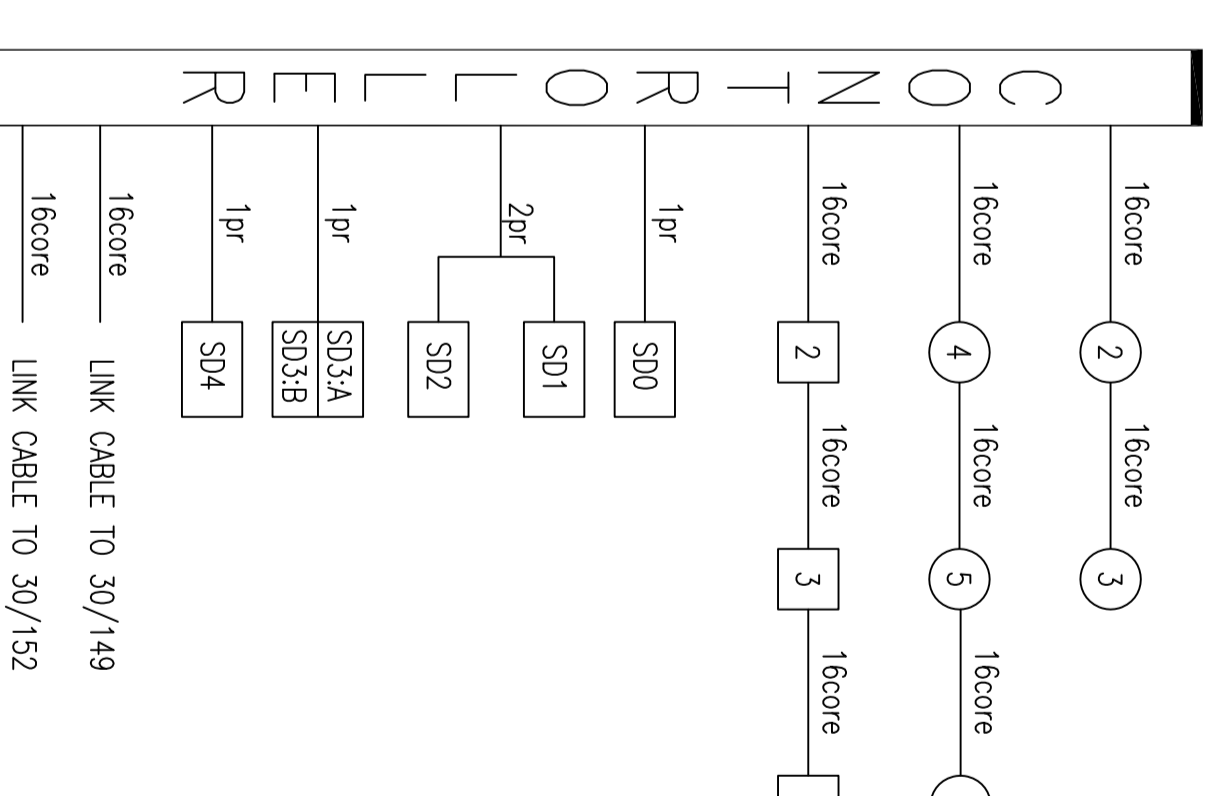
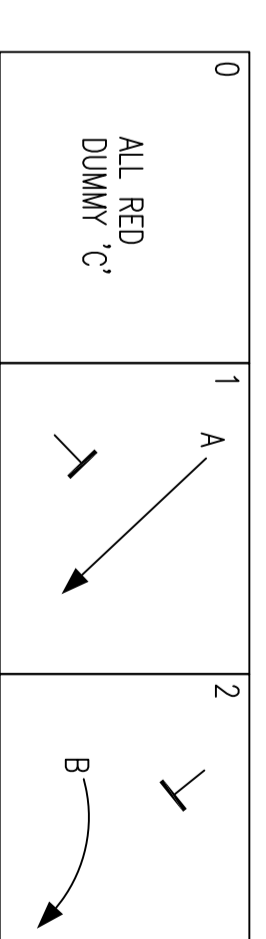


LOOP NUMBER	OTU NUMBER	LOOP DIMENSION & POSITION (METRES)			DISTANCE TO STOPLINE (METRES)	BUS DETECTOR CONNECTION SERIES	REFERENCE POINT	DISTANCE TO LOOP LEADING EDGE	PROPOSED OR EXISTING
		A	B	C					
S00	30/188	10.0	1.0	12.1	N/A	—	5.7	EXISTING	
S01	30/188	2.0	3.0	9.1	41.0	—	7.8	EXISTING	
S02	30/188	7.5	1.0	9.1	37.8	—	7.8	EXISTING	
S03A	30/188	1.0	1.5	7.6	43.0	—	0.0	EXISTING	
S03B	30/188	4.5	2.0	7.6	43.0	—	0.0	EXISTING	
S04	30/188	9.6	1.5	12.2	N/A	—	8.1	EXISTING	



- NOTES
- 1 SYMBOLS ARE IN ACCORDANCE WITH CURRENT VERSION OF DRG No SIG/GEN/S/1526
 - 2 EXISTING DUCT
 - 3 EXISTING DRAWINGS
 - 4 50mm DUCT FROM CONTROLLER TO ESP
 - 5 50mm DUCT FROM CONTROLLER TO PILE
 - 6 50mm DUCT UNDER KERB TO LOOP FEEDERS
 - 7 ALL VEHICLE SIGNALS HAVE BACKING BOARDS
 - 8 ALL POLES HAVE DEMOUNTABLE POLE SOCKETS

METHOD OF CONTROL



05	07/07/12	SCOTT LOOPS COMMISSIONED Site Checked - ENG: JAT DATE: 07.07.2012	TL/SIGS-6H
04	13/01/11	PLM CORRECTION: CONTROLLER & CABLE DIAGRAM CORRECTED) P.M. ADDED TO REPLACE P.M. AS PER SITE VISIT.	TL/CCC BM
03	19/12/03	PLM CORRECTION: NOTES ABOUT ADDITIONAL POLES & SOCKETS ADDED AS PER SITE VISIT	TL - BM
02	16/06/00	MODIFICATION WORKS NIT BOX SIONS ADDED TO POLES 1, 3 & 4	TSJK 10383 KS
01	OCT 99	NEW INSTALLATION	TSJK 01656
REV	DATE	DETAILS	CONTRACT

Transport for London

Surface Transport

Traffic Directorate

Wickham House
45-47 Strand
London WC2R 0ET
Telephone 020 7222 5800

scheme L B OF BARNET

GREAT NORTH WAY A1 (U TURN) /
WAITFORD WAY A1 /
FIVEWAYS JUNCTION
TRAFFIC SIGNALS LAYOUT

date OCT 1999 scale AS SHOWN@A2

No. SLD/30/000188/05

date 13/07/2012
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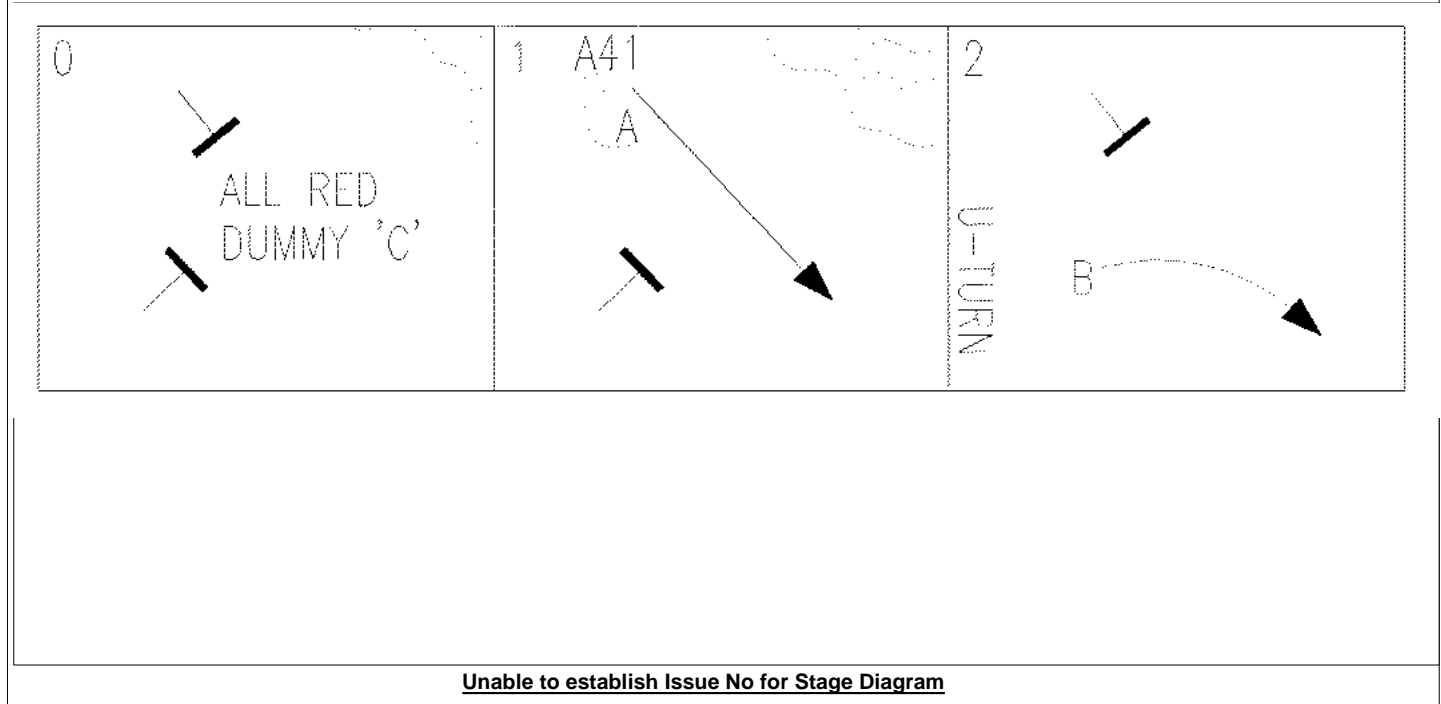


TfL Street Management

Timing Sheets

UTC Micro

London Borough Of	Grid Reference	UTC Type	Bt Line No	Issue	Date Implemented	Initials	Site Number
BARNET	522378/190665	NOR8	AXUK 386151	10	17-MAR-2015	NEWELLM	30/000188/T
Address							
GREAT NORTH WAY A1 (U TURN) - WATFORD WAY A1 - FIVE WAYS CORNER							
PDU Rate	Controller Installed Date	Engineer Responsible	Linking				
75	11-OCT-1999	SIG_KSS					
Computer Takeover Date	Control Group	Control Subgroup	Concentrator Subgroup	Prom Number	Firmware	Controller Type	
07-JUL-2012				EM27764 V4	PB322	STCL T400 MK 1 UTC Cntr with Integral Facilities	



TFL Drg No	HI Signal	YES			
Sig Drg No PRO/30/188/02	Dimming	Volts			
Word Bit	01	02	03	04	05
Type	CONTRO	1F1	1F2	1DX	1TS
29	REPLY1	1G1	1G2	1JD	1RT 1JL



Phase Timings						
Phase	Min	Ext	Max	Ped Black	Phase Type	Alternative Maximums
A	7				T	
B	7				T	
C	3				D	

Issue	Site Number
10	30/000188/T

Phase Intergreens

		To Phase		
		A	B	C
From Phase	A		7	3
	B	7		3
	C			



TfL Street Management

Timing Sheets

UTC Micro

Mode Priority	CLF PLAN1		CLF PLAN2		CLF PLAN3		CLF PLAN5		Issue	Site Number
	Time Of Day	Operation Type	Time Of Day	Operation Type	Time Of Day	Operation Type	Time Of Day	Operation Type	10	30/000188/T
UTC										
Hand Control										
Manual Select	06:30	9	09:30	9	15:30	9	22:00	7		
Hurry (1)			19:30	9						
Hurry (2)			08:00	0						
VA			08:30	1						
CLF										
Fix Time										
Bus Priority										
	Cycle Time		Cycle Time		Cycle Time		Cycle Time			
	80		70		90		60			

Phase Delays				Phase Delays				Phase Delays				Phase Delays			
Stage From	Stage To	Phase Associated	Delay Period	Stage From	Stage To	Phase Associated	Delay Period	Stage From	Stage To	Phase Associated	Delay Period	Stage From	Stage To	Phase Associated	Delay Period

DET	Function	Phase	DET	Function	Phase	DET	Function	Phase	DET	Function	Phase
BIRD3	CAL	B									
SD0	SCT	A									
SD1	SCT	A									
SD2	SCT	A									
SD3A	SCT	A									
SD3B	SCT	A									
SD4	SCT	A									

Issue	Historical Amendments
10.2	RTI POLE 5 - ALL EQUIPMENT REPLACED 17-MAR-2015 STOREYR
10.1	EQUIPMENT ASSOCIATION FOR TCMS 2. 1 AUGUST 2014. MARVIN JONES
10	INITIAL SFM EQUIPMENT VERSION LOOP UPLOAD. 10-SEP-2014. NEWELLM
9	BIRD3 INSTALLED & COMMISSIONED - ALL SNAGGING COMPLETE. 04-OCT-2012 HIGGINSG
8.1	SNAGGING RE-ALLOCATED 01-AUG-2012 TAVAREST
8	SITE CONVERTED TO UTC - NEW PROM (TFL SPEC ISSUE 3) INSTALLED & UTC COMMISSIONED. SCOOT LOOPS COMMISSIONED. 07-JUL-2012 TAVAREST
7	SCOOT LOOPS CUT & TESTED. 20-JAN-2012 DONCASTERR
6	EQUIPMENT & RAM CHANGES FOUND ON SITE UPDATED AS PER SITE VISIT. 13-JAN-2011 DTA_BM

Remarks	
Version No	
Linking	BT LINE HERE FOR 30/149 & 152
Comments	TFL SPEC ISSUE 3. **SUMCHECK: ENC63FE7C & ENC63FF76.**
Det Strategy	IRD - SCOOT LOOPS
Amendment	RTI POLE 5 - ALL EQUIPMENT REPLACED 17-MAR-2015 STOREYR

Appendix L

CLOS ASSESSMENT

Cycle Level of Service Assessment

Introduction & Background

- 1.1 Robert West has produced a Transport Assessment that supports the proposed residential development at Pentavia Retail Park in LBB. The assessment undertaken includes a Pedestrian Environment Review System(PERS) audit and a Pedestrian Comfort Level (PCL) calculation on routes leading to the site.
- 1.2 TfL has requested that cycling infrastructure on a number of links and junctions in the vicinity of the site is assessed against Cycle Level of Service (CLoS) guidance which can be found within the London Cycle Design Standards (LCDS).

Cycle Level of Services Guidance

- 1.3 The CLoS assessment is intended to set a common standard for the performance of cycling infrastructure, for cycling routes, cycling schemes. The assessment focuses on rideability of the infrastructure and the cyclist experience.
- 1.4 The CLoS assesses the infrastructure against six overarching design outcomes; safety, directness, coherence, comfort, attractiveness and adaptability. These design outcomes are made up of several factors including collision risk, journey time, wayfinding, surface quality, air quality and growth potential.
- 1.5 When undertaking the CLoS assessment each link and junction is awarded a score for each factor. The highest possible score is 100 points but they are not distributed equally between each factor. The maximum allocation within each factor is given below:
 - i. Safety – 48 points;
 - ii. Comfort – 20 points;
 - iii. Attractiveness – 12 points;
 - iv. Directness – 8 points; and
 - v. Coherence and Adaptability – 6 points each.
- 1.6 Safety is the most important consideration in the assessment with nearly half of the score weighted to it; while coherence and adaptability are given the smallest weighting of points.

Links and Junctions

- 1.7 The following links have been assessed (see **Figure 1** for locations):
 - i. The A1 between Mill Hill Circus and Greenland Road;

- ii. Flower Lane;
- iii. Bunns Lane leading to Mill Hill Broadway Rail Station;
- iv. Watling Avenue leading to Burnt Oak Underground Station; and
- v. Grahame Park Way leading to Colindale Underground Station.

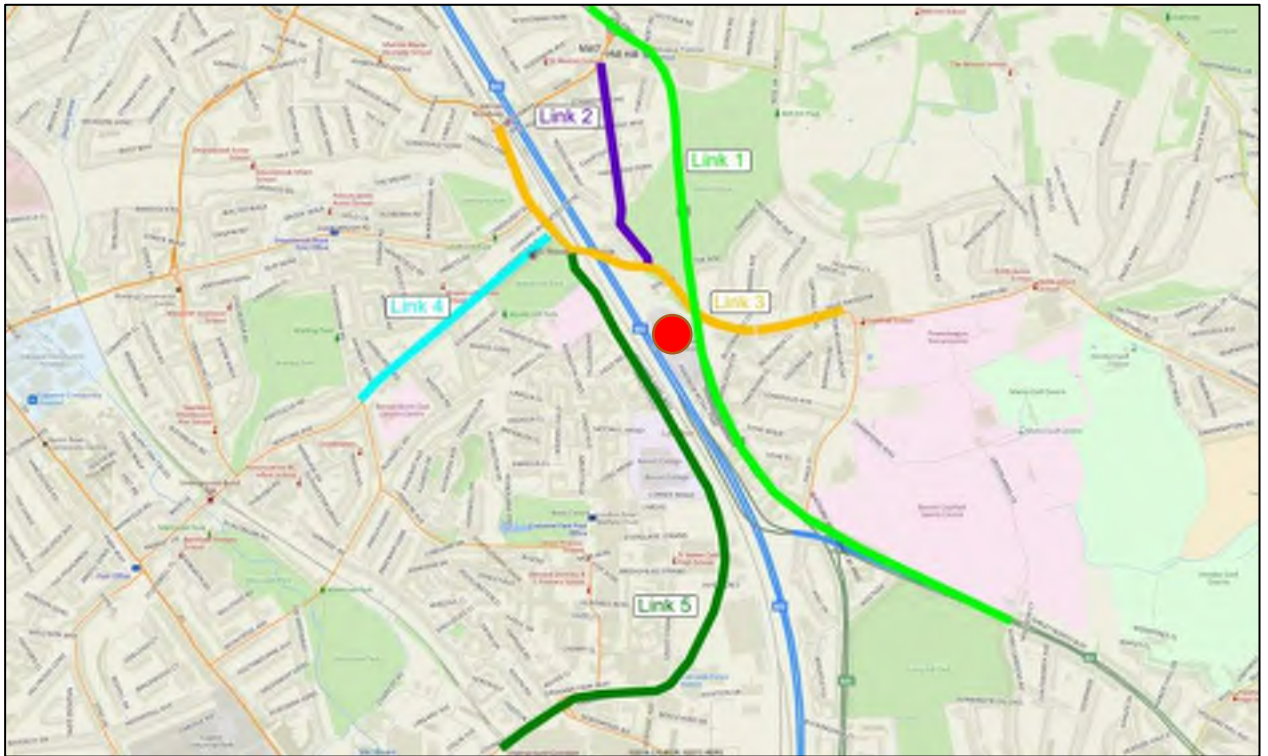


Figure 1: Links Assessed

1.8 Additionally, analysis of routes to key destinations such as shops, local services, public transport interchanges, including junctions leading to these destinations, has been undertaken. Following a review of the area the below junctions and links were added to the assessment (see **Figure 2** for locations):

- i. Page Street;
- ii. Bunns Lane junction with Grahame Park Way;
- iii. Bunns Lane junction with Watling Avenue (Woodcroft Avenue);
- iv. Mill Hill Circus;
- v. Bunns Lane junction with Flower Lane;
- vi. Bunns Lane junction with Page Street;

- vii. Station Road/Woodland Way
- viii. Tithe Walk;
- ix. Flower Lane junction with The Broadway; and
- x. Page Street junction with Chapmans Way.

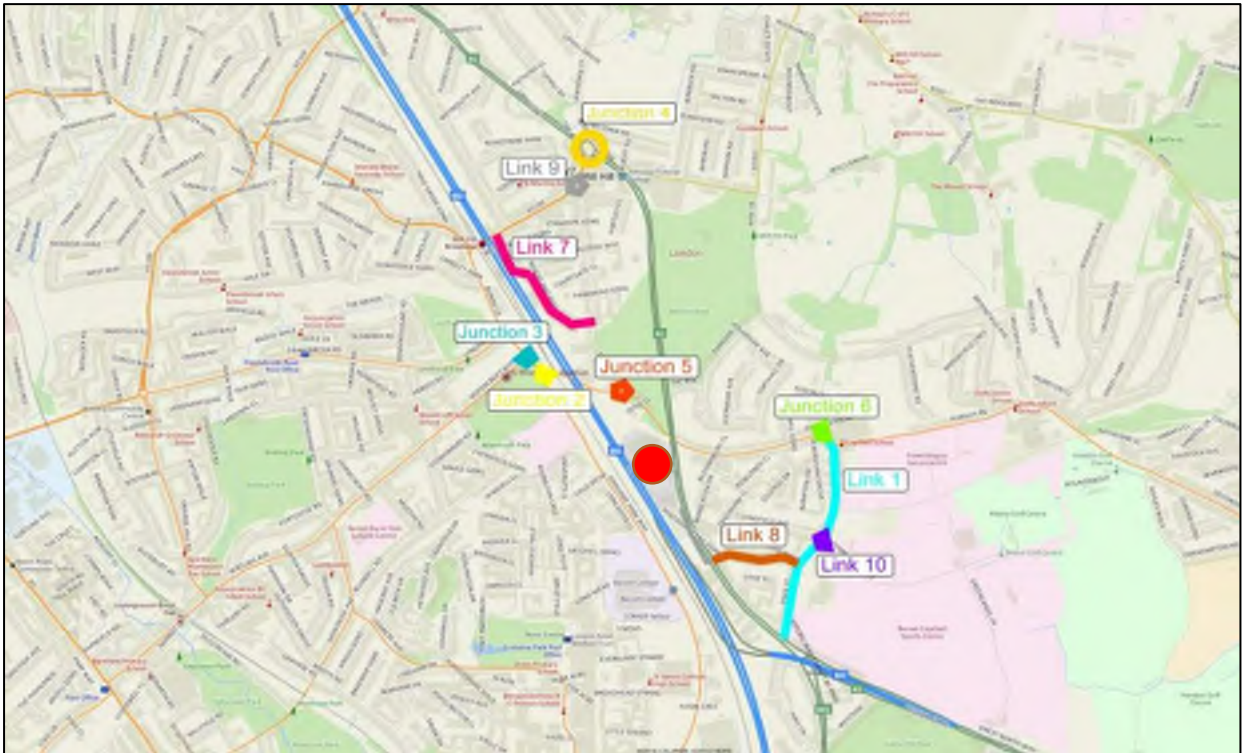


Figure 2: Additional Links and Junctions Assessed

Site Visit Observations

- 1.9 A site visit was undertaken on Tuesday 13th of December 2016 with the assessor walking along the routes and assessing them against the CLoS guidance. Site visit observations for the links and junctions are provided in the following paragraphs.

The A1 between Mill Hill Circus and Greenland Road and Mill Hill Circus Roundabout

- 1.10 The A1 and Mill Hill Circus roundabout were observed to be heavily trafficked during the site visit. There were however low levels of pedestrians and cyclists. The A1 and Mill Hill Circus provide a combined footway/cycleway enables cyclists to travel without conflict with vehicular traffic.
- 1.11 The A1 route is shared with pedestrians. Although minimal observations of pedestrians or cyclists were made during the site visit it was noted that the shared footway/cycleway is restrictive in width making passing pedestrians comfortably difficult.



Figures 3 and 4: A1 Footway/Cycleway Southbound Direction

- 1.12 There are a number of subways with ramps for cyclists providing connections between the residential and commercial areas located on either side of the A1. The subways were all well maintained and provided with good lighting.
- 1.13 Stairs and paths are provided connecting the A1 footway/cycleway and Bunns Lane close to the proposed site access in this location. The path is narrowed by the presence of foliage, and the general attractiveness of the route could be improved by provision of improved lighting.



Figures 5 and 6: Steps and Path Connecting A1 (Northbound) and Bunns Lane

- 1.14 From the southern end of the site a link is available to Grahame Park Way. Cyclists would use the bridge over the M1 located adjacent to the petrol station and then proceed through a short tunnel under the adjacent rail tracks.
- 1.15 Cyclists could use ramps and would not be required to carry their bicycle up and down stairs. It was noted that the area around the tunnel shows signs of neglect, a lack of lighting and general overlooking (passive surveillance) resulted in the tunnel and surroundings feeling unsafe particularly in hours of darkness.



Figures 7 and 8: Path and Tunnel Leading to Grahame Park Way

Flower Lane and Junction of Flower Lane with The Broadway

- 1.16 Flower Lane is a residential road that provides a connection between Bunns Lane and The Broadway. Flower Lane was observed to be lightly trafficked during site visit. The carriageway is wide and provides adequate space for cyclists. Flower Lane provides access to private driveways at frequent intervals which could negatively impact cyclists' safety due to frequency of conflicting movement.
- 1.17 The junction of Flower Lane and The Broadway is a busy junction and has the added complexity of Hartley Avenue having a junction with Flower Lane only 15m from the junction with The Broadway. The result is that drivers are required to take account of a number of varied movements, which could distract from presence of less visible cyclists.

Station Road/Woodland Way

- 1.18 Station Road is a short narrow road that lies along the M1 starting at a junction with The Broadway in the north and terminating in a priority junction with Sylvan Avenue and Woodland Way in the south. The road is narrow and provides on-street parking on the west side of the carriageway. The road was observed to be quiet and lightly trafficked and is considered comfortable and safe for cyclists.
- 1.19 Woodland Way is a residential road that starts at the junction with Station Road and Sylvan Avenue in the north and terminates at a priority junction with Flower Lane in the south east. The road is residential with frequent access to private driveways provided. The road was observed to be very lightly trafficked.

Bunns Lane Leading to Mill Hill Broadway Rail Station and Junction with Bunns Lane

- 1.20 Bunns Lane starts from a mini roundabout junction with Page Street in the east and leads to Mill Hill Broadway Rail Station. Bunns Lane connects to Grahame Park Way in a mini roundabout west of the M1 and the rail tracks. From there the road leads north to the rail station where it connects to The Broadway via another mini roundabout.
- 1.21 Bunns Lane was observed to be heavily trafficked on the north – south section that is located west of the rail tracks but lightly trafficked on the east – west section that is located east of the rail tracks and M1. The mini roundabout junctions along Bunns Lane were observed as being busy. The remaining junctions are priority junctions which have sufficient spaces / corner radii with good visibility to allow negotiation by cyclists.
- 1.22 In terms of comfort and safety it is the opinion of the assessor that the east – west section of Bunns Lane is perceived as preferable for cycle comfort by comparison to the north – south section due to the differing levels of traffic observed. It is noted, however, that the east – west section has frequent driveways and parking is provided on footway which in conjunction with each other which introduces potential for conflict and reduced visibility as parked cars block visibility to driveways.



Figures 9 and 10: Bunn's Lane, East-West Section and North-South Section, Respectively

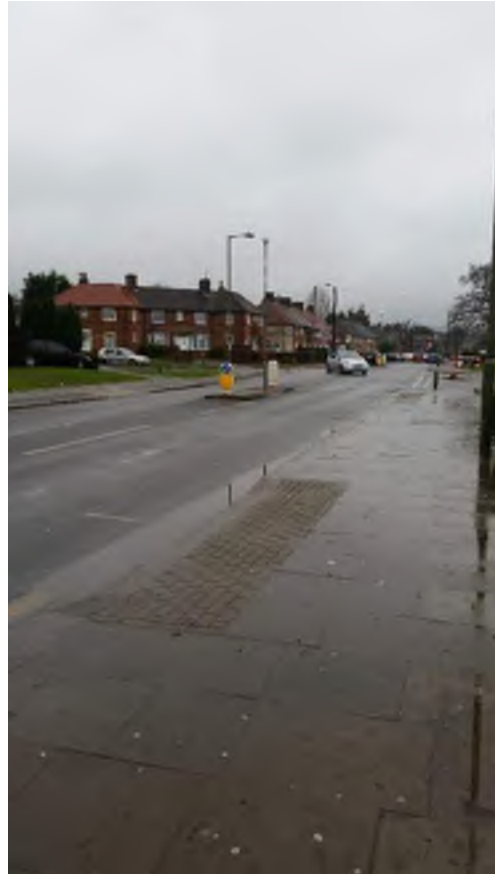
1.23 Mill Hill Broadway Station provides covered cycle parking close to the station entrance. Access to the cycle parking is gained from The Broadway or Station Road and cyclists can either get off their bicycle and walk their bicycle down the stairs from Station Road or cycle directly towards them from the Broadway. This would however, require the cyclists to go through the bus station that is provided adjacent to the rail station entrance. A CCTV camera was observed looking over the cycle parking area.



Figures 11 and 12: Cycle Storage at Mill Hill Broadway Rail Station

Watling Avenue/Woodcroft Avenue

- 1.24 Watling Avenue/Woodcroft Avenue was assessed from Burnt Oak Underground Station towards the junction with Bunns Lane. Burnt Oak Underground Station is served by the northern line, Edgware Branch. Two Sheffield cycle stands are located outside the station adjacent to a bus stop.



Figures 13 and 14: Watling Avenue/Woodcroft Avenue Cycle Parking and Traffic

- 1.25 Watling Avenue/Woodcroft Avenue was observed to be lightly trafficked and wide providing adequate space for cyclists.

Page Street, Tithe Walk and Page Street Junction with Chapmans Way

- 1.26 Page Street is a busy road that leads from Flower Lane to the A1 north of Fiveways Junction. The road has a gradient that is steep in parts and this is unlikely to be attractive for cyclists for this reason.

- 1.27 The junction of Page Street and Chapmans Way was observed to lightly trafficked. Page Street is wide at the junction and visibility and legibility is good.



Figure 15: Junction of Page Street and Chapman Way seen from Longfield Avenue

- 1.28 Tithe Walk is a short residential street that lies between the A1 and Page Street. The street is narrow with parking on both sides of the road and is at an incline down towards the A1. Adjacent to the junction with the A1 is a subway providing access to the west side of the A1 approximately 190m south of the proposed development site.



Figures 16 and 17: Tithe Walk and adjacent Subway

Grahame Park Way leading to Colindale Underground Station

- 1.29 Grahame Park Way starting from the mini roundabout junction with Bunns Lane in the north and leading to Colindale Underground Station was assessed during the site visit.
- 1.30 Grahame Park Way provides mandatory with-flow cycle lanes which are marked on both sides of the carriageway. The lanes are approximately 1.2m wide and have no time restrictions and as such are assumed to be in operation continually.
- 1.31 Parking was observed along parts of the carriageway which blocked the cycle lanes. Additionally, cones were placed on the section of the cycle lane. No signage was found to indicate why the cones were placed there.



Figures 18 and 19: Grahame Park Way

- 1.32 Colindale Underground Station has approximately 11 Sheffield type cycle stands to the rear of the entrance to the station. The cycle stands are not covered and no CCTV cameras were observed overlooking them.

CLoS Summary

- 1.33 **Table 1** provides a summary of the scoring for each link and junction that was assessed according to the CLoS methodology.

Mill Hill Development, LB Barnet

Links and Junctions	Safety	Directness	Coherence	Comfort	Attractive-ness	Adaptability	Total Score
Watling Road/Woodcroft Avenue	16	4	2	13	6	3	44
Bunns Lane	12	5	2	12	5	5	41
A1 SB	44	7	3	16	2	1	73
A1 NB	44	7	3	16	2	1	73
Grahame Park Way	14	4	2	13	5	4	42
Flower Lane	24	5	2	14	6	5	56
Page Street	15	4	2	14	6	3	44
Station Road/Woodland Way	27	5	2	14	5	4	57
Junction Bunns Lane / Grahame Park Way	15	2	2	13	4	3	39
Junction of Bunns Lane / Woodcroft Avenue	15	2	2	13	4	3	39
Mill Hill Circus	44	7	1	12	3	3	70
Tithe Walk	36	4	3	12	6	2	63
Junction of Bunns Lane / Flower Lane	19	4	2	12	6	3	46
Junction of Bunns Lane / Page Street	16	4	2	13	5	3	43
Junction of Flower Lane / The Broadway	17	4	2	12	5	3	43
Junction of Page Street / Chapman Way	16	4	2	13	5	3	43

Table 1: CLoS Assessment Score for Each Link and Junction

- 1.34 **Table 1** indicates that links A1 northbound and A1 southbound along with the Mill Hill Circus roundabout junction perform the best with the highest scores, 73,73 and 70 respectively out of a 100. This is because the A1 and Mill Hill Circus junction provide cycle facilities that are separate from traffic and are therefore safer than other links and junctions within the assessment area that do not provide segregation from traffic.
- 1.35 Bunns Lane and its junctions with Grahame Park Way and Woodcroft Avenue have the lowest scores. The link and the two junctions scored low on safety mainly due to heavy volume and speed observed.
- 1.36 The area in general has adequate permeability for cyclists providing direct routes and connections good connections.
- 1.37 It is recognised that the A1, M1 and the rail track do decrease the permeability through the area, however, routes are provided via either subways or footbridges that provide east-west connections. Only a few cyclists were observed during the site visit but it is noted that the conditions were both wet and cold which could have influenced the observations made.

Recommendations for Improvements

- 1.38 The following paragraphs present suggestions for improvements intended to improve the overall comfort of the cycling environment and remove the barriers which might reduce the propensity to cycle.
- 1.39 Potential improvements identified are:
- i. The mandatory cycle lanes on Grahame Park Way could be widened and extended to include the north-south section of Bunns Lane leading to the junction with Lyndhurst Avenue. This would be subject to further investigation to determine if suitable carriageway width exists, although this section appears wide. It appears unlikely anything could be extended further north due to the narrowing over a bridge structure immediately north of this junction;
 - ii. Enforcement of the cycle lane on Grahame Park Way is recommended to prevent parking / utilisation of the facility;
 - iii. The path that links Bunns Lane to the A1 immediately opposite the proposed site access onto Bunns Lane could be improved by definition of a regular maintenance schedule, to cut back foliage which currently restricts width and leads to the perception of being enclosed;
 - iv. The path that links Bunns Lane to the A1 immediately opposite the proposed site access onto Bunns Lane could further be improved by a greater level of lighting, although achieving the feasibility of achieving the required electrical connections and luminance would be subject to further investigation;

- v. The shared footway/cycleway on both sides of the A1 is in adequate condition and the paving is in a generally good condition. However, definition of a regular maintenance schedule to cut back foliage would improve the effective width of the path;
- vi. The tunnel under the railway lines which links the southern end of the site to Grahaeme Park Way was noted to feel unsafe due to lack of lighting, general run-down appearance, and lack of passive surveillance. More regularly litter collection, painting of the tunnel in a light colour (i.e. white) and or upgrading the lighting would all improve comfort of the link;
- vii. Wayfinding signage for cycle route number 1 is present at the junction of A1 and Page Street and adjacent the pedestrian/cycle bridge over A1 which is located by the junction with Greenland Road. The signage indicates distance and direction to Hendon. Wayfinding signage is also present at Watling Avenue at the junction with Orange Hill Road. No other wayfinding signage was observed in the area and it is recommended that wayfinding signage indicating direction and distance to key places such as Burnt Oak and Colindale Underground Stations, Mill Hill Broadway Rail Station and The Broadway (the local high street) located at junctions and along links would improve the coherence of cycling in the area. Examples of locations that could be considered as part of a detailed study are:
 - a. The mini roundabout connecting Bunns Lane and Grahame Park Way;
 - b. Junction of Flower Lane with Bunns Lane;
 - c. The mini roundabout connecting Bunns Lane and Page Street;
 - d. At Mill Hill Circus;
 - e. Junction of Page Street and A1;
 - f. Along Grahame Park Way, outside Colindale Station and additional signage adjacent to the tunnel connecting to the M1; and
 - g. Outside Burnt Oak Station.

Appendix M

BUS STOP AUDIT

Bus Stop Audit Report

Introduction

- 1.1 This note has been produced to provide additional information in relation to the existing bus stop infrastructure surrounding the proposed development. This report has been undertaken in response to requests made by TfL.
- 1.2 A Pedestrian Environment Review System (PERS) audit was undertaken as part of the Transport Assessment (TA). This report provides an in-depth audit of the bus stops in the study area using the 'Accessible bus stop design guidance'.
- 1.3 The document indicates that the bus stop environment, the bus stop layout and the bus stop location are key indicators of the efficiency of a bus stop. The features for the three indicators are presented in **Figures 1, 2 and 3**.

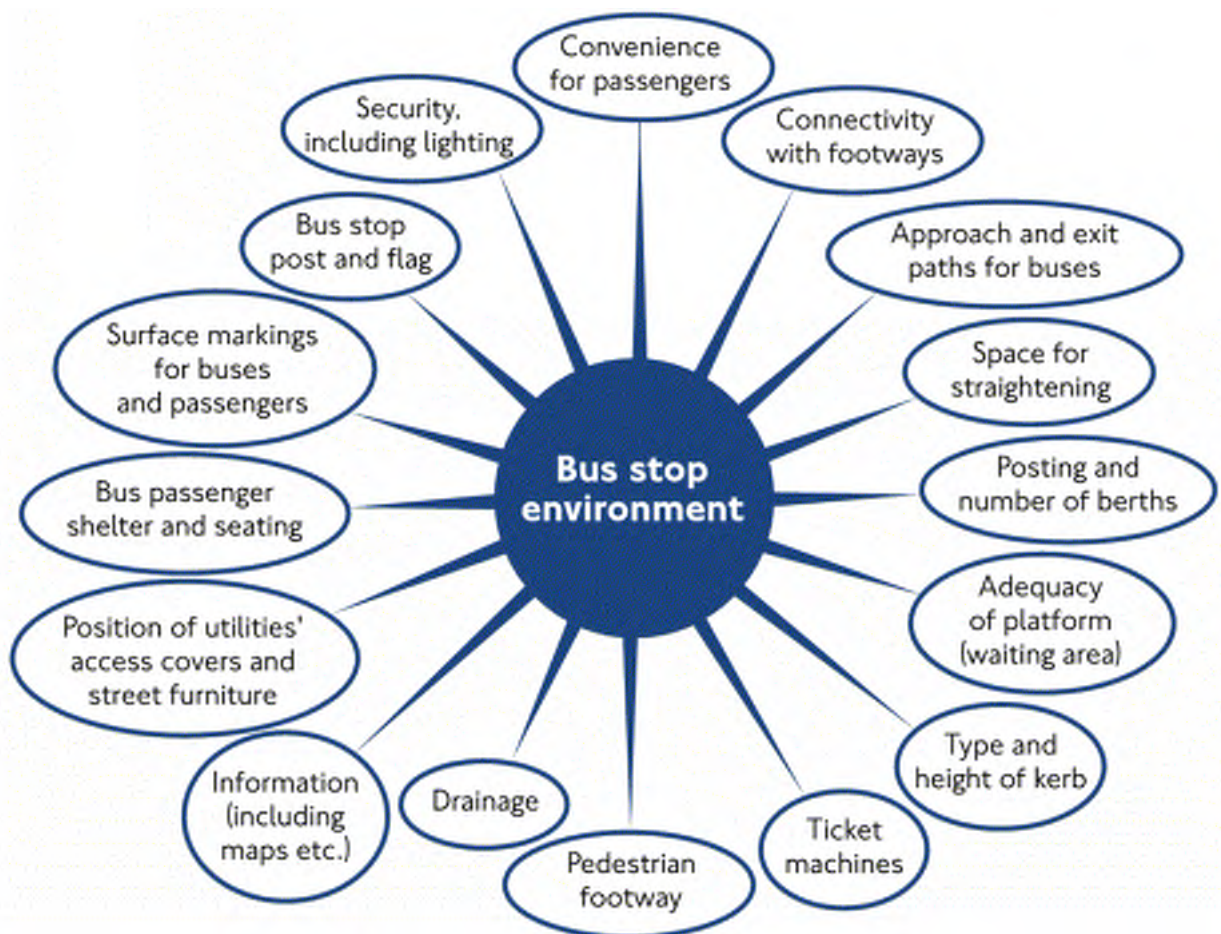


Figure 1: Features of the bus stop environment



Figure 2: Bus stop layout objectives



Figure 3: Considerations for bus stop locations

Bus Stop Accessibility Assessment

- 1.4 The study area comprises 10 bus stops. These are the bus stops on Watling Avenue/Woodcroft Avenue, Bunn's Lane and on the A1 Watford Way.
- 1.5 **Figure 4** shows the location of the stops relative to their reference numbers given above.



Figure 4: Bus Stop Locations

Bus Stop 1: QA – Burnt Oak Leisure Centre

- 1.6 This bus stop is located on Watling Avenue, opposite to the Burnt Oak Leisure Centre, and is illustrated in **Figure 5**.



Figure 5: Bus Stop 1

PERS Summary

- 1.7 This bus stop received the highest average score on the PERS audit of 1.3. The bus stop has scored high on infrastructure to the waiting area, information to and at the waiting area, safety perception, lighting and waiting area comfort.
- 1.8 It had received low scores on quality of environment and security measures. The main reason for the low score is due to the lack of aesthetic and soft landscaping as the bus stop is located on a residential road. Also, it was observed that there was no formal surveillance.

Bus Stop Accessibility

- 1.9 The bus stop scores well in relation to environmental, layout and location features set in the TfL guidelines.
- 1.10 The bus stop is located near the leisure centre and provides service to the users of the facility. It is located near a number of uncontrolled crossing points (and the junction between Watling Avenue, Chessingham Road and Montrose Avenue) which provide good permeability to pedestrians.
- 1.11 It is located on a predominantly straight road which ensures good visibility for both pedestrians and bus drivers at the time of the arrival of the bus.
- 1.12 The location of the post and flag at the bus stop is near the centre of the bus cage and enables bus users to gather at that point and access the vehicle without difficulty.
- 1.13 The footway on which the bus is located is relatively wide and ensures that pedestrians can stand at a safe distance from the road space while waiting.
- 1.14 The bus stop provides information, shelter (at the back of the kerb), seating, and a flag. Street lighting is also located near the facility. The bus stop cage is visible to both drivers and pedestrians. A drainage system is also located at the bus stop.
- 1.15 It is noted that, as highlighted during the PERS assessment, the bus stop facility lacks formal surveillance. Live information on bus arrivals and a ticket machine are also not present.
- 1.16 The existing bus stop cage was noted to extend over a residential driveway.

Bus Stop 2: Goldbeaters Grove (westbound)

- 1.17 This bus stop is located on Watling Avenue, south-west of the junction with Goldbeaters Grove, and provides westbound services. It is illustrated in **Figure 6**.



Figure 6: Bus Stop 2

PERS Summary

- 1.18 This bus stop received an average score on the PERS audit of 1.0. The bus stop has scored high on infrastructure to the waiting area, information to and at the waiting area, lighting and waiting area comfort.
- 1.19 It had received low scores on safety perception, security measures and quality of environment. The main reason for the low score is due to the lack of aesthetic and soft landscaping as the bus stop is located on a residential road. Signs of graffiti and antisocial behaviour were observed on the bus stop which could be due to the lack of formal security in the area.

Bus Stop Accessibility

- 1.20 Overall, the bus stop scores well in relation to environmental, layout and location features.
- 1.21 The bus stop is located near the junction between Watling Avenue and Goldbeaters Grove and near a formal zebra crossing facility which provides good permeability for pedestrians. The bus stop is located on a predominantly straight road which ensures good visibility for both pedestrians and bus drivers at the time of the arrival of the bus.
- 1.22 The footway on which the bus is located is relatively wide and ensures that pedestrians can stand at a safe distance from the road space while waiting.
- 1.23 The bus stop is provided with information, shelter at the front of the kerb, seating, flag, bus cage and double

yellow lines on its north-eastern side. Street lighting is also located near the facility.

- 1.24 The bus stop cage is visible to both drivers and pedestrians. Live information on bus arrivals is also provided at this stop.
- 1.25 The post and flag are located adjacent to the existing bin and bus shelter. This arrangement limits space for bus users to access the vehicle from their respective waiting area. A ticket machine and formal surveillance are not provided at this bus stop.

Bus Stop 3: Goldbeaters Grove (eastbound)

- 1.26 This bus stop is located on Watling Avenue, north-east of the junction with Goldbeaters Grove. It provides eastbound services and is illustrated in **Figure 7**.



Figure 7: Bus Stop 3

PERS Summary

- 1.27 This bus stop received a low average score on the PERS audit of 0.4. The bus stop has scored high on infrastructure to the waiting area, information to and at the waiting area, lighting, maintenance and cleanliness and waiting area comfort.
- 1.28 It had received low scores on safety perception, security measures and quality of environment. The main reason for the low score is due to the lack of aesthetic and soft landscaping as the bus stop is located on a

residential road. Signs of graffiti and vandalism were observed on the bus stop which could be the cause of the antisocial behaviour due to the lack of formal security in the area.

Bus Stop Accessibility

- 1.29 The bus stop scores well in relation to environmental, layout and location features in accordance with relevant TfL guidelines.
- 1.30 Similarly to bus stop 3, this bus stop is located near the junction between Watling Avenue and Goldbeaters Grove and near the zebra crossing facility indicating good pedestrian permeability. The bus stop on Watling Avenue, a straight road that ensures good visibility for pedestrians and bus drivers.
- 1.31 The footway on which the bus is located is relatively wide and ensures that pedestrians can stand at a safe distance from the road space while waiting.
- 1.32 The bus shelter is located in the middle of the bus cage and at the back of the footway. The bus flag is located at the end of the cage and pedestrian can access the vehicle without obstructions after gathering at this point.
- 1.33 The bus stop provides information, shelter at the front of the kerb, seating, a flag, bus cage and double yellow lines provided on its north-eastern side. Street lighting is located near the bus stop. The bus stop cage is visible to both drivers and pedestrians. Live information on bus arrivals is also provided.
- 1.34 A ticket machine and formal surveillance are not provided at this bus stop.

Bus Stop 4: Bunns Lane (northbound)

- 1.35 This bus stop is located on Bunns Lane and provides northbound services. The bus stop is illustrated in **Figure 8**.



Figure 8: Bus Stop 4

PERS Summary

- 1.36 This bus stop received a low average score on the PERS audit of -0.7. The bus stop has scored high on infrastructure to the waiting area and lighting.
- 1.37 It had received low scores on information to and at the waiting area, boarding public transport, safety perception, security measures and quality of environment. The bus stop does not feature a shelter and seating area. Signs of graffiti and litter were observed in the vicinity. Formal surveillance is not present.

Bus Stop Accessibility

- 1.38 The footway at this bus stop is relatively wide and provides enough space for pedestrians to gather before accessing the bus. The bus flag is located at the back of the footway.
- 1.39 The bus stop is located on a section of Bunns Lane that is straight and provides good visibility for drivers and pedestrians. It is located in the vicinity of a number of uncontrolled crossing facilities which provide good pedestrian permeability.
- 1.40 Street lighting and a drainage infrastructure are located near the bus stop.
- 1.41 The facility lacks a bus cage shelter, seating, and live information. A ticket machine and formal surveillance are not provided at this bus stop.

Bus Stop 5: Bunns Lane (southbound)

1.42 This bus stop is located on Bunns Lane and provides southbound services. The bus stop is illustrated in **Figure 9**.



Figure 9: Bus Stop 5

PERS Summary

- 1.43 This bus stop received an average score on the PERS audit of 0.85. The bus stop has scored high on infrastructure to the waiting area, information to and at the waiting area, boarding public transport, safety perception, lighting, maintenance and cleanliness and waiting area comfort.
- 1.44 It had received low scores on security measures and quality of environment. Graffiti and no formal surveillance were observed.

Bus Stop Accessibility

- 1.45 The bus stop is located on Bunns Lane between the mini-roundabout with Lyndhurst Avenue and the junction with Woodcroft Avenue. The bus stop is located opposite of Bus Stop 4 and in the vicinity of a number of uncontrolled crossing point that provide good pedestrian permeability. This section of the road is relatively straight and it ensures that pedestrians and drivers have good visibility.
- 1.46 The facility provides shelter and seating facilities at the kerb, along with an adjacent bus flag. It also provides information such as maps and bus timetables.

- 1.47 The facility lacks a bus cage, with only single yellow lines located in front of the bus stop.
- 1.48 The footway on which the bus stop is located is narrow, which is constrained further due to the bus shelter.
- 1.49 A ticket machine and formal surveillance are not provided at this bus stop. It is noted that the office located adjacent to the bus stop could represent a form of passive surveillance, although this would not occur outside of the offices operational hours.

Bus Stop 6: Bunns Lane Bridge (westbound)

- 1.50 This bus stop is located on Bunns Lane, near the flyover with Watford Way, and provides westbound services. The bus stop is illustrated in **Figure 11**.



Figure 11: Bus Stop 6

PERS Summary

- 1.51 This bus stop received a low average score on the PERS audit of -0.7. The bus stop has scored high on infrastructure to the waiting area and lighting.
- 1.52 It had received low scores on information to and at the waiting area, boarding public transport, safety perception, security measures and quality of environment. The bus stop features a shelter and seating area. Signs of graffiti and litter were observed. Soft landscaping, aesthetic and formal surveillance are not present.

Bus Stop Accessibility

- 1.53 The bus stop is located on a wide footway which enhances pedestrian comfort.

- 1.54 It is noted that the cage is approximately 20-24m in length and has single yellow lines located on both sides.
- 1.55 Parking at this location does not occur on the road (on either side of the cage) or footway.
- 1.56 The bus stop is located near the A1 Watford Way, which can be accessed by pedestrians from the stairs or ramp that link it to Bunns Lane. The bus stop is located in the vicinity of an uncontrolled crossing point which enables pedestrians to access both sides of Bunns Lane.
- 1.57 The bus stop is provided with shelter, seating and bus timetables. The bus flag is located adjacent to the bus shelter. Pedestrians can gather at this location without obstructions before accessing the bus.
- 1.58 Lighting is provided on the other side of the carriageway, although not on the footway where the bus stop is located. A ticket machine and formal surveillance are not provided at this bus stop.

Bus Stop 7: Bunns Lane Bridge (eastbound)

- 1.59 This bus stop is located on Bunns Lane, opposite Bus Stop 6 and provides eastbound services. The bus stop is illustrated in **Figure 12**.



Figure 12: Bus Stop 7

PERS Summary

- 1.60 This bus stop received an average score on the PERS audit of 0.85. The bus stop has scored high on infrastructure to the waiting area, information to and at the waiting area, boarding public transport, safety perception, lighting, maintenance and cleanliness and waiting area comfort.
- 1.61 It had received low scores on security measures and quality of environment. Graffiti and no formal surveillance were observed.

Bus Stop Accessibility

- 1.62 The bus stop is located near an uncontrolled crossing point which enables pedestrian movement on both sides of Bunns Lane. Similarly to Bus Stop 6, pedestrians can access the A1 Watford Way via the stairs or ramp located under the overpass.
- 1.63 The bus stop is provided with a bus cage and a post with flag. Pedestrians are able to gather at this location and access the bus without difficulty. The bus stop also includes bus timetable information.
- 1.64 The footway on which the bus is located is wide and ensures that pedestrians can stand at a safe distance from the road space while waiting.
- 1.65 Bunns Lane is relatively straight at this location which provides good visibility for pedestrians and drivers.
- 1.66 Street lighting is provided on the footway opposite the bus stop.
- 1.67 The bus stop does not include a shelter, ticket machine or formal surveillance. It is noted that passive surveillance is present in the form of local residential properties.

Bus Stop 8: Copthall Gardens, Page Street (westbound)

- 1.68 This bus stop is located on Bunns Lane, near the junction with Copthall Gardens, and provides westbound services. The bus stop is illustrated in **Figure 13**.



Figure 13: Bus Stop 8

PERS Summary

- 1.69 This bus stop received a low average score on the PERS audit of -0.1. The bus stop has scored high on lighting and quality of environment.
- 1.70 It had received low scores on infrastructure to the waiting area, information to and at the waiting area, boarding public transport, safety perception, security measures and maintenance and cleanliness. The bus stop did not provide a map or real time information. Signs of graffiti and litter were observed. Formal surveillance is not present.

Bus Stop Accessibility

- 1.71 The bus stop is located between the junctions with Colenso Drive and Cophall Gardens. It includes a bus cage, flag information, shelter, bus timetables and seating facilities. The shelter is located at the centre of the bus cage. The presence of the bus cage and single yellow lines (on both sides of the cage) prevents parking on the road.
- 1.72 The footway on which the bus stop is located is wide which enhances pedestrian comfort while waiting for the bus. The bus stop is located on a high kerb which enables the bus to be level with the footway during collection.
- 1.73 Street lighting is provided on the footway opposite the bus stop.

1.74 It is noted that the bus stop is not located in the vicinity of any crossing facility, limiting the comfort of pedestrian accessibility.

1.75 The bus stop does not include a ticket machine or formal surveillance.

Bus Stop 9: Copthall Gardens, Page Street (eastbound)

1.76 This bus stop is located on Bunns Lane, near the mini-roundabout with Page Street. It provides eastbound services. The bus stop is illustrated in **Figure 14**.



Figure 14: Bus Stop 9

PERS Summary

1.77 This bus stop received an average score on the PERS audit of 0.8. The bus stop has scored high on infrastructure to the waiting area, boarding public transport, safety perception, lighting, quality of environment, maintenance and cleanliness and waiting area comfort.

1.78 It had received low scores on information to the waiting area and security measures. The bus stop did not provide a map or real time information. Signs of graffiti and litter were observed. Formal surveillance is not present.

Bus Stop Accessibility

- 1.79 The bus stop is located in the vicinity of the zebra crossing facility at the mini roundabout between Bunns Lane and Page Street. The crossing point provides pedestrians with good accessibility.
- 1.80 The bus stop provides a bus cage, flag information, shelter, bus timetables and seating facilities. The shelter is located at the end of the bus cage and faces inward. The presence of the bus cage and single yellow lines (on both sides of the cage) prevents parking on the road.
- 1.81 It is noted that the bus cage covers a local driveway.
- 1.82 The bus stop does not include a ticket machine or formal surveillance.

Bus Stop 10: QZ - A1 Watford Way

- 1.83 This bus stop is located on Watford Way, outside the Pentavia Retail Park. It provides northbound services.

PERS Summary

- 1.84 This bus stop received a low average score on the PERS audit of 0.1. The bus stop has scored high on Information to the waiting area, boarding public transport, lighting and waiting area comfort.
- 1.85 It had received low scores on infrastructure to the waiting area, information at the waiting area, security measures, quality of environment and maintenance and cleanliness. Signs of graffiti, litter and vandalism were observed on the bus stop which could be the cause of the antisocial behaviour due to the lack of formal security in the area.

Bus Stop Accessibility

- 1.86 This bus stop provides a bus cage in the form of a layby. It provides a bus shelter set back from the kerb and includes a flag, bus timetables and seating. The wide footway on which the bus stop is located ensures enough space for pedestrians when waiting for the bus.
- 1.87 The subway located on Watford Way ensures connectivity between both sides of the road. Street lighting is also present.
- 1.88 Although Watford Way is relatively straight, the presence of various signs can block the visibility of pedestrians when waiting at the bus stop.
- 1.89 The bus stop does not include a ticket machine or formal surveillance.

Recommendations for Improvements

- 1.90 The following paragraphs present suggestions for improvements intended to improve the overall comfort of bus users within the local area.

Security Surveillance

- 1.91 The majority of the bus stops are located in an area where there is a lack of formal surveillance. It is understood that informal surveillance such as 'Neighbourhood Watch' operate on residential roads, such as Watling Avenue / Woodcroft Avenue and the southern part of Bunns Lane. Also, majority of the bus stops have residential properties overlooking it, where some properties may have their own security surveillance.
- 1.92 However, since the northern section of Bunns Lane mainly consists of offices and business, it is recommended that the feasibility of formal surveillance (CCTV) be investigated. This could be achieved in coordination with the adjacent offices.

Vandalism and Litter

- 1.93 As graffiti and litter were observed on majority of the bus stop, simple mitigation such regularly maintaining the cleanliness of the bus stop would improve the general comfort at them. Increased surveillance if feasible would further mitigate antisocial behaviour.

Passenger Waiting Area

- 1.94 Bus shelters play a valuable role in delivering a broader measure of accessibility. The shelter will protect people from poor weather, with lighting to help them feel more secure, seating is provided to assist ambulant disabled and older passengers.
- 1.95 Woodcroft Avenue (northbound) bus stop does not provide a shelter for the passengers. The effective width of the footway is not suitable for a 'centre of footway' and 'back to street' shelter as it would cause confliction of space between passengers and pedestrians, as the TfL guidelines requires a minimum of 2m between the edge of the kerb and the shelter. However, a 'back to footway' shelter might be feasible. The TfL guidelines also requires a minimum length of 2m between the edge of the kerb and the shelter which can be accommodated with. To minimises obstruction for pedestrian flow, the shelter should not include any side panels.
- 1.96 Bunns Lane Bridge (eastbound) also does not include a bus shelter. A shelter is not advised for this bus stop, as the bus stop is directly outside a private driveway. A permanent shelter would obstructed visibility for egressing vehicles, which would raise concerns in regard of safety.
- 1.97 It has been noted that some bus shelters include the presence of real-time bus arrivals. It is recommended that the feasibility of providing other bus shelters in the area with real-time information be investigated.

Appendix N

PTAL ASSESSMENT

Mill Hill - PTAL Assessment

Parameters
 Walk Speed 4.8kph
 Bus Reliability Factor 2
 LU Reliability Factor 0.75
 Rail Reliability Factor 0.75

PTAL	Access Route Length	PTAL Colour
0	0.00 - 1.00	Blue
1	1.01 - 2.00	Light Blue
2	2.01 - 3.00	Green
3	3.01 - 4.00	Yellow
4	4.01 - 5.00	Orange
5	5.01 - 6.00	Red
6	6.01 - 7.00	Dark Red
7	7.01 - 8.00	Black

Table 2.3 Conversion of the Access Index to PTAL

	Mode	Stop	Route	Dist (m)	Freq (vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI	
Exst	Bus		221	228.21	5	2.85	8	10.85	2.76	0.5	1.38	
	Bus		113	174.06	7	2.18	6.28571429	8.46	3.55	1	3.55	
4.93 PTAL 1b												
Extended Assessment	Bus		221	228.21	5	2.85	8.00	10.85	2.76	0.50	1.38	
	Bus		113	174.06	7	2.18	6.29	8.46	3.55	1.00	3.55	
	Bus		251	800.00	6	10.00	7.00	17.00	1.76	0.50	0.88	
	Bus		302	800.00	7.5	10.00	6.00	16.00	1.88	0.50	0.94	
	Bus		114	800.00	6	10.00	7.00	17.00	1.76	0.50	0.88	
	Bus		186	800.00	5	10.00	8.00	18.00	1.67	0.50	0.83	
	Bus		303	750.00	4	9.38	9.50	18.88	1.59	0.50	0.79	
	Bus		240	1000.00	5	12.50	8.00	20.50	1.46	0.50	0.73	
	Rail	Mill Hill Broadway	STALBCY-SVNOAKS 2E11'	1000.00	1	12.50	30.75	43.25	0.69	1.00	0.69	
	Rail	Mill Hill Broadway	STALBCY-SVNOAKS 2E95'	1000.00	0.33	12.50	91.66	104.16	0.29	0.50	0.14	
	Rail	Mill Hill Broadway	SUTTON-STALBCY 2O06'	1000.00	0.33	12.50	91.66	104.16	0.29	0.50	0.14	
	Rail	Mill Hill Broadway	SUTTON-LUTON 2O10'	1000.00	1	12.50	30.75	43.25	0.69	0.50	0.35	
	Rail	Mill Hill Broadway	LUTON-SUTTON 2O17	1000.00	0.67	12.50	45.53	58.03	0.52	0.50	0.26	
	Rail	Mill Hill Broadway	STALBCY-SUTTON 2O21	1000.00	0.33	12.50	91.66	104.16	0.29	0.50	0.14	
	Rail	Mill Hill Broadway	STALBCY-SUTTON 2O29	1000.00	0.67	12.50	45.53	58.03	0.52	0.50	0.26	
	Rail	Mill Hill Broadway	LUTON-BCKNHMJ 2S91	1000.00	0.33	12.50	91.66	104.16	0.29	0.50	0.14	
	Rail	Mill Hill Broadway	STALBCY-BROMLYS 2S93	1000.00	0.33	12.50	91.66	104.16	0.29	0.50	0.14	
	Rail	Mill Hill Broadway	SUTTON-STALBCY 2V08	1000.00	0.67	12.50	45.53	58.03	0.52	0.50	0.26	
	Rail	Mill Hill Broadway	BEDFDM-SUTTON 2V15	1000.00	0.33	12.50	91.66	104.16	0.29	0.50	0.14	
	Rail	Mill Hill Broadway	LUTON-SUTTON 2V19	1000.00	0.33	12.50	91.66	104.16	0.29	0.50	0.14	
Rail	Mill Hill Broadway	STALBCY-SUTTON 2V27	1000.00	0.33	12.50	91.66	104.16	0.29	0.50	0.14		
Rail	Mill Hill Broadway	SVNOAKS-STALBCY 2E59'	1000.00	0.67	12.50	45.53	58.03	0.52	0.50	0.26		
Rail	Mill Hill Broadway	SVNOAKS-LUTON 2E61	1000.00	0.33	12.50	91.66	104.16	0.29	0.50	0.14		
Rail	Mill Hill Broadway	BROMLYS-LUTON 2E93	1000.00	0.33	12.50	91.66	104.16	0.29	0.50	0.14		
13.50 PTAL 3												



	Mode	Stop	Route	Dist (m)	Freq (vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI	
Exst	Bus		221	468.83	5	5.86	8	13.86	2.16	0.5	1.08	
	Bus		113	414.68	7	5.18	6.28571429	11.47	2.62	1	2.62	
3.70 PTAL 1b												
Extended Assessment	Bus		221	468.83	5	5.86	8	13.86	2.16	0.5	1.08	
	Bus		113	414.68	7	5.18	6.28571429	11.47	2.62	1	2.62	
	Bus		251	1100.00	6	13.75	7.00	20.75	1.45	0.50	0.72	
	Bus		302	1100.00	7.5	13.75	6.00	19.75	1.52	0.50	0.76	
	Bus		114	1100.00	6	13.75	7.00	20.75	1.45	0.50	0.72	
	Bus		186	1100.00	5	13.75	8.00	21.75	1.38	0.50	0.69	
	Bus		303	600.00	4	7.50	9.50	17.00	1.76	0.50	0.88	
	Bus		240	1200.00	5	15.00	8.00	23.00	1.30	0.50	0.65	
	Rail	Mill Hill Broadway	STALBCY-SVNOAKS 2E11'	1200.00	1	15.00	30.75	45.75	0.66	1.00	0.66	
	Rail	Mill Hill Broadway	STALBCY-SVNOAKS 2E95'	1200.00	0.33	15.00	91.66	106.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	SUTTON-STALBCY 2O06'	1200.00	0.33	15.00	91.66	106.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	SUTTON-LUTON 2O10'	1200.00	1	15.00	30.75	45.75	0.66	0.50	0.33	
	Rail	Mill Hill Broadway	LUTON-SUTTON 2O17	1200.00	0.67	15.00	45.53	60.53	0.50	0.50	0.25	
	Rail	Mill Hill Broadway	STALBCY-SUTTON 2O21	1200.00	0.33	15.00	91.66	106.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	STALBCY-SUTTON 2O29	1200.00	0.67	15.00	45.53	60.53	0.50	0.50	0.25	
	Rail	Mill Hill Broadway	LUTON-BCKNHMJ 2S91	1200.00	0.33	15.00	91.66	106.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	STALBCY-BROMLYS 2S93	1200.00	0.33	15.00	91.66	106.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	SUTTON-STALBCY 2V08	1200.00	0.67	15.00	45.53	60.53	0.50	0.50	0.25	
	Rail	Mill Hill Broadway	BEDFDM-SUTTON 2V15	1200.00	0.33	15.00	91.66	106.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	LUTON-SUTTON 2V19	1200.00	0.33	15.00	91.66	106.66	0.28	0.50	0.14	
Rail	Mill Hill Broadway	STALBCY-SUTTON 2V27	1200.00	0.33	15.00	91.66	106.66	0.28	0.50	0.14		
Rail	Mill Hill Broadway	SVNOAKS-STALBCY 2E59'	1200.00	0.67	15.00	45.53	60.53	0.50	0.50	0.25		
Rail	Mill Hill Broadway	SVNOAKS-LUTON 2E61	1200.00	0.33	15.00	91.66	106.66	0.28	0.50	0.14		
Rail	Mill Hill Broadway	BROMLYS-LUTON 2E93	1200.00	0.33	15.00	91.66	106.66	0.28	0.50	0.14		

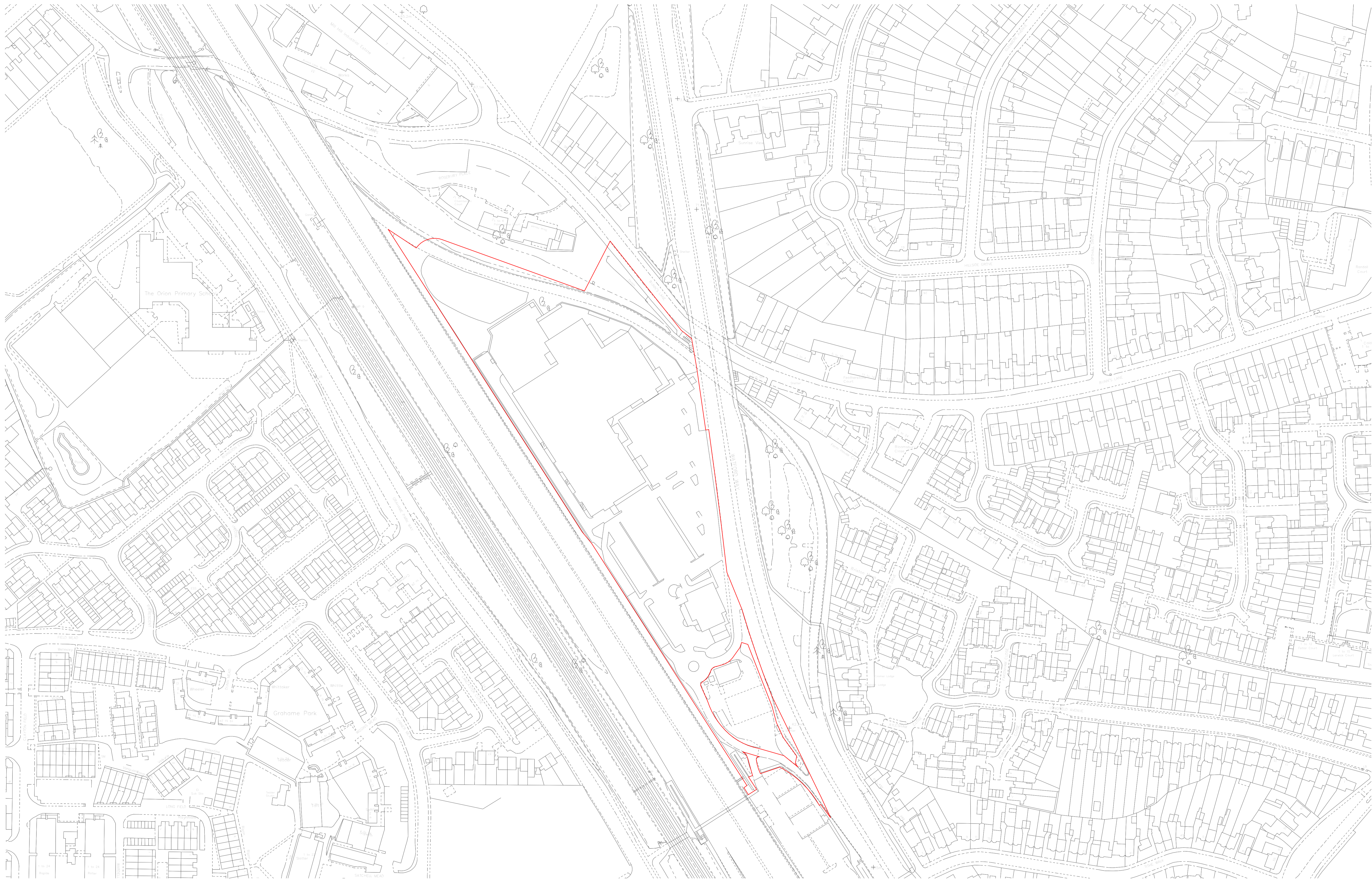


	Mode	Stop	Route	Dist (m)	Freq (vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI	
Exst	Bus		221	239.76	5	3.00	8	11.00	2.73	0.5	1.36	
	Bus		113	185.61	7	2.32	6.28571429	8.61	3.49	1	3.49	
												4.85 PTAL 1b
Extended Assessment	Bus		221	239.76	5	3.00	8	11.00	2.73	0.5	1.36	
	Bus		113	185.61	7	2.32	6.28571429	8.61	3.49	1	3.49	
	Bus		251	870.00	6	10.88	7.00	17.88	1.68	0.50	0.84	
	Bus		302	870.00	7.5	10.88	6.00	16.88	1.78	0.50	0.89	
	Bus		114	870.00	6	10.88	7.00	17.88	1.68	0.50	0.84	
	Bus		186	870.00	5	10.88	8.00	18.88	1.59	0.50	0.79	
	Bus		303	920.00	4	11.50	9.50	21.00	1.43	0.50	0.71	
	Bus		240	1120.00	5	14.00	8.00	22.00	1.36	0.50	0.68	
	Rail	Mill Hill Broadway	STALBCY-SVNOAKS 2E11'	1120.00	1	14.00	30.75	44.75	0.67	1.00	0.67	
	Rail	Mill Hill Broadway	STALBCY-SVNOAKS 2E95'	1120.00	0.33	14.00	91.66	105.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	SUTTON-STALBCY 2O06'	1120.00	0.33	14.00	91.66	105.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	SUTTON-LUTON 2O10'	1120.00	1	14.00	30.75	44.75	0.67	0.50	0.34	
	Rail	Mill Hill Broadway	LUTON-SUTTON 2O17	1120.00	0.67	14.00	45.53	59.53	0.50	0.50	0.25	
	Rail	Mill Hill Broadway	STALBCY-SUTTON 2O21	1120.00	0.33	14.00	91.66	105.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	STALBCY-SUTTON 2O29	1120.00	0.67	14.00	45.53	59.53	0.50	0.50	0.25	
	Rail	Mill Hill Broadway	LUTON-BCKNHMJ 2S91	1120.00	0.33	14.00	91.66	105.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	STALBCY-BROMLYS 2S93	1120.00	0.33	14.00	91.66	105.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	SUTTON-STALBCY 2V08	1120.00	0.67	14.00	45.53	59.53	0.50	0.50	0.25	
	Rail	Mill Hill Broadway	BEDFDM-SUTTON 2V15	1120.00	0.33	14.00	91.66	105.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	LUTON-SUTTON 2V19	1120.00	0.33	14.00	91.66	105.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	STALBCY-SUTTON 2V27	1120.00	0.33	14.00	91.66	105.66	0.28	0.50	0.14	
	Rail	Mill Hill Broadway	SVNOAKS-STALBCY 2E59'	1120.00	0.67	14.00	45.53	59.53	0.50	0.50	0.25	
	Rail	Mill Hill Broadway	SVNOAKS-LUTON 2E61	1120.00	0.33	14.00	91.66	105.66	0.28	0.50	0.14	
Rail	Mill Hill Broadway	BROMLYS-LUTON 2E93	1120.00	0.33	14.00	91.66	105.66	0.28	0.50	0.14		
												13.04 PTAL 3

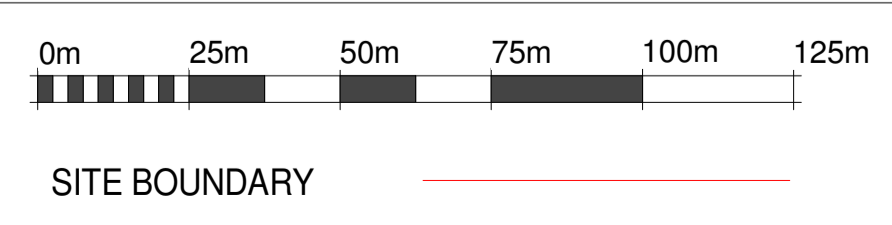
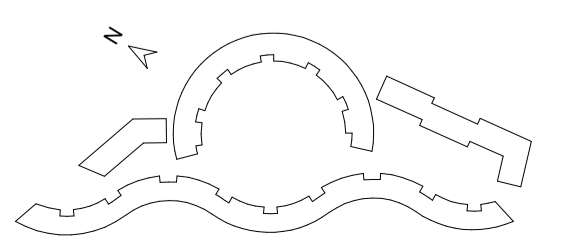


Appendix O

EXISTING SITE PLANS



REV	DATE	DESCRIPTION	Ckd
P1	09.05.16	P1 Draft Planning	



NOTES
 Check and verify all dimensions prior to commencement of work.
 This drawing shall be read in conjunction with all other contract documents including those by other consultants, and including specifications.
 Seek clarification of inconsistencies/ conflicts.
 Figured dimensions shall take precedence to scaled dimensions.

DRAWN	CHECKED	JOB NO.
Author	Checker	44032

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CLIENT
 Meadow Residential

PROJECT
 Mill Hill - London

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CLIENT:
 MEADOW RESIDENTIAL
 FIRST FLOOR, 90 GREAT MARLBOROUGH STREET, LONDON, W1F 7JG.

DRAWING TITLE
 RED LINE PLAN

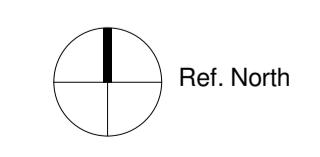
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 4 PEAR TREE COURT, LONDON, EC1A 3JG.
MECHANICAL / ELECTRICAL ENGINEER:
 CHEAPMAN EDGE
 SIXYON HOUSE, 6-10 KIRBY STREET, LONDON, EC1N 8TS.

LANDSCAPE ARCHITECT:
 QUERBERG
 THE BOATHOUSE, 27 FERRY ROAD, TEDDINGTON, TW11 9NN.

Arney Fender Katsalidis

SCALE
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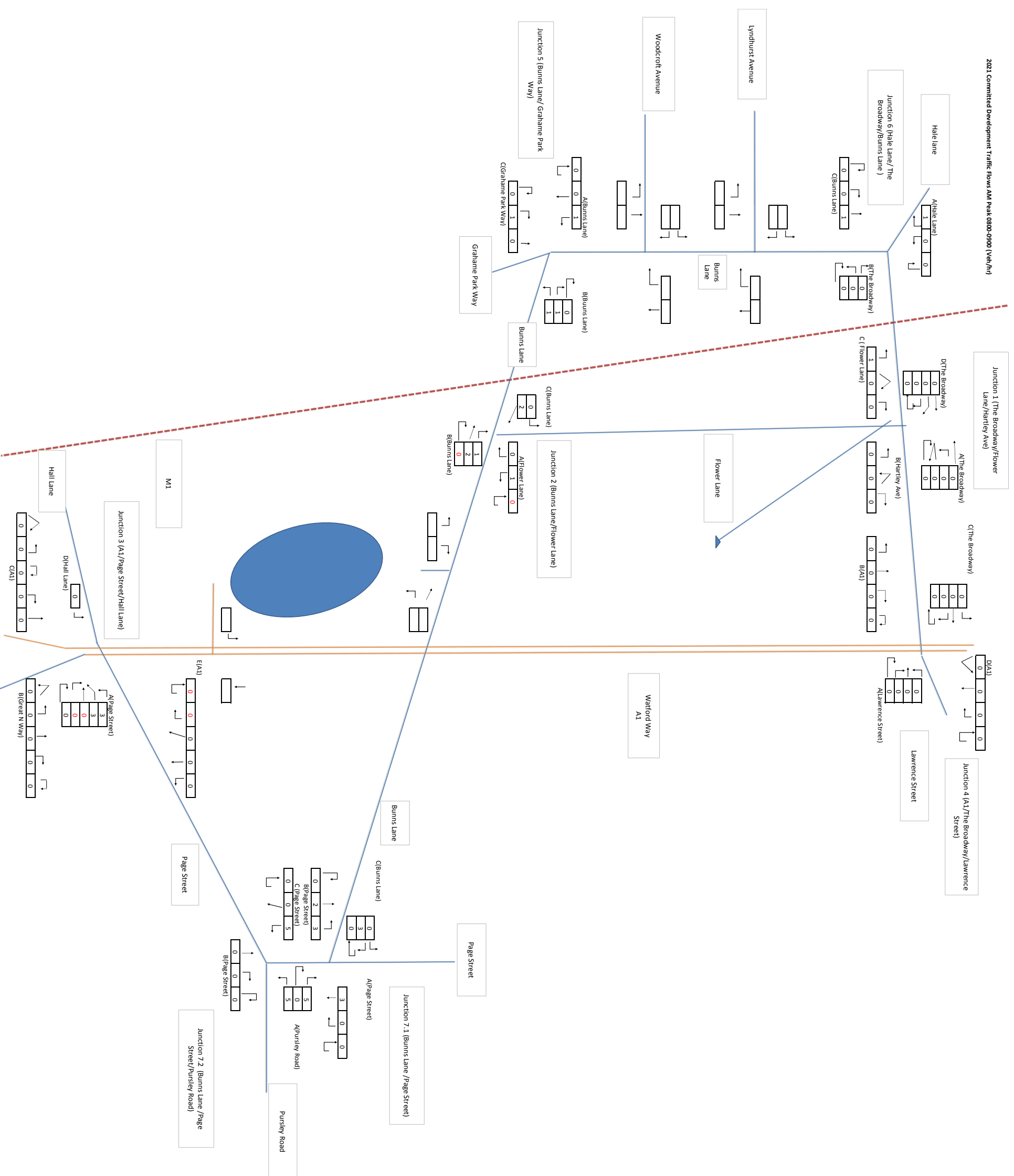
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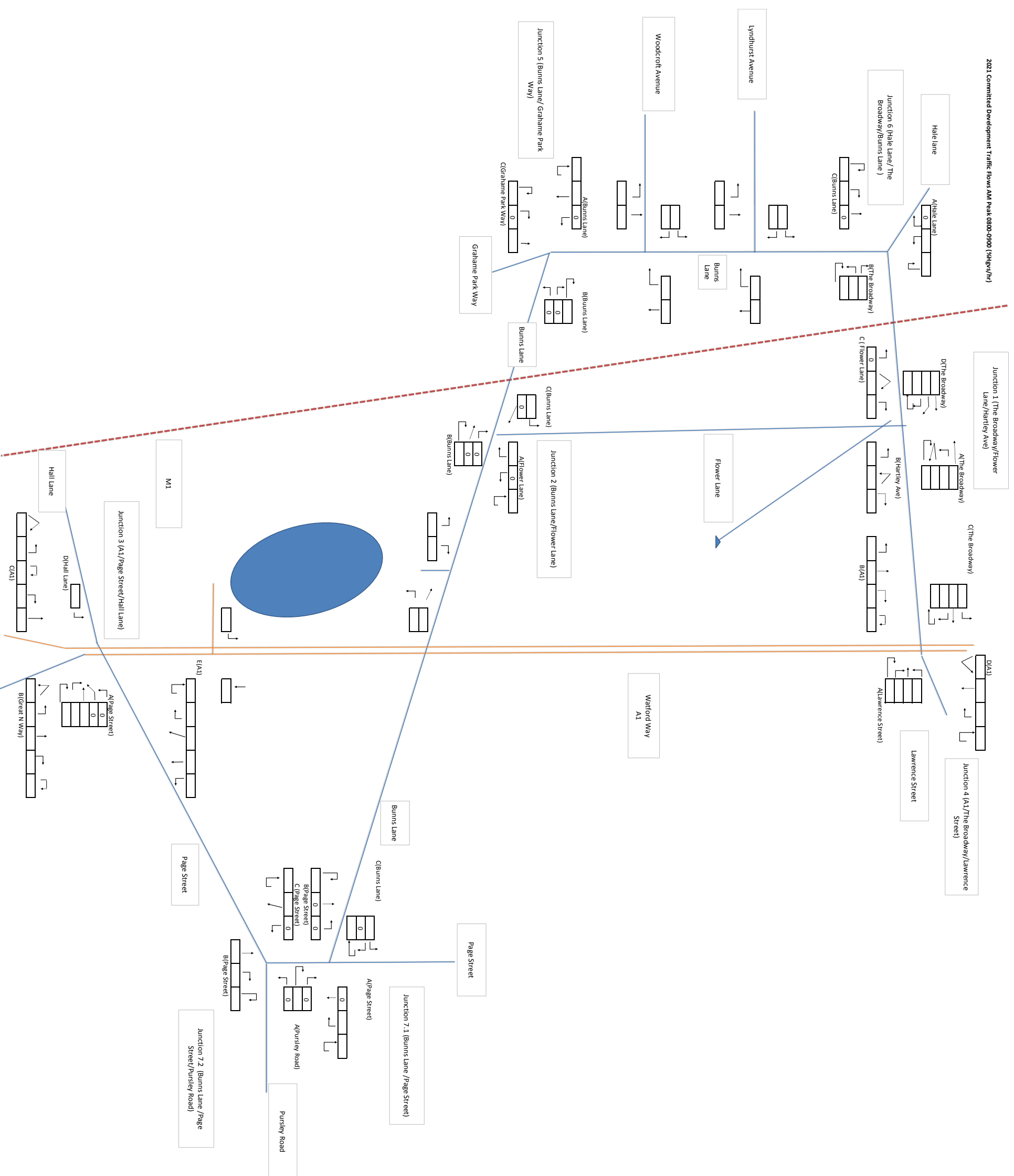


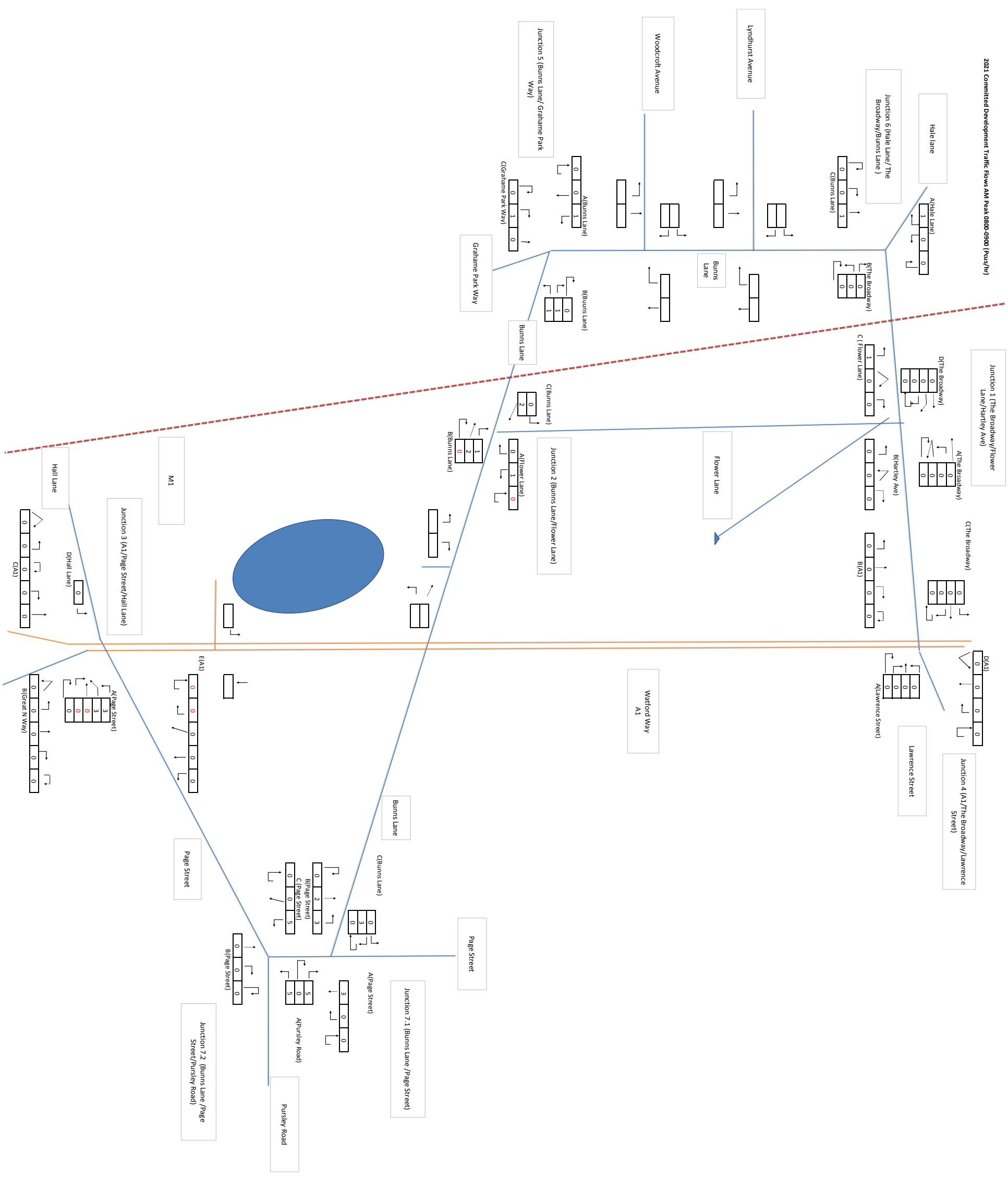
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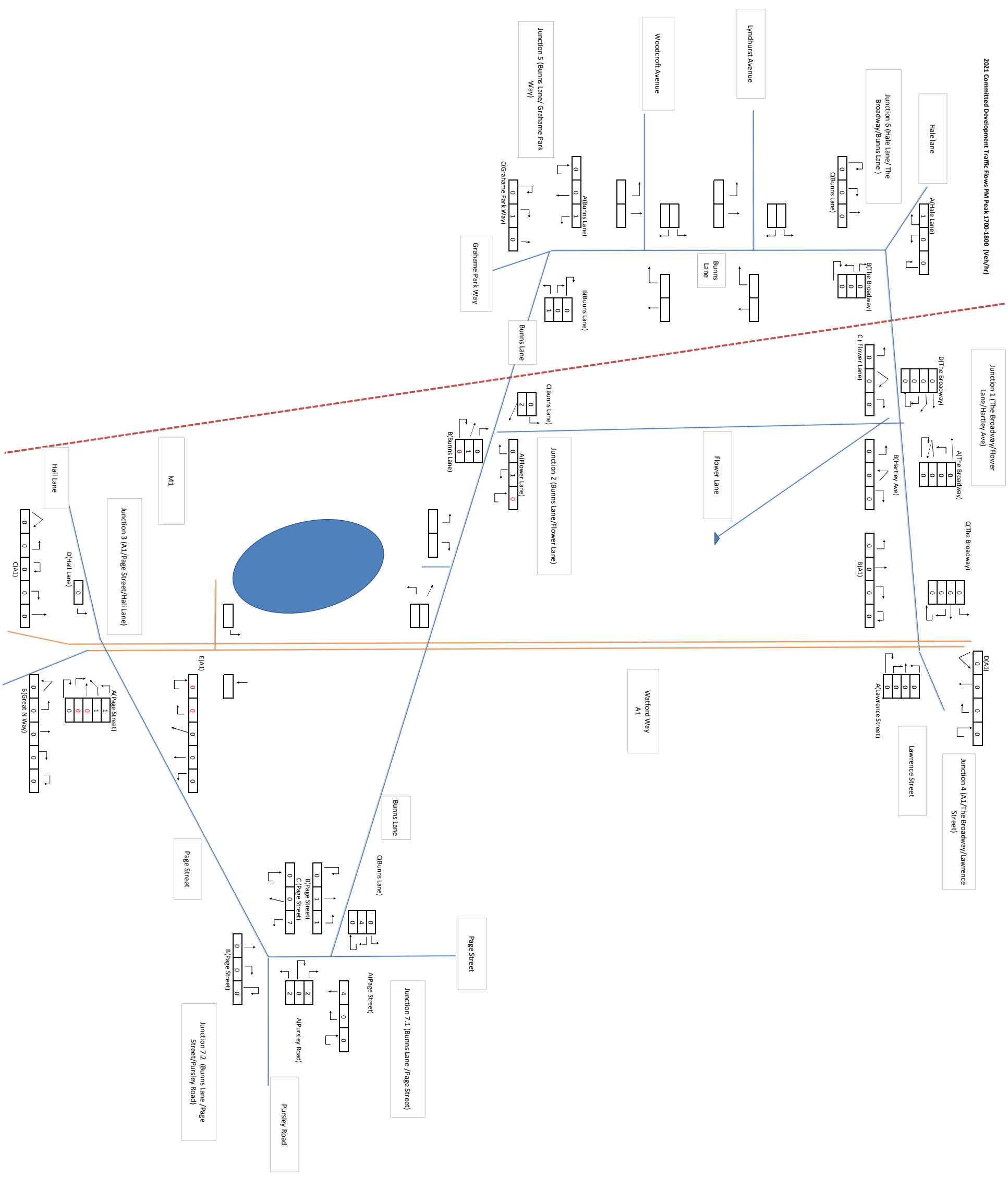
Appendix P

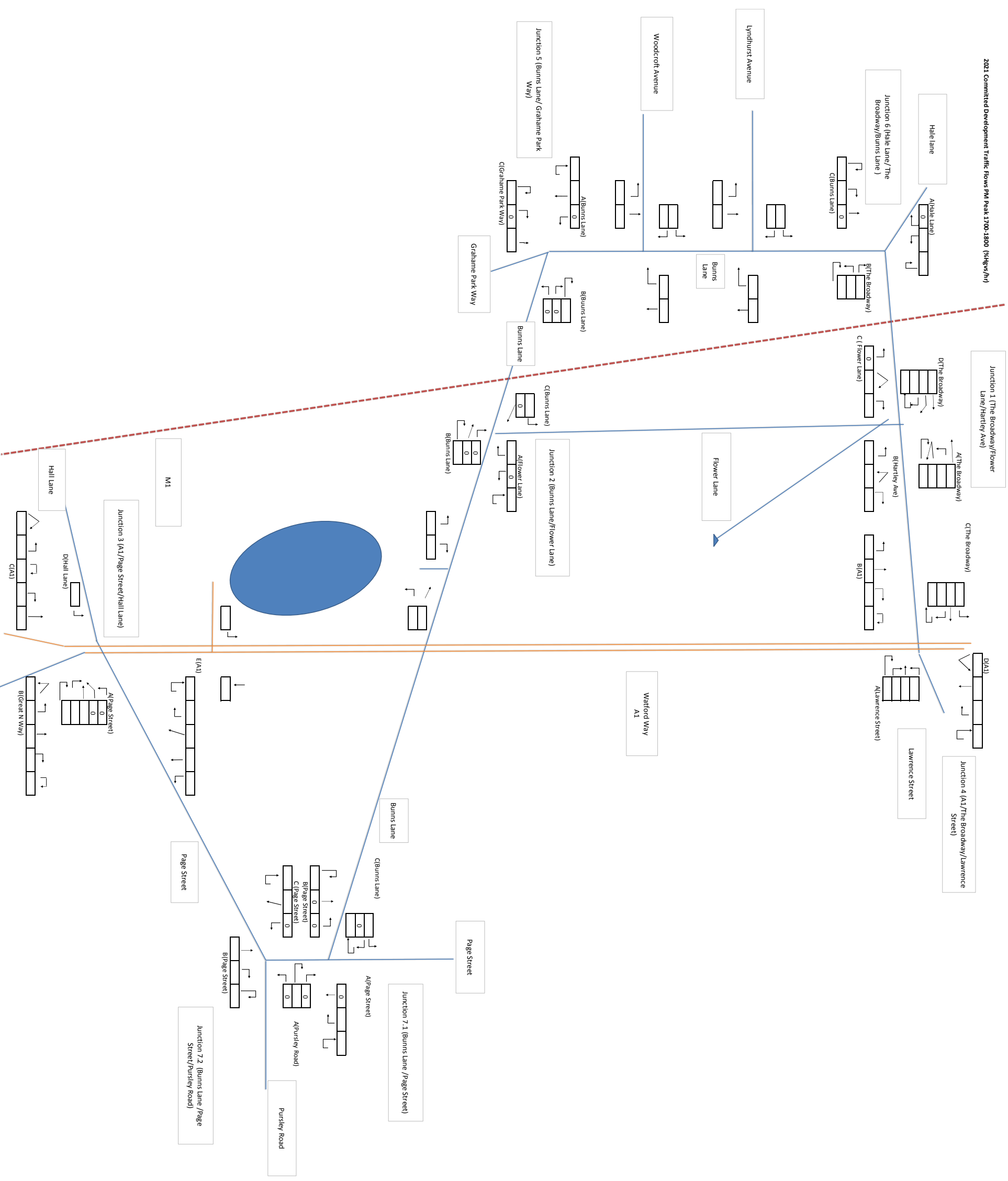
COMMITTED DEVELOPMENT FLOW DIAGRAMS

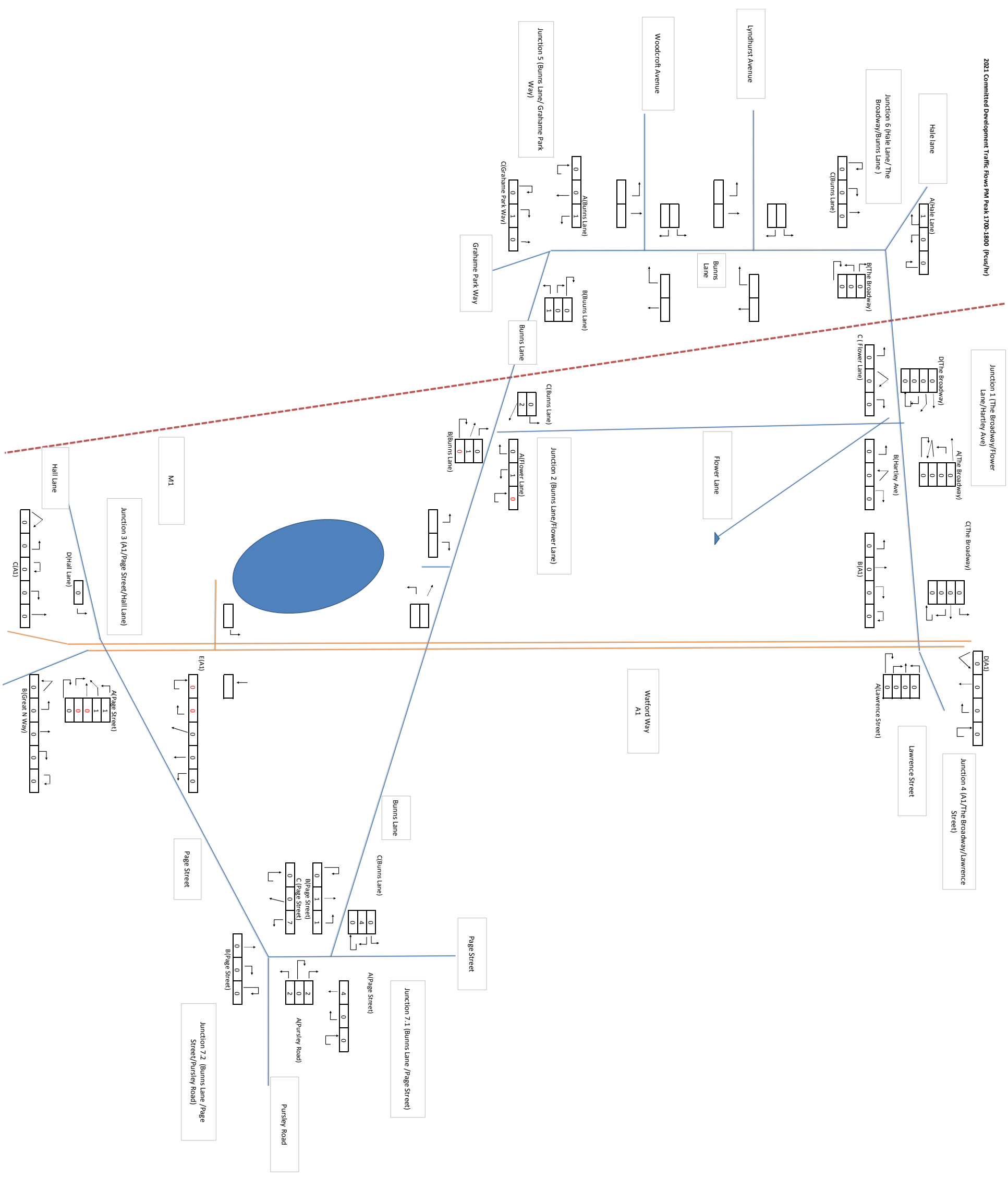


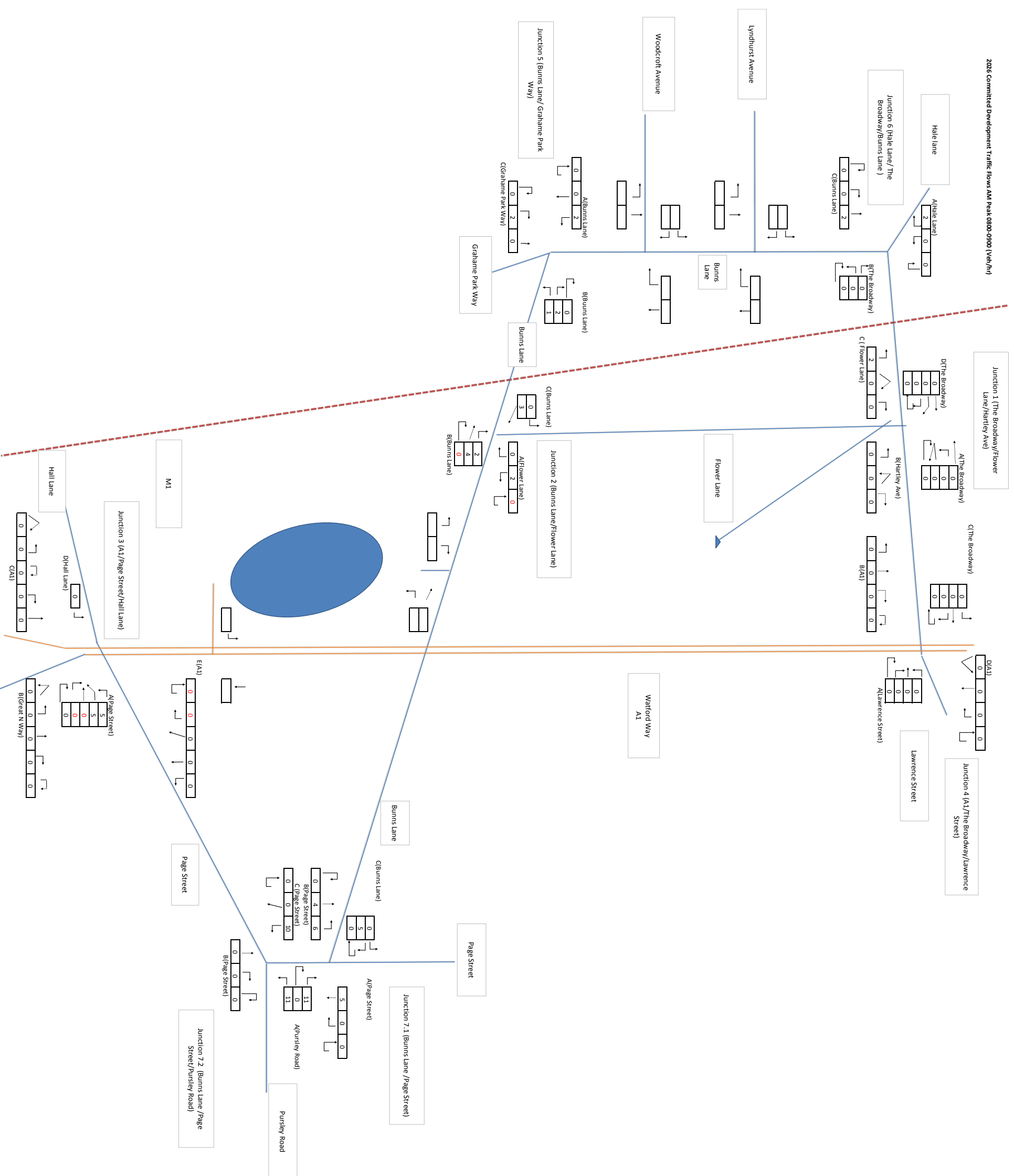


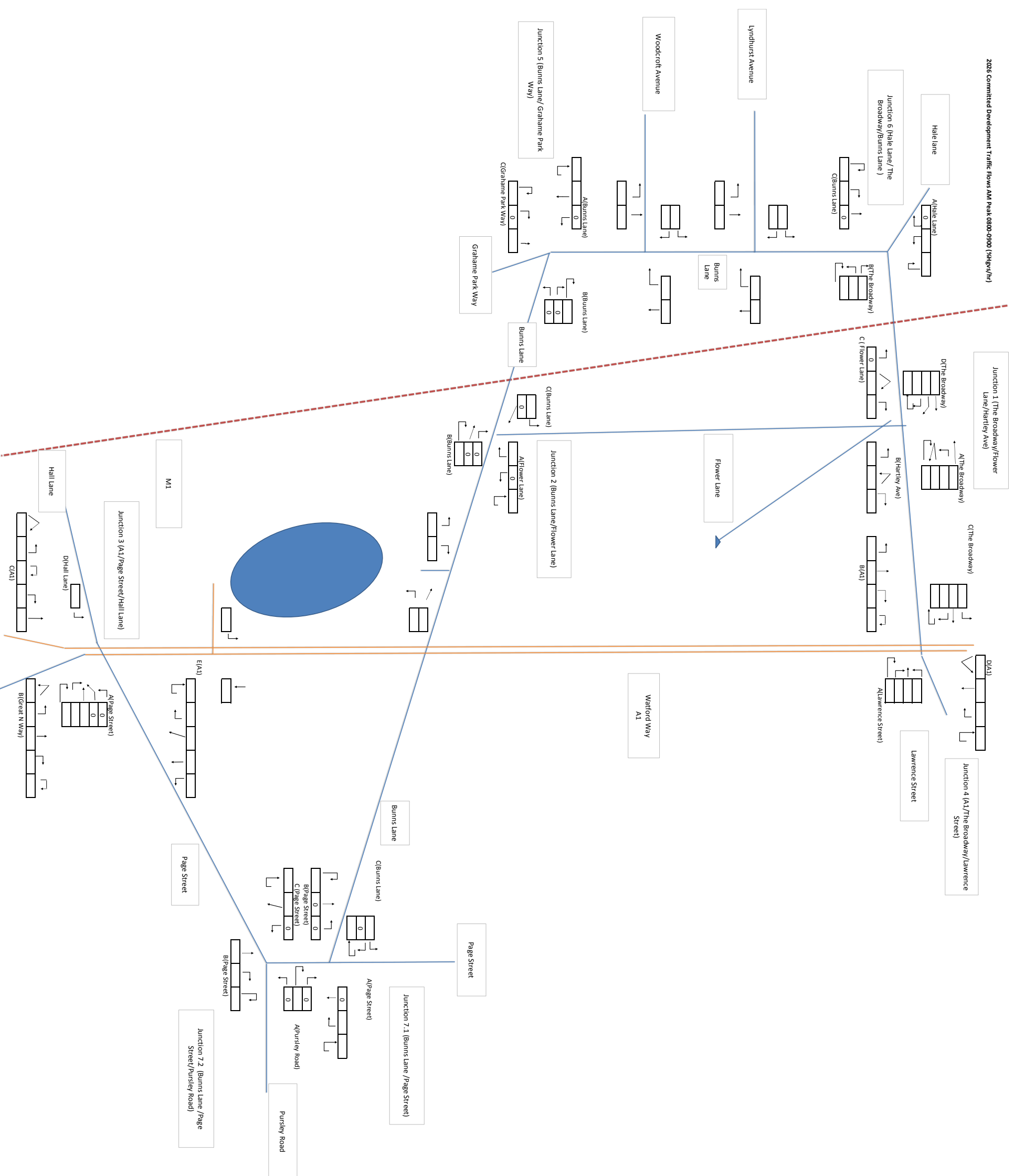


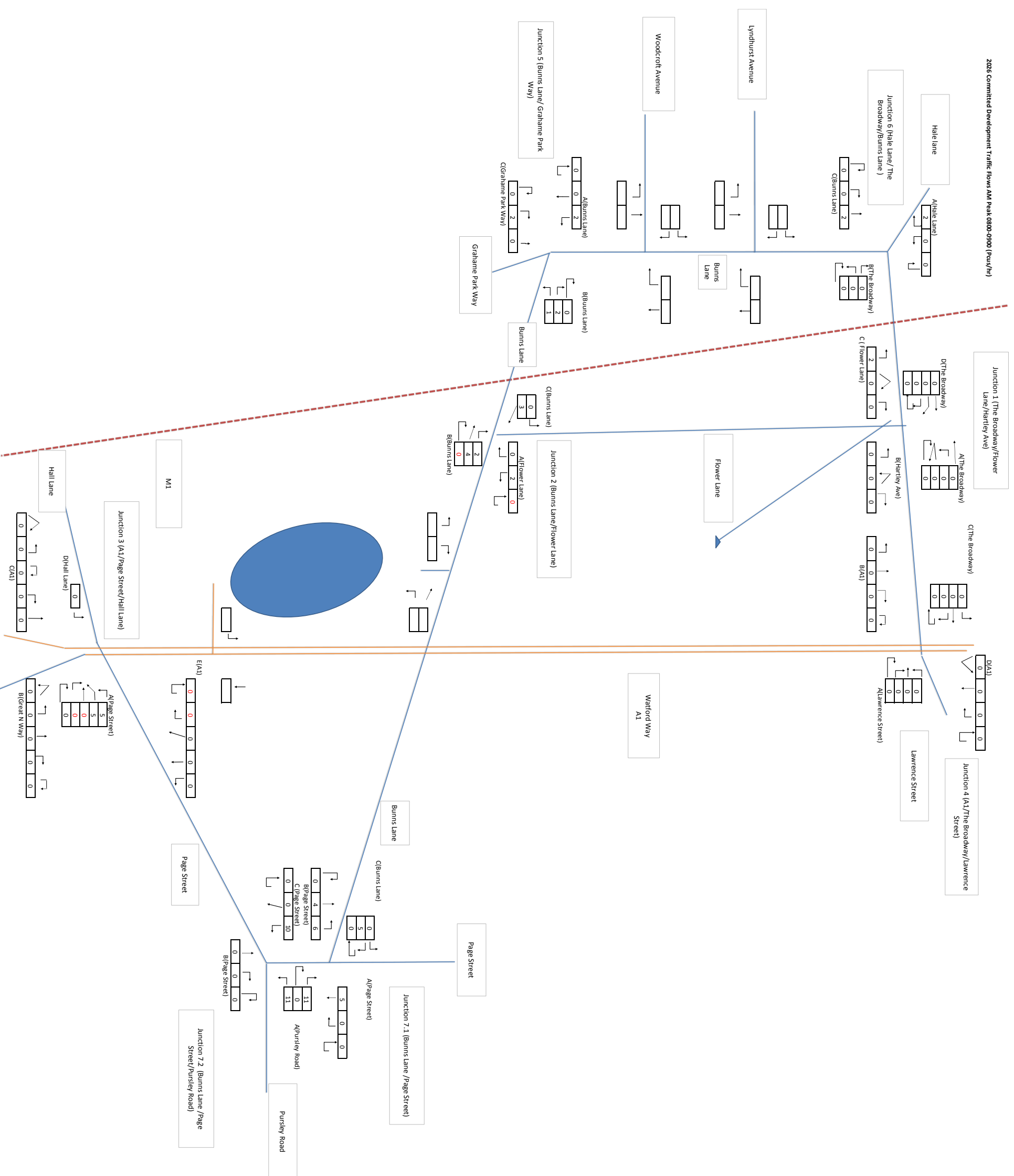


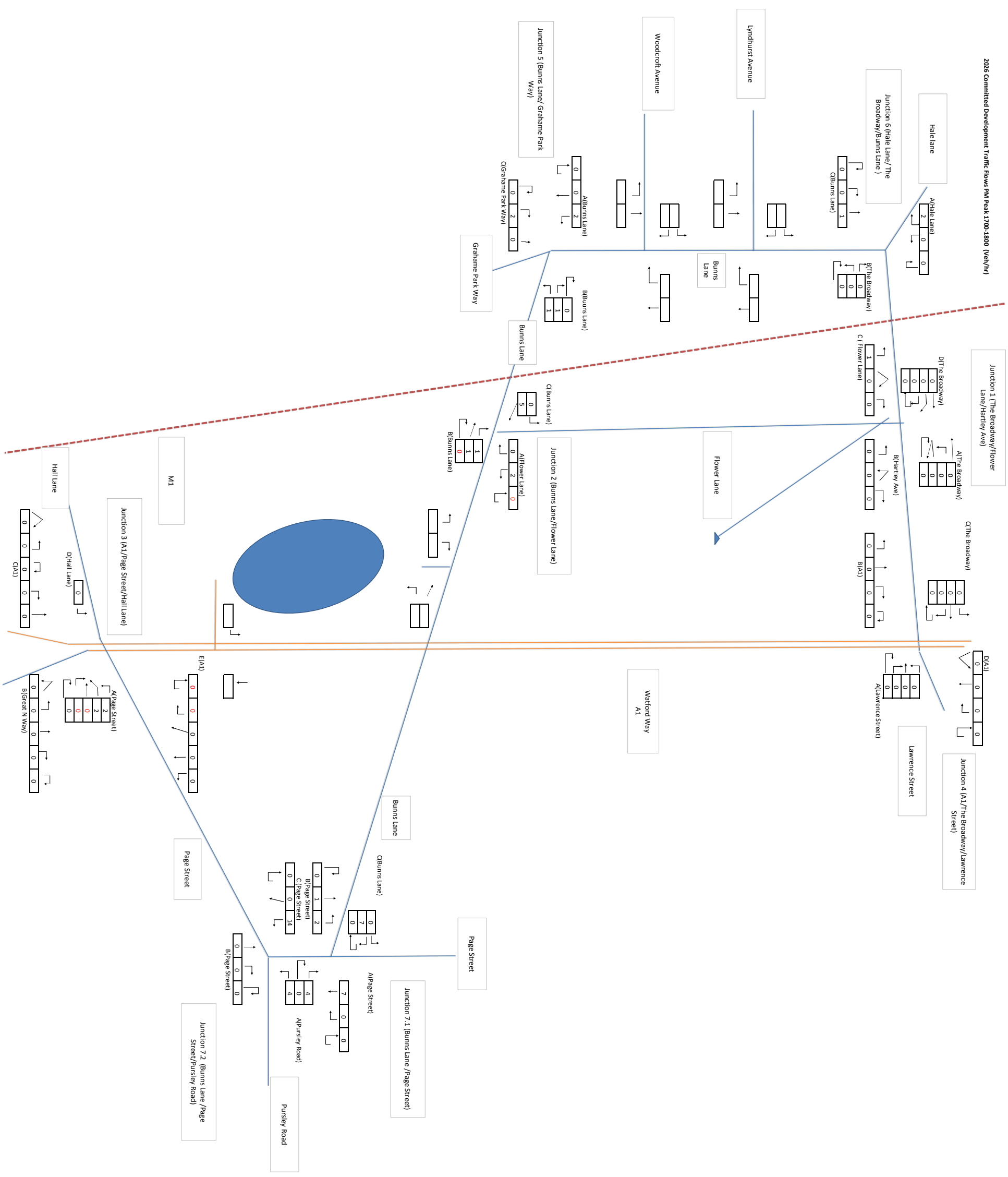


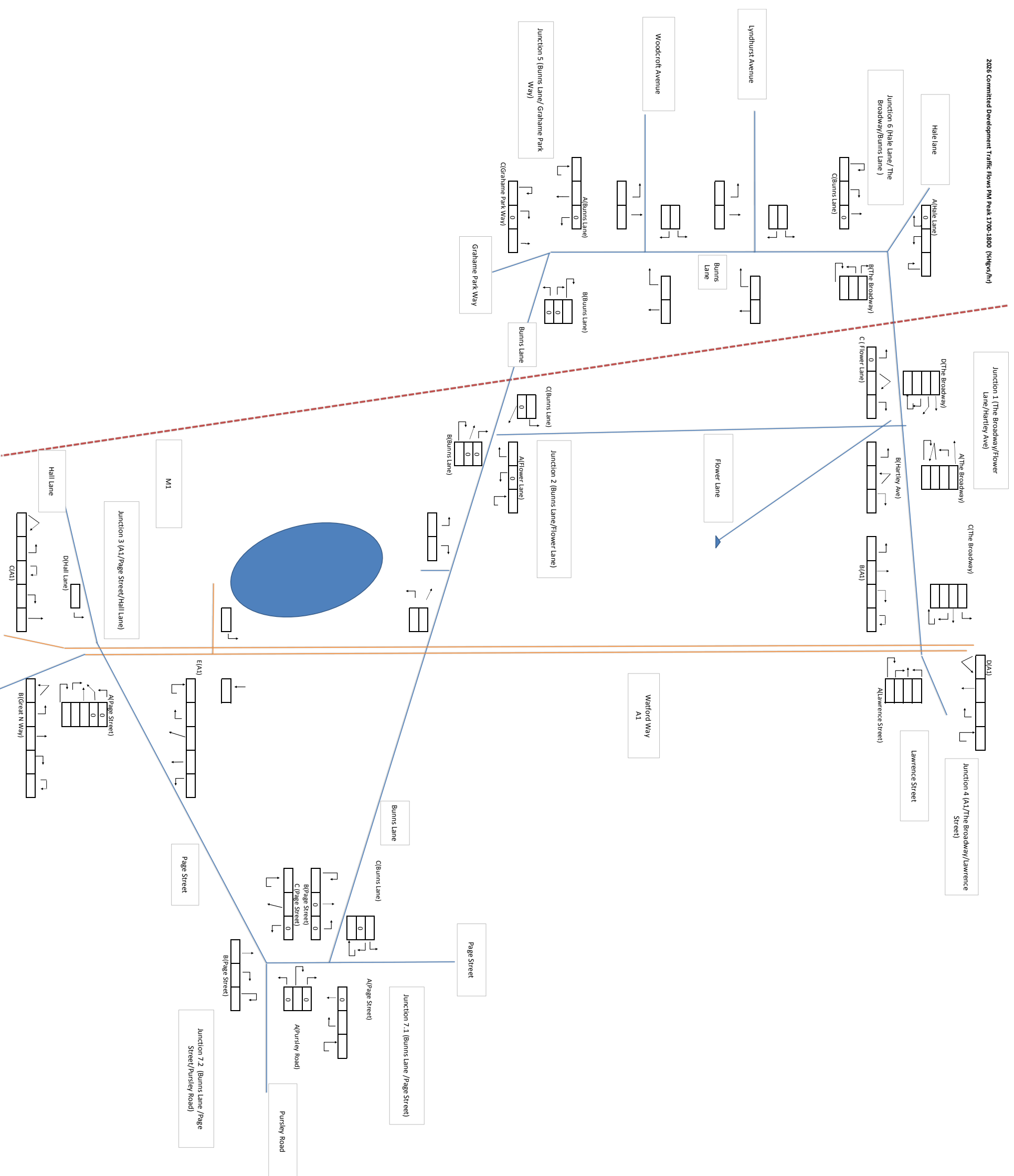


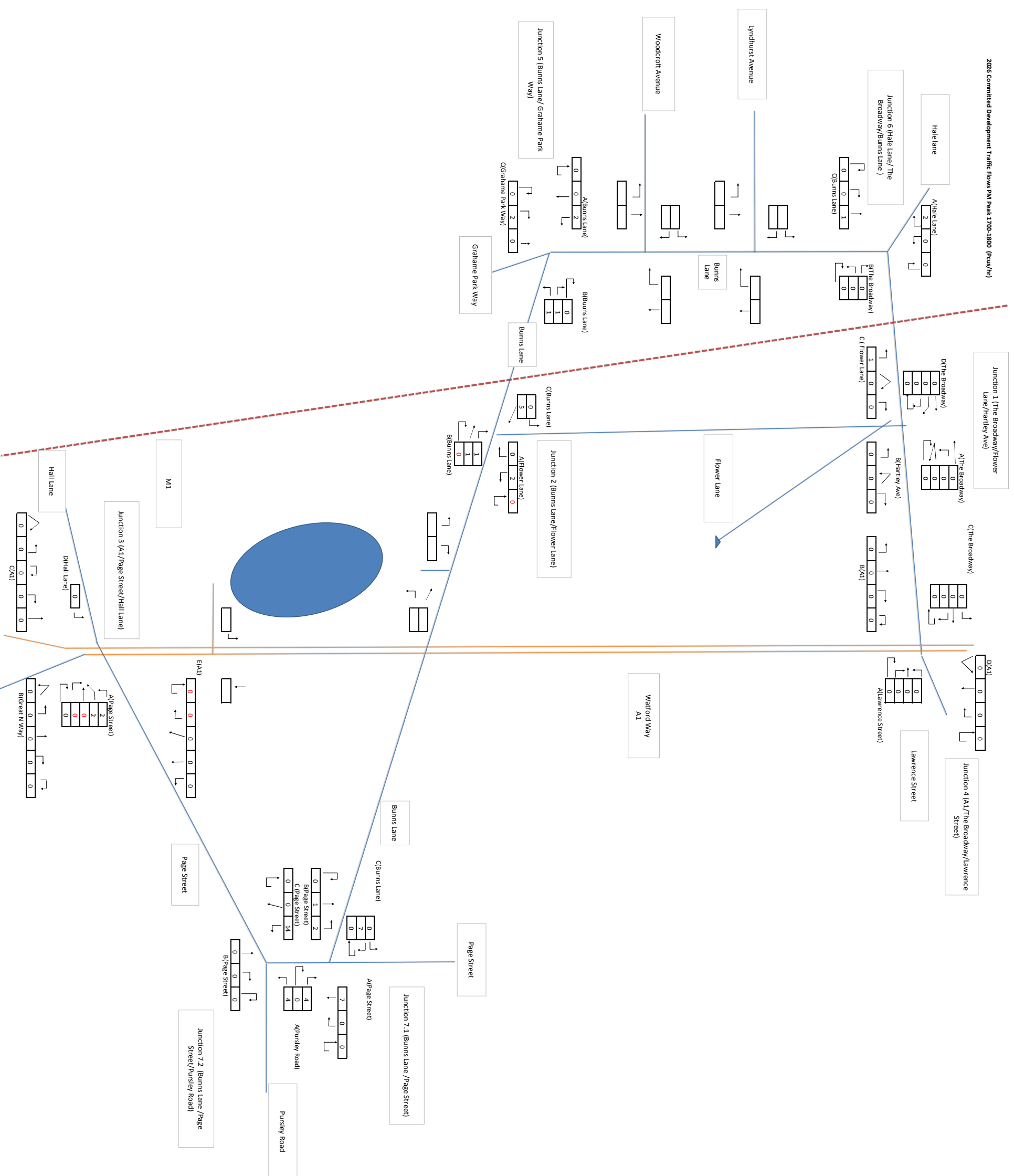












Appendix Q

EXISTING USE FLOW DIAGRAMS

