GREENWOOD PLACE AND HIGHGATE ROAD SITE

Community Resource Centre, Centre for independent living and new residential units

Transport Assessment Addendum

November 2013

Camden

Tibbalds
Multidisciplinary Team

CampbellReith
consulting engineers

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1.0 INTRODUCTION

1.0. Campbell Reith Hill LLP (CampbellReith) has been commissioned by the London Borough of Camden as part of the Tibbalds Multi-Disciplinary team, to provide highway and transportation advice with respect to their regeneration proposal for the Greenwood and Highgate Centres in Kentish Town. In addition to providing transport and highway advice, our commission also includes the preparation of a Transport Assessment (TA) to support the planning submission.

1.1. Following the submission of the planning application (ref:2013/5947/P) a number of representation from neighbouring properties and statutory consultee were presented to the Planning Officer, those included some residents letters and MAMA Company (The Forum operator) letter, as well as LBC Transport Strategy, Trees, Contaminated Land and Sustainability, Housing Partnership, English Heritage and Thames Water. This report aims at responding to transportation related issues raised in residents and neighbours letters, as well as updating the assessment and providing more information, as requested in Transport Strategy Officer comments.

1.2. The report is a technical document divided into chapter relating directly to the issues raised in the consultation response. The initial chapters provide a response to the third parties queries of interest, while the last chapter provides additional information and assessment in response to the Officers comments.

3.0 RESIDENTS LETTERS

Raised Issue: Parking provision.

3.0. The received comments raised following issues:

"Extra pressure on roads and parking in the area", "What is the parking provision for new development?", "If there is parking, will it be on-site or off-site?", "No capacity for on-street parking", "Lack of parking provision for new residents and visitors to the centre, aside from the disabled parking provision. This will put a strain on existing local infrastructure. Lack of parking provision on-site is 'unrealistic'."

Response to parking provision.

3.1. The site is located in area of excellent public transport accessibility and access to local amenities. The proposed development is put forward on a car free basis. The London Plan and Mayor's Transport Plan support and promote reduction of car ownership in Central London location, especially ones with high public transport accessibility. LBC supports the London Plan and Mayor's Plan objectives and support them by local policies.

3.2. Regional policy with regard to transport and movement is set out in Chapter 6 of the London Plan 2011. The strategy behind the policies within the London Plan is to reduce dependency on car travel and to actively encourage walking and cycling. The policies within the London Plan that aim to bring about these objectives and have a direct bearing on the proposed residential development are Policy 6.9, Policy 6.10 and Policy 6.13.

3.3. Local planning and transport policies against which development within the London Borough of Camden is assessed are set out in the Core Strategy Policies. Relevant policies include: DP 16, DP17, DP18, DP19 and DP21.

3.4. Policy DP 18 states clearly that: "The Council will expect development to be car free in the central London Area, the town centres of Camden Town, Finchley Road/Swiss Cottage, Kentish Town, Kilburn High Road and West Hampstead, and other areas within Controlled Parking Zones that are easily accessible by public transport."

3.5. Also in accordance with the policy requirement, the proposal will include some disabled parking provision, which in the Highgate part of the proposal will serve the wheelchair

accessible units, while the provision in the Greenwood Centre part will provide operational parking for the Centre. The number of disabled parking bays has been agreed with HASC, who confirmed the operational parking requirement of both the Centre and the wheelchair units during pre-application design development. The remaining units at the Highgate building are proposed to be car free and included in Section 106 agreement forbidding any future occupiers applying for a parking permit.

3.6. The Greenwood Centre proposal is proposed on a car free basis for staff, while the clients will be well catered for in terms of parking provision.

3.7. Both developments will be introducing a Full Travel Plan, which will aim at reducing reliance on private vehicle trips and promoting more sustainable modes of travel.

3.8. Pay & Display parking bays are to be removed as part of the proposal. As the undertaken surveys prove the existing Pay & Display bays are abused by a number of drivers and vehicles parking within the spaces without paying or parking outside of spaces and partially blocking already narrow road. LBC has agreed to monetary loss emerging from the removal of parking spaces. One permit parking bay, which will be converted into a Disabled Parking bay, would help in the New Centre operation. The existing Greenwood Centre has approximately 4 parking permits issued to it. This number will be reduced to zero in the proposed development, as the New Greenwood Centre staff will not be allowed to apply for parking permits under Section 106 agreement. Therefore the actual parking pressure on spaces within Greenwood Place will be decreased, as nearly the same amount of permit parking spaces will be available.

3.9. Greenwood Place currently provides 16 on street car parking spaces. 7 spaces are Pay and Display spaces (5 along the Forum and 2 next to Linton House), 7 CA-M parking permit holders spaces (4 along the Greenwood Centre and 3 in front of the Highgate Business Centre) and 2 spaces dedicated for blue badge holders, along the Greenwood Centre frontage. In addition there is a motorcycle parking bay.

3.10. The proposed layout will provide a relocated motorcycle parking bay, 10 on street car parking spaces (2 blue badge holders spaces next to the Highgate Building, 1 blue badge holder bay next to the new turning head, 4 CA-M parking permit holders bays along The Forum and 3 CA-M parking permit holders bays near the Highgate Business Centre). In addition there will be 2 private minibus parking bays within the turning head and 3 on-street minibus blue badge holders spaces along the Greenwood Centre frontage (the bay will also double up as 5 car blue badge holders parking when not in use by the minibuses).

3.11. The proposal is in accordance with LBC local and London wide policies and aims at promoting car free developments in areas of high PTAL.

Raised Issue: Congestion and Road Safety

3.12. The received comments raised following issues:

"Increase in traffic congestion, air pollution and worsening road safety", "The development will create a substantial amount of traffic from both residents and those working in/or visiting the centres on site."

Response to congestion and road safety.

3.13. It is recognised that the proposal will generate some new movements and will redirect some of the existing trips. The proposed Greenwood Centre is not predicted to generate large amount of new trips, as the majority of services are already operating across the Borough, when they will move to new premises their related trips will shift their pattern and will arrive at the new centre. HASC has a dedicated expert team managing the centres transport services, which is constantly working on improving their routing and performance. Their main aim is not only to allow safe client transfer to and from the centre, but also to maximize the service potential and improve its performance. The Centre transport services are closely managed and will incorporate staggering of the different service start times to avoid overcrowding, which is also not beneficial to the clients. The submitted Transport Assessment undertook full analysis of the predicted traffic impact of the Centre and the Highgate building and concluded that it will not have detrimental impact on local highway network.

3.14. As the proposal is put forward on a car free basis, the majority of the new trips generated by the proposal will be made by more sustainable modes of travel. The site is located in the area of excellent public transport accessibility and will be able to accommodate the proposed development movements, as it was analysed in the TA. Such proposal is in accordance with local and London wide planning policy.

3.15. In regards to the highway safety there is no evidence in the last 5 years of Road Traffic Accident data, which would point at any design faults in local network. During the assessment process a few safety issues were highlighted and those are being addressed by the application. The major highway safety issues included pedestrians crossing across

Greenwood Place South, where the visibility is far from ideal, lack of appropriate pedestrian facilities along Greenwood Place, large goods vehicles traveling to and from The Forum turning and manoeuvring on Greenwood Place North and traveling along the narrow part of Greenwood Place and the large number of goods vehicles entering pedestrian zones, while manoeuvring on Greenwood Place North. All those issues are addressed as part of the proposal. The proposal aims at maximising the vulnerable road user (Pedestrians and Cyclists) safety and introducing appropriate facilities for the needs of Greenwood Place, including turning head, footways and pedestrian crossings.

4.0 THE MAMA COMPANY LETTER

4.0. Camden have received a letter from MAMA Company (operators of The Forum music venue, located at 9-17 Highgate Road). The letter raises a number of comments relating to the proposals impact on the operation of The Forum. The letter is attached in Appendix A for reference.

4.1. This section will provide a response and explanation to transport related issues raised within the letter.

Raised Issue:

1. *Vehicles servicing the Forum, including lorries and large artist tour buses, currently access the yard area to the rear of The Forum ("Yard") via Greenwood Place (north). The most direct route for such vehicles to access The Forum is via Greenwood Place (south), however the relatively narrow width of Greenwood Place (south), and the lack of available space at the end of Greenwood Place (south) to allow a wide vehicle to turn into the Yard, currently precludes access for service vehicles attending The Forum via Greenwood Place (south).*
2. *The Application puts forward the proposal that Greenwood Place (north) is pedestrianized, and access for all vehicles, including service vehicles attending the Yard, is closed off. Therefore, the only means of access for service vehicles to attend The Forum would be via Greenwood Place (south). This is currently impossible without the road being remodelled. There is no provision for a turning point at the foot of the road, and the gates to the Yard would need to be repositioned in order to create space for such a turning point.*
3. *It is noted that Tibbalds, acting on behalf of the Applicant in connection with this Application, has given consideration to the repositioning of the gates to the Yard to ensure that a means of access for service vehicles attending The Forum is maintained. The plans in support of the Application do not make sufficiently clear the revised position of the gates, and as a result the Company cannot assess whether practically, the re-model would be fit for purpose and not prevent ingress and egress at The Forum. The repositioning of the gates should be a condition to any planning consent being granted and the Company should be fully consulted on any plans or proposals in this respect. Any changes must be strictly subject to the approval of the Company and the Applicant should be responsible for obtaining the consent of the owner of the Yard, Murphys, to make these adjustments. Any costs associated with the remodel must be met solely by the Applicant, and the remodel of the gates must take place before any other works connected to the Application are commenced, to ensure that ingress and egress at The Forum is maintained.*

Response:

4.2. The existing servicing arrangements of The Forum were highlighted during site assessment. The existing HGV and tour bus access is far from ideal and causes a lot of challenges. The existing access (as shown in drawing 11167-T118-D1, attached in Appendix B) from Greenwood Place North for bigger vehicles requires a nearly empty road and a number of parking spaces being vacant, as well as part of the local businesses operations being affected. Further the large vehicles need to travel via the very narrow part of Greenwood Place, where there is virtually no pedestrian facilities. The Forum's existing arrangement is considered unsafe and inconvenient to the local businesses and residents, as well as to any road users. The current access arrangements are considered to have detrimental impact on highways safety.

4.3. It is acknowledged that The Forum need to operate such vehicles to support their day to day operation and the existing Greenwood Place South arrangements and the Yard access arrangements are precluding such access and operation. The Council has a duty of care towards all road users utilising public highways. To avoid any future road user conflicts and having in mind need for The Forum operation and highway safety the applicant have come to an agreement with the owner of the Yard (J Murphy's) to rearrange the Yard access and allow for the larger vehicles to turn into the Yard from Greenwood Place South. The works have been agreed in writing and the applicant has agreed cover all the costs of works.

4.4. It is acknowledged that the Greenwood Place South is narrow and at its existing state allows just enough space for larger vehicles to be accommodated. This situation is also impacted by the Pay & Display parking bays located close to the junction with Highgate Road, those parking bays, when occupied stop any larger vehicles entering the road (as shown in drawing 11167-T118-D1). The application therefore proposes to remove the Pay & Display bays and replace them with permit parking bays in a new location, further down the road, where they will not preclude HGV and tour buses movements in and out of Greenwood Place South. The proposal also includes the introduction of parking and loading restrictions anywhere outside of the mentioned bays, which would ensure that the road in and out of the Yards is secured at all times.

4.5. The aim is for the work to be completed prior to any development starting on site, so The Forum operation will not be affected by the construction. This is dependant of the cooperation of the land owner. It is proposed therefore to include a planning condition to the planning permission to ensure that works related to the Yard access gates are completed before the proposed development becomes operational. The proposed

arrangements are considered beneficial for The Forum operation as well as for the local highway safety.

4.6. Additional plans have been provided to The Forum to assess their access requirements during the neighbourhood consultation meeting. Some additional drawings are attached in Appendix B and also some additional drawings can be provided to The Forum if deemed required to satisfy their needs for assessment. A swept path analysis of the proposal was undertaken and proved that the rearranged gates can be accessed by any vehicle requiring access to the Yard.

4.7. The turning head at the end of Greenwood Place South will be provided between the re-modelled gates and the pedestrianized part. The turning area will be limited due to the highway space available; however it was designed to accommodate refuse and emergency vehicles and allow them to turn around without accessing the Yard if such need arises.

Raised Issue:

4. *Any planning permission that is granted would also need to include the condition that during the construction process, no lorries involved in the construction would be able to park on Greenwood Place (south) other than those required to effect the remodelling of the gates.*

5. *It is also pertinent to mention that the Company maintains a clearway as a means of exit from The Forum in case of emergency. It is likely that this clearway will be jeopardised and the Company shall be in breach of its health and safety obligations, unless the repositioning of the gates, and any other remodelling works carried out on Greenwood Place (south) are carefully managed, in consultation with the Company.*

Response:

4.8. The proposed development detailed Construction Traffic Management Plan will be introduced closer to the development time, when the contractor will be known and appointed.

4.9. The access and work times/period restrictions will be put in the contractual obligation to be complied with. The aim of the Construction Traffic Management Plan is to gain all HGV access from Greenwood Place North, where it will have no detrimental impact on The Forum operation.

4.10. A proportion of the construction on Greenwood Places South will need to take place (to construct the gates, move parking bays, remodel junction mouth, provide footway, install lighting and pedestrianize part of the road), during which the access would need to be gained from Greenwood Place South. These works will be closely managed and consulted with The Forum and J Murphy's not to preclude their day to day operation. It is believed that an agreement can be reached between both sides on when the works can take place and how the vehicles can access the site.

4.11. A planning condition is proposed to have the Construction Traffic Management Plan agreed in place prior of any works starting on site.

Raised Issue:

6. *The Application envisages that the pay and display parking bays currently located on Greenwood Place (south) are moved further down that road, and the pavement running alongside The Forum is narrowed to accommodate the car parking bays. Given that it is suggested that the one and only means of access for wide service vehicles attending the Yard would be via Greenwood Place (south), to maintain that cars may park down Greenwood Place (south) is certain to cause congestion and threaten the safety of pedestrians, including clients and visitors to the Site, particularly as the bays are currently used by the local taxi company as pick-up and drop-off points.*

Response:

4.12. The existing Pay & Display parking bays are proposed to be removed completely. The new proposed bays will be permit holder bays only. In addition the overall number of bays will be reduced from 5 to 4, which in turn will reduce the number of trips. It is also proposed to introduce parking and loading restrictions along this stretch of the road, which should further reduce the congestion. The permit parking bays will ensure that the owners of the vehicles that park in the road are aware of the local environment and the turnaround of the vehicles will also be much lower than with the Pay & Display bays.

4.13. Due to the proposed arrangements and removal of the Greenwood Place loop, it is envisaged that the taxi drop-off and pick up will be shifted to Greenwood Place North. This location will provide much safer and more convenient turning facilities and during the usual end times of The Forum events will be much less crowded than the north part of the road.

Raised Issue:

7. *In addition, it is unclear whether to accommodate pedestrian access to the Site via Greenwood Place (south), adjustments would need to be made to the pavement to allow for access by wheelchair. If this would result in the footpath being widened at any point, then it would further reduce the size of an already narrow road, which, if access via Greenwood Place (north) is prevented, would need to be of a sufficient size to accommodate large heavy goods vehicles.*

Response:

4.14. The Greenwood Place South footway, along The Forum is a generous footway and it will not be widened to accommodate access for wheelchairs as it is already wide enough. The footway will be slightly narrowed over a distance of 22 metres. The narrowing will be limited to 400 mm, which would still leave the footway width at 2 metres. The "cut in" and parking bays moved further down the road will ensure that the Greenwood Place South can accommodate all vehicles requiring access to the Yard.

Raised Issue:

8. *It should be noted that there is currently no street lighting provided along Greenwood Place (south). Any increase in use of Greenwood Place (south) should require increased street lighting provision to protect the safety of pedestrians and road users alike.*

Response:

4.15. The proposal includes an introduction of new street lighting along this stretch of the road.

Raised Issue:

9. *Please further note that as part of its premises licence conditions, the Company maintains two car parks in the immediate vicinity of The Forum which is for use by its patrons only. The Company is concerned (as stated in this letter below) that there will be increased demand for parking. Any such increase should not encroach upon these designated car parking areas.*

Response:

4.16. The site is located in area of excellent public transport accessibility and access to local amenities. The proposed development is put forward on a car free basis. The London Plan and Mayor's Transport Plan support and promote reduction of car ownership in Central

London location, especially ones with high public transport accessibility. LBC supports the London Plan and Mayor's Plan objectives and support them by local policies.

4.17. Regional policy with regard to transport and movement is set out in Chapter 6 of the London Plan 2011. The strategy behind the policies within the London Plan is to reduce dependency on car travel and to actively encourage walking and cycling. The policies within the London Plan that aim to bring about these objectives and have a direct bearing on the proposed residential development are Policy 6.9, Policy 6.10 and Policy 6.13.

4.18. Local planning and transport policies against which development within the London Borough of Camden is assessed are set out in the Core Strategy Policies. Relevant policies include: DP 16, DP17, DP18, DP19 and DP21.

4.19. Policy DP 18 states clearly that: "The Council will expect development to be car free in the central London Area, the town centres of Camden Town, Finchley Road/Swiss Cottage, Kentish Town, Kilburn High Road and West Hampstead, and other areas within Controlled Parking Zones that are easily accessible by public transport."

4.20. Also in accordance with the policy requirement, the proposal will include some disabled parking provision, which in Highgate part of the proposal will serve the wheelchair accessible units, while the provision in the Greenwood Centre part will provide operational parking for the Centre. The remaining units at the Highgate building are proposed to be car free and included in Section 106 agreement forbidding any future occupiers applying for a parking permit.

4.21. In addition the proposal will be supported by Full Travel Plan, which would aim at reducing the car based trip reliance and aim at shifting trips into more sustainable modes of travel. The operational car parking and car parking for disabled users will be provided near the site; therefore no impact of the nearby car parking provision is predicted.

Raised Issue:

10. *Currently, customers queue to enter The Forum along Greenwood Place (south), standing next to the wall of The Forum on the pavement, to avoid causing congestion along the busy Highgate Road. When a queue is present (which can begin to form from early mornings on the day of a popular show), it is likely that there will be insufficient space for pedestrians, and particularly wheelchair users, to access the Site using the pavement on Greenwood Place (south). As per our comments in paragraph 6 above, the plans submitted in support of the*

Application appear to indicate that the pavement will be narrowed to facilitate the maintenance of the car parking bays along Greenwood Place (south) and street furniture may be removed. This could cause a potential hazard if our customers queuing to enter The Forum are forced to overspill into the road due to a lack of space, which would threaten their safety and that of road users.

11. *In addition to the proposed construction/demolition works to be carried out at the Site, it is also proposed that there shall be some major works carried out to address pedestrian accessibility issues in Greenwood Place. The proposed remodelling of Greenwood Place to remove the pay and display parking bays, widen/narrow pedestrian footways, pedestrianize part of the road and realign parking and provide new disabled parking, will cause significant disruption to customers visiting The Forum, and particularly queuing customers. The developer should be required to consult with the Company in respect of the construction and site management plan to manage the impact of the works on The Forum and its customers which is particularly pertinent during the venue's busy seasons.*

Response:

4.22. The mentioned footway along The Forum site is currently 2.4 metres wide. It has however a number of bollards set along the edge of the road at approximately 0.6m distance from the edge of the carriageway, therefore the operational width of the footway, as it stands at the moment is 1.6 metres (taking in account thickness of the placed bollards). The proposed removal of the bollards will allow for increase of the operational width of the road to 2 metres, which is wider than existing. The proposal will locally narrow the footway by 400mm, which would bring the edge of the carriageway closer to the existing bollards, but will not reduce existing operational width of the road. The safety of the pedestrians will be ensured by introducing full height kerbs along the parking bays to ensure that none of the vehicles parked in there encroach onto the footway. The proposed operational width of the footway will be sufficient for any wheelchair user to pass queuing people on the pavement.

4.23. Further, as mentioned in The Forum comment above there are already some issues with queuing people spilling onto Greenwood Place public highway, which precludes operation of the public highway and in connection with lack of street lighting can lead to Highway Safety issues. The proposal will introduce a safe and comfortable footway connection between the North and South Greenwood Place. Part of the proposal includes the creation of a pedestrianized, traffic free part of Greenwood Place, such a proposal was welcomed by The Forum during the neighbourhood consultation and it was even mentioned by The Forum that such provision will assist them with queuing management during large events,

as they could manage the people queue in zigzags on the pedestrianized section of the road. The proposal therefore will enhance the opportunities for The Forum people management prior to events and will increase highway safety, especially during the night times.

4.24. Furthermore the proposal includes extensive improvements to pedestrian facilities along Greenwood Place North, which in the case when any visitors, clients or staff members wanting to access the Greenwood Centre will consider Greenwood Place South too crowded will be able to use as safe secondary access route.

4.25. As previously mentioned the Construction Traffic Management Plan will be introduced and in place prior to any works starting.

Raised Issue:

12. *We note that the Application envisages that the Site (which shall include a day centre, cafe, residential units, assisted living units, and potentially additional commercial units) be developed on a car free basis however, this seems highly impractical given that the day centre is offered specifically to individuals with disabilities who in reality will travel to the Site solely by private car /minibus. The staffing level is to rise from the existing 11 persons to 68. No proper account has been taken of their legitimate parking needs.*

13. *To provide only 2 loading bays, and 4 minibus/7 disabled car parking spaces to service a day centre (where the Application states it expects 68 full time members of staff to be engaged and up to 369 clients to be accommodated on Site) and for use by community groups and social enterprises, is wholly inadequate. Paragraph 29.8 of the Camden Development Policy requires planning applications to demonstrate how the needs of disabled drivers have been addressed. It would appear that this Application has not addressed such needs to any sufficient degree. It would also appear to be contrary to paragraph 39 of the National Planning Policy Framework which requires local planning authorities to take into account the accessibility of the development when setting local parking standards. We note that the nearest Overground/tube station (Kentish Town) does not facilitate disabled access which will further encourage the use of private vehicles to attend the Site*

14. *Notwithstanding the availability of good public transport links in the area and the fact it is anticipated some visitors to the Site will travel together by minibus, it is highly likely that demand for car parking spaces along Greenwood Place shall increase. This is expected to be the case in view of there being an increased number of blue badge holders visiting the area.*

Response:

4.26. The site is located in area of excellent public transport accessibility and access to local amenities. The proposed development is put forward on a car free basis. The London Plan and Mayor's Transport Plan support and promote reduction of car ownership in Central London location, especially ones with high public transport accessibility. LBC supports the London Plan and Mayor's Plan objectives and support them by local policies.

4.27. Regional policy with regard to transport and movement is set out in Chapter 6 of the London Plan 2011. The strategy behind the policies within the London Plan is to reduce dependency on car travel and to actively encourage walking and cycling. The policies within the London Plan that aim to bring about these objectives and have a direct bearing on the proposed residential development are Policy 6.9, Policy 6.10 and Policy 6.13.

4.28. Local planning and transport policies against which development within the London Borough of Camden is assessed are set out in the Core Strategy Policies. Relevant policies include: DP 16, DP17, DP18, DP19 and DP21.

4.29. Policy DP 18 states clearly that: "The Council will expect development to be car free in the central London Area, the town centres of Camden Town, Finchley Road/Swiss Cottage, Kentish Town, Kilburn High Road and West Hampstead, and other areas within Controlled Parking Zones that are easily accessible by public transport."

4.30. Also in accordance with the policy requirement, the proposal will include some disabled parking provision, which in the Highgate part of the proposal will serve the wheelchair accessible units, while the provision in the Greenwood Centre part will provide operational parking for the Centre. The remaining units at the Highgate building are proposed to be car free and included in the Section 106 agreement forbidding any future occupiers applying for a parking permit.

4.31. The Greenwood Centre proposal is proposed on a car free basis for staff, while the clients will be well catered for in terms of parking provision.

4.32. Both developments will be introducing a Full Travel Plan, which will aim at reducing reliance on private vehicle trips and promoting more sustainable modes of travel.

4.33. It is recognised that the proposal will generate some new movements and will redirect some of the existing trips. The proposed Greenwood Centre is not predicted to generate

large amount of new trips, as the majority of services are already operating across the Borough, when they will move to new premises their related trips will shift their pattern and will arrive at the new centre. The HASC has a dedicated expert team managing the centres transport services, which is constantly working on improving their routing and performance. Their main aim is not only to allow safe client transfer to and from the centre, but also to maximize the service potential and improve its performance. The Centre transport services are closely managed and will incorporate staggering of the different service start times to avoid overcrowding, which is also not beneficial to the clients. The submitted Transport Assessment undertook full analysis of the predicted traffic impact of the Centre and the Highgate building and concluded that it will not have detrimental impact on local highway network.

4.34. The operational parking requirements were discussed with HASC and HASC Transport Services and were deemed sufficient. The existing centres operation includes minibus transfer of the majority of their clients. The site will not only attract wheelchair bound and mobility impaired clients. A large percentile of clients is capable of travel on their own or accompanied to the site by using public transport. It is planned to utilise the site's location to the full extent, in terms of public transport accessibility, especially due to the fact that usual Day Centre and CIL operation hours are outside of usual network peak times, where there is significantly more capacity on the public transport and the pressure on local road network is not that high. A full Transport Impact Assessment in relation to the nearby junction was undertaken in the TA, where it was concluded that predicted trip generation will not have detrimental impact on the local highway network. The proposal also includes the introduction of a Travel Plan, which will encourage staff and residents to travel to the site in via sustainable mode of transport.

4.35. While, as it was highlighted the Kentish Town station does not offer step free access, it offers a escalator access to the underground platforms, which can be potentially used by people with less limited mobility. The site is also serviced by a number of wheelchair accessible bus services, which in turn provide direct access to other step free stations allowing access to Network Rail and Underground services.

4.36. The applicant recognises the need to reduce the reliance on car based trips, especially on short distances and within areas with high public transport provision. The Applicant is committed to support their staff and encourage their more sustainable travel choices as the modal shift represents more opportunity for healthier and more active lifestyle.

Raised Issue:

15. *Greenwood Place, which we have already referenced as being a relatively narrow road and really only suitable for traffic moving in one direction; and being a road that is used by taxis as a pick-up and drop-off point, as well as being used by customers queuing to enter The Forum, will now, it is proposed, be relied upon as a means of access by a high number of visitors to the Site, which will inevitably cause heavy congestion. This will further result in a loss of amenity for all parties concerned, and poses a threat to the safety of pedestrians and road users, particularly since this road will be relied on as the only means of access to the Yard by heavy goods vehicles. The area around The Forum is already congested, given its location on a main road, and where a school, sports centre, shops, banks and eateries are all already within the immediate vicinity. It is imperative that the Company contributes to the local council's traffic management and accessibility plans to ensure that the current processes in place are not disturbed by the development. It would be our preference for Greenwood Place (south) to be an access-only road for use by vehicles servicing the Yard.*

Response:

4.37. It is recognised that Greenwood Place is a narrow road, the existing access and servicing arrangements (especially to The Forum) further infringe the Highway Safety on Greenwood Place. It is therefore believed that issue of HGVs traveling along this narrow road with no pedestrian facilities need to be addressed as soon as possible. The issue of The Forum visitors queuing along the building and sometimes even on unlit road reduces the safety in the area even further. It is applicant's belief that the proposed solutions will not only allow safe and easy access to the proposed development, but will also ensure that Highway Safety issues currently present within site vicinity are addressed and resolved to their and the neighbourhood's benefit.

4.38. The existing Yard access arrangements also allows a sole access route, which at the moment leads through the Greenwood Place North and is currently compromised by parking arrangements in the area. Assuming that all legal parking bays are occupied throughout Greenwood Place North with the existing access arrangements the access to the Yard will not be possible for any larger vehicles. Therefore it has to be noted that it is the applicant's good will and spirit of improving the neighbourhood that currently governs the proposal to address all the issues in the area instead of leaving inadequate and dangerous arrangements. Assuming that the proposal would not include any changes to existing highway arrangements, the Yard HGV access would remain impaired and dangerous to all road users.

4.39. The Greenwood Place South is unsuitable to be limited to provide access to the Yard only, as it currently provides access to more than this property and forms part of Public Highway Network. Greenwood Place South provides access to the Yard and also a J Murphy's builder's yard and on-road car parking spaces. The proposal is aimed at reducing the number of vehicles accessing Greenwood Place South to as little as possible, as well as maintaining the emergency and service access to all nearby properties and pedestrian permeability.

5.0 TRANSPORT STRATEGY COMMENTS

5.0. The Transport Strategy Officer has provided his comments in regards to the planning application on 18th of November 2013. Comments are attached in Appendix C for reference.

5.1. The comments were divided in relation to the site.

Highgate Road Site

5.2. The following issues were raised in relation to the Highgate Road Site:

PARKING

Comment:

"The car park adjacent to the Highgate Centre can accommodate at least 10 vehicles. It is unclear how well used the car park is, or whether is it reserved for use by staff, clients or both."

Response:

5.3. The car park at the existing Highgate Centre is capable of accommodating approximately 10 to 15 vehicles. There are no marked spaces. The car park is used mainly by staff and for parking of HASC Transport vehicles between being used to transport clients to and from nearby centres.

5.4. The undertaken 24hr parking survey showed that the car park was used by 13 vehicles throughout the day. 11 were private cars and 3 were minibuses. The survey recorded 5 long stay parked vehicles, which presumably belonged to staff and 3 shorter staying vehicles, which presumably belonged to clients or their carers. There were also 3 drop offs recorded. It has to be noted that two vehicles (minibus and a car) were parked on site throughout the day.

5.5. The data shows that the car park is mostly used by the staff and HASC Transport service. It is also worth noting that the passengers' and drivers' destination was not recorded and that although the car park is gated the gate is not used on regular basis.

CYCLE PARKING

Comment:

"Cycle parking for the Highgate Road residential units should be provided in accordance with the London Plan Revised Early Minor Alterations (October 2013), namely 1 space per 1 or 2 bedroom unit and 2 spaces per 3+ bedroom unit plus 1 space per 40 units for visitors. This gives a requirement for 46 cycle parking spaces. The submitted plan PL110 shows a bike store at the rear of the ground floor, accessed from the courtyard, which states that it can accommodate 48 cycles. The provision of cycle parking should be secured by condition. It is unclear whether all residents of the development will be able to access this bike store – this point should be clarified. "

Response:

5.6. The proposed 48 secured and sheltered cycle parking store, located at the back of the building, on the ground floor, will be accessible to all residents via back entrance or communal access core.

TRIP RATES

Comment:

"I have the following comments with regards to the trip rates used in the Transport Assessment for the Highgate Road site:

- *not all of the TRAVL sites used in the assessment of the residential units are reflective of the proposed development in terms of their location, accessibility (PTAL score) or the provision of car parking;*
    - *Discovery Dock is a large residential development located in Docklands, near South Quay DLR station. It has a PTAL score of 4 and parking is provided at the rate of 0.93 spaces per unit;*
    - *Green Dragon House is located just off Shaftesbury Avenue in Central London. It is a car free development with a PTAL score of 6;*
    - *Sewardstone Road is located in Bethnal Green and has a PTAL score of 3. Whilst parking is provided at the rate of 0.4 spaces per unit, on-street parking is also available;*
    - *Stanley Close is located in New Eltham, a considerable distance from Central London. It has a PTAL score of 3 and parking is provided at the rate of 1.1 per unit;*

- *Winchester Mews is located in Swiss Cottage. It is a car free development with a PTAL score of 6a (not 3 as stated in TRAVL).*

- *the residential trip rate analysis should be re-run using a more appropriate selection of sites. It may be appropriate to use the TRICS database, rather than TRAVL, as there is often a greater selection of sites. I don't believe it is necessary to provide separate trip rates for the supported living units as these can be treated as standard units for simplicity and robustness.*

- *the modal split percentages should be based upon the local Output Area data for the surrounding areas, not the Ward data. These areas can be viewed and selected by using the Custom, Map, 2011 Statistical Geography Hierarchy option in Neighbourhood Statistics;"*

Response:

5.7. The TRAVL assessment was undertaken in accordance with the good practice guidelines and the aim was to maximise the number of suitable sites. It is considered that the choice of sites was reasonable in terms of low car parking provision and higher PTAL scores. It was also an aim not to limit the chosen number of sites too much, so a minimum of 5 sites would be used in the assessment. The applicant is also not responsible for mistakes made in the TRAVL database, as this is outside of their control. However if the choice preference would be to match the TRAVL sites exactly to the proposal, in accordance with the information provided by the Officer the selected sites would be limited to 2 sites, Green Dragon House and Winchester Mews.

5.8. Both sites are car free developments, surveyed within last 3 years and have excellent PTAL scoring (when omitting the TRAVL database mistake). The outputs of the TRAVL Database are included in Appendix D.

5.9. As a comparison of TRAVL and TRICS established trip rates was requested Table 5.1 below shows comparison of the original trip rates, updated TRAVL trip rates and TRICS based trip rates. For the TRICS database 2013(b)v6.12.2 search the following criteria were used: C3-residential C-flats privately owned category; multimodal trip rates; located within Greater London in Town Centre or Edge of Town Centre; surveys undertaken during weekday (Monday to Friday); with between 20 and 80 units; surveyed on or after 1st of January 2008.

5.10. As a result of the search two sites were highlighted: Wynnstay Gardens (KN-03-C-03) and The Village (WH-03-C-01). The chosen sites are in 5 and 6 PTAL areas, however they do provide parking on site.

5.11. Another search was undertaken using the C3-residential M-mixed private/non-private housing category and maintaining all other restriction, which turned out no sites whatsoever. Therefore the two sites previously discovered (Wynnstay Gardens and The Village) were used in the comparison. TRICS outputs are attached in Appendix E.

Table 5.1: Summary Comparison of All Modes Trip Rates between the original TRAVL outputs, Updated TRAVL outputs and TRICS outputs (per unit)

Dataset:	AM Peak (8.00-9.00)		PM Peak (18.00-19.00)		Whole day (7.00-19.00)	
	Arrivals:	Departures:	Arrivals:	Departures:	Arrivals:	Departures:
Original Estimation:	0.178	0.764	0.541	0.328	3.201	3.725
Updated TRAVL Estimation:	0.176	1.196	0.647	0.392	4.490	5.039
TRICS Estimation:	0.118	0.882	0.196	0.039	1.931	2.058

5.12. As it can be seen from the above table the trip rates used in the original assessment were reasonably well suited as an average of two extremes. However for the purpose of robustness the updated figures were re-analysed.

5.13. Following comments the obtained trip rates were used across whole proposed units (42) instead of separating the supported living units. Table 5.2 shows comparison of the obtained number of all people trips.

Table 5.2: Summary Comparison of All Modes Trips

Peak Time:	Arrivals:	Departures:	Total:
Original Assessment			
AM Peak	8	29	37
PM Peak	20	13	33
Whole day (12h)	127	145	272
Updated Assessment			
AM Peak	7	50	57
PM Peak	27	16	43
Whole day (12h)	189	212	401

5.14. The updated analysis shows that there will be 129 additional all people trips predicted to be generated by the proposal. This is however considered an overestimation, mainly due to the proposed 8 supported living units, which are expected to provide lower trip generation than the usual privately owned apartment.

5.15. For the robustness however the larger trip generation (401) was considered in the multimodal trip assessment. Table 5.3 shows a comparison between the original Census assessment based on the Ward level and the Updated assessment based on the Local Output Area.

Table 5.3: Census based multimodal split

Mode of Travel:	Ward based Percentile:		Local Output based Percentile:	
	Including Motor Vehicles and work from home:	Excluding Motor Vehicles and work from home:	Including Motor Vehicles and work from home:	Excluding Motor Vehicles and work from home:
Work mainly at or from home	7.53%		14.69%	
Underground, metro, light rail, tram	31.50%	38.14%	30.81%	41.67%
Train	7.82%	9.47%	9.95%	13.46%
Bus, minibus or coach	18.92%	22.91%	9.95%	13.46%
Taxi	0.48%	0.58%	0.00%	0.00%
Motorcycle, scooter or moped	0.93%		1.90%	
Driving a car or van	8.38%		6.64%	
Passenger in a car or van	0.57%		2.84%	
Bicycle	10.81%	13.09%	14.22%	19.23%
On foot	12.22%	14.79%	8.53%	11.54%
Other method of travel to work	0.85%	1.02%	0.47%	0.64%

5.16. As it can be seen from the above table the difference between multimodal spits are marginal. The updated data shows an increase in cycling, underground and train usage, while dropping the reliance on buses, taxis and walking. Applying the updated multimodal split to the updated trip generation number of predicted trips can be estimated. Table 5.4 shows the estimated multimodal trips.

Table 5.4: Census based multimodal split

Mode of Travel:	Predicted Trips:
Underground, metro, light rail, tram	167
Train	54
Bus, minibus or coach	54
Taxi	0
Bicycle	77
On foot	46
Other method of travel to work	3

5.17. Comparing the previously derived trip generation to the updated one, it is clear that the largest impact will be on Underground trips (an increase of 62 trips throughout the whole day), train usage (29 trips throughout the whole day) and cycling trips (41 trips throughout the whole day). While there will be 6 additional on foot trips throughout the whole day and reduction of 9 bus trips throughout the whole day and 1 taxi based trip.

5.18. The increase in public transport patronage, in accordance to previous assessment, is expected to be increased to 0.8%, which is still considered marginal.

Comment:

- *there should be a consistency in the AM and PM peak hours used for the different land uses. The arrival and departure figures should be shown for the full 12 hour day, not just the peak hours;*

Response:

5.19. The trip rates obtained from the TRAVL database indicated that different land uses (Residential and Assisted Living) had different travel patterns, which was manifested by peak generation being across different hours.

5.20. The assessment presented the generation during the actual peak times, however for the purpose of the junction capacity assessment was decanted into network peak times to represent the most robust assessment with highest possible peak time trips (as explained in paragraph 7.3.18 of the TA), which was shown in Table 7.13.

5.21. All trip generation tables included in the TA were inclusive of AM, PM times generation, as well as the 12h generation figures (tables: 7.2, 7.7, 7.9, 7.12 and 7.13 of the TA).

Comment:

- *"the totals in Tables 7.7 and 7.8 do not tally. It is unclear how many staff there will be at the assisted living units or why the number of car trips is so high as it is unlikely that people with learning disabilities will be able to drive, although the staff might make occasional trips by car. This should be explained or revised."*

Response:

5.22. The numbers shown in Table 7.7 represent the Assisted Living units predicted trip numbers. The number correspond directly to the car free trips listed in Table 7.8 (from Underground to Other modes of transport), which represents the predicted daily number of multimodal trips.

5.23. The initial number (16 car driver trips) was added in addition to the predicted trips for the robustness of the assessment, as explained in paragraph 7.2.3 of the TA. 8 additional vehicles were added to network, which equates to 16 two way trips.

5.24. It is acknowledged that table 7.8 has a misspelling of "additional (see 3.3)", which should be referring to paragraph 7.2.3 of the TA instead of 3.3.

5.25. There are no residential staff predicted to be present on site at all times. The staff presence will depend directly on individual needs of the clients who will be occupying the units. Some of the clients may require staff to be within their units throughout most of the day, while some clients will require only daily or occasional visit. Therefore while the total number of staff cannot be confirmed the assessment took a reasonably robust approach and added potential vehicular movements required for some staff members or for deliveries/ drop-offs or pick-ups.

5.26. While the people with learning difficulties are unlikely to drive, some of them may require frequent deliveries of medications, supplies or groceries etc. Therefore the 16 two way daily trips were added, this number represent one delivery/drop-off etc. per day per unit, which is considered reasonable and robust approach.

Greenwood Place Site

5.27. The following issues were raised in relation to the Greenwood Place Site:

PARKING

Comment:

"-the provision of a long Disabled bay adjacent to the northern part of the new Greenwood Centre frontage capable of accommodating 5 cars or 2 minibuses;"

Response:

5.28. The proposed long disabled parking bay along the Greenwood Centre frontage is capable of accommodating up to three minibuses. The bay is designed with side loading minibuses in mind, while the two bays within the curtilage of the site are designed for mainly back loading minibuses.

CYCLE PARKING

Comment:

"The Transport Assessment states that 16 cycle parking spaces will be provided at the new Greenwood Centre, with 8 spaces for staff and 8 spaces for visitors. However, submitted plan PL160 shows only 8 cycle parking spaces in a corridor which runs along the northern boundary of the site. It is unclear whether this corridor is to be used as an emergency exit. The proposed layout is unsatisfactory and it should to be revised to provide 16 spaces as stated in a more appropriate manner. The provision of good quality cycle parking facilities will help encourage both staff and clients (where physically able) to cycle to and from the site.

The London Plan REMA requires the provision of 1 cycle parking space per 10 staff and 1 space per 10 visitors for D1 health centres. With 68 staff and between 250 and 300 clients attending the centre at any time, this would give a requirement for 7 staff spaces and 30 visitor spaces. However, given the nature of disability that many clients will have it is considered that this requirement can be reduced in this instance and that the proposed level of cycle parking is acceptable. The applicants have stated that additional cycle parking will be provided if required, although it is unclear how this will be achieved with the current layout."

Response:

5.29. The proposed 16 cycle parking spaces are located in three different areas of the development. The location of spaces relates directly to their target audience.

5.30. 8 cycle parking spaces located in the corridor will be dedicated to staff members. The corridor is a service corridor, which is a secured location and can be used as an emergency exit, however it is not a single escape route.

5.31. The cycle parking spaces will be provided in the form of wall mounted bicycle storage units. The detail design is still to be confirmed, however the theory is to attach the stands to wall to ensure that the cycles are securely stored and will not fall over and block the corridor.

5.32. The remaining 8 cycle spaces will be provided in form of Sheffield stands (4 stands). Four of them will be located within the curtilage of the site, near the entrance to mental health services, while the remaining four will be located on the pedestrianized section of the Greenwood Place, where they will be available for use by centre visitors, as well as by the members of public.

5.33. The proposed locations were chosen based on the highest possibility of client group cycling to the centre, as well as the overlooking and permeability of the site.

5.34. The possible future provision might be accommodated within the corridor for staff, as double stacking of bicycles and along the eastern wall of the centre where there is still some space available for visitors parking. The additional parking provision might be also considered on the public highway to improve the cycle parking provision for all local visitors.

TRIP RATES

Comment:

"I have some concerns with regard to the trip rate assessment of the proposed Greenwood Centre, as follows:

- *It is stated that there will be a maximum of approximately 369 clients and 68 staff. Whilst it is stated that there will be on average 250 to 300 clients present at any time, all of the subsequent calculations are based on the lower figure of 250."*

Response:

The proposed maximal occupancy of the centre was derived taking under account the maximum occupancy of the building, including the multipurpose auditorium. The usual maximal occupancy based on the information provided by the HASC is 250 clients. The occasions where the 250 client occupancy will be exceeded are expected to be very infrequent therefore the lower number was used for assessment.

Comment:

- *"It is disappointing that a travel survey of staff at the existing Highgate Road, Raglan Close and Shoot Up Hill centres has not been carried out. This would have helped determine the likely modal split of staff travelling to the new centre. However, the use of the residential modal split is reluctantly accepted subject to the comment above.*

- *No information has been provided about the existing Highgate Road centre, such as the number of staff and clients or their current travel arrangements – do clients travel by minibus or do they travel independently? "*

Response:

5.35. Due to the nature of the centres it was not possible to undertake a usual travel surveys, as they would require direct client input. Also a direct survey was deemed too intrusive for the centre clients, as some of them might felt uncomfortable with auditors being present in front of the centre.

5.36. Due to those reasons the provided data was based on HASC provided information only. The existing Highgate centre has a minibus service with some of the clients also traveling to the site independently.

Comment:

- *"It is very disappointing that full travel surveys were not carried out of clients at the existing Highgate Road, Raglan Close and Shoot Up Hill centres. This would have helped determine the likely modal split of clients and their carers travelling to the new centre. The data that has been provided is very limited and seems to underestimate the number of clients and minibus and car/taxi movements, for example:*

- *whilst the Shoot Up Hill centre is served by 3 minibuses doing one round each, the Raglan Centre is served by 2 minibuses doing 2 rounds each, giving a total of 7 arrivals and 7 departures (not 5 as stated);*
- *there are on average 10 clients per Shoot Up Hill minibus and 7-8 clients per Raglan minibus (75 clients in total);*
- *it seems unrealistic and overambitious to assume that just 50 of the new clients will travel to the site by minibus. This would suggest a requirement for 5 minibuses, not 4 as stated;*
- *it also seems unrealistic and overambitious to assume that the remaining 125 new clients (or 175 if the daily total is 300) will travel to the centre by other means. These new clients include unspecified numbers of younger people with Profound and Multiple Learning Difficulties (PMLD) and Autistic Spectrum Disorder (ASD), people with disabilities attending the new Centre for Independent Living (CIL), and existing mental health clients of the Highgate Road centre. No information has been provided to back up these assumptions. These figures should therefore be revised in light of further discussions and assessment by HASC;*
- *taking the figures given in Table 7.11 and the above comments into consideration suggests that there would be at least 12 minibus arrivals/departures and 30 car/taxi arrivals/departures in each peak hour (assuming each client travels separately, equivalent to 1 every 2 minutes), which gives a total of 42 vehicle arrivals and 42 departures (not 19 as stated);*
- *if it is assumed that each minibus takes around 15 minutes to drop off or pick up clients, then at least 3 bays are required in order to serve all 12 minibuses in one hour, whilst 2 bays will require up to two hours. More bays or a longer time frame will be required if the drop off/pick process takes longer than 15 minutes per minibus;*
- *if higher numbers of new clients require the use of a minibus service then a longer arrival/departure timeframe and/or more bays will be required;*
- *assuming that all arrivals and departures occur in the same hour suggests that the proposed drop off/pick up area is insufficient to cater for the expected level of demand. It would therefore be more realistic to assume that arrivals and departures will be spread over a 2 to 3 hour period as suggested in the report – this should be verified through discussions with HASC;"*

Response:

5.37. HASC has confirmed in discussions that all minibus arrivals and departures will be closely managed and spread over time. The centre's usual opening times for the clients will be adjusted to avoid congestion; also different opening hours will be applied to different sections of the centre (CIL, Mental Health Services, PMLD, ASD).

5.38. The embarking/disembarking process is expected to take different times, the proposed site arrangements will allow TASK (Transport for Adult Social Care) to operate longer embarking/disembarking within the two bays located within the curtilage of the site, while the shorter embarking/disembarking will take place on the bay along the site frontage.

5.39. The longer embarking/disembarking process is expected with wheelchair users, who will be using rear lift to access the minibuses, while the shorter process is expected for other users, who will be embarking/disembarking minibuses via side doors. The centre staff will assist in the whole process and will lead the clients to the centre.

5.40. Therefore the proposed 5 minibus loading spaces are considered sufficient to provide safe stopping area for embarking/disembarking for all the clients. HASC has also confirmed that the 5 proposed bays will be sufficient for the future needs of the centre.

5.41. The increased number of trips was taken into account and the junction capacity assessment was undertaken to re-assess vehicle movements during the peak times. The results summary is shown in Table 5.5 and 5.6 below, while the entire results are shown in Appendix F.

Table 5.5: Summary of junctions analysis: 2015 Opening Year weekday peak hours

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2015 Developed - 2015 Dev							
Junction 1 - Stream B-ACD	0.33	17.58	0.23	C	0.40	15.87	0.29	C
Junction 1 - Stream A-B	-	-	-	-	-	-	-	-
Junction 1 - Stream A-C	-	-	-	-	-	-	-	-
Junction 1 - Stream A-D	0.13	11.84	0.10	B	0.10	8.83	0.09	A
Junction 1 - Stream D-ABC	0.36	16.94	0.25	C	0.08	13.07	0.08	B
Junction 1 - Stream C-D	-	-	-	-	-	-	-	-
Junction 1 - Stream C-A	-	-	-	-	-	-	-	-
Junction 1 - Stream C-B	0.14	10.39	0.10	B	0.04	8.53	0.04	A
Junction 2 - Stream B-ACD	0.01	12.96	0.01	B	0.02	14.38	0.02	B
Junction 2 - Stream A-B	-	-	-	-	-	-	-	-
Junction 2 - Stream A-C	-	-	-	-	-	-	-	-
Junction 2 - Stream A-D	0.00	0.00	0.00	A	0.04	10.84	0.03	B
Junction 2 - Stream D-ABC	0.42	22.58	0.26	C	0.42	21.13	0.28	C
Junction 2 - Stream C-D	-	-	-	-	-	-	-	-
Junction 2 - Stream C-A	-	-	-	-	-	-	-	-
Junction 2 - Stream C-B	0.03	14.88	0.02	B	0.01	8.23	0.01	A

Arm A = Highgate Road (to east), Arm B = Greenwood Place, Arm C = Highgate Road (to west) Arm D = Burgle Road (Junction 1) or Fortess Walk (Junction 2)

Table 5.6: Summary of junctions analysis: 2020 Future Year weekday peak hours

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2020 Developed - 2020 Dev							
Junction 1 - Stream B-ACD	0.37	19.36	0.25	C	0.47	17.47	0.33	C
Junction 1 - Stream A-B	-	-	-	-	-	-	-	-
Junction 1 - Stream A-C	-	-	-	-	-	-	-	-
Junction 1 - Stream A-D	0.15	12.40	0.11	B	0.11	9.16	0.10	A
Junction 1 - Stream D-ABC	0.44	18.79	0.29	C	0.09	13.91	0.09	B
Junction 1 - Stream C-D	-	-	-	-	-	-	-	-
Junction 1 - Stream C-A	-	-	-	-	-	-	-	-
Junction 1 - Stream C-B	0.16	10.72	0.11	B	0.05	8.79	0.05	A
Junction 2 - Stream B-ACD	0.02	13.67	0.02	B	0.02	15.42	0.02	C
Junction 2 - Stream A-B	-	-	-	-	-	-	-	-
Junction 2 - Stream A-C	-	-	-	-	-	-	-	-
Junction 2 - Stream A-D	0.00	0.00	0.00	A	0.04	11.13	0.03	B
Junction 2 - Stream D-ABC	0.51	25.17	0.30	D	0.52	24.08	0.33	C
Junction 2 - Stream C-D	-	-	-	-	-	-	-	-
Junction 2 - Stream C-A	-	-	-	-	-	-	-	-
Junction 2 - Stream C-B	0.04	15.12	0.02	C	0.01	8.46	0.01	A

Arm A = Highgate Road (to east), Arm B = Greenwood Place, Arm C = Highgate Road (to west) Arm D = Burgle Road (Junction 1) or Fortess Walk (Junction 2)

As it can be seen from the above tables the updated traffic generation had virtually no impact on the operation of nearby junctions. The impact is limited to approximate 3 second delay throughout the peak hour, across both junctions and increase in RFC by 0.08, which is considered marginal and virtually unnoticeable.

4.0 TRAVEL PLAN

4.0. The submitted Travel Plan was also commented on by the Travel Plan Monitoring Officer. The general comments included complements on good quality of the Travel Plan, as well as confirmation that the residential part of the development will not require Travel Plan.

4.1. The proposed outline Travel Plan was updated to reflect the above fact, as well as to incorporate some additional information requested in Officers comments.

Comment:
"1.20 please include that details of the TPC will be sent to the council once decided this should be organised no less than 3 months before occupation of the site. Details can be sent to travelplans@camden.gov.uk"

Response:

4.2. Due to the draft nature of the submitted Travel Plan and the reasonably long span of time until the TP implementation and development occupation the Travel Plan Coordinator details are currently unknown.

4.3. A paragraph was added to reflect the 3 month requirement and LBC Travel Planning contact details.

Comment:
"Please include the Survey Templates that will be used, this can be inserted as an appendix."

Response:

The example Travel Surveys were included in Appendix 2 of the Travel Plan.

Comment:
"Please include additional M & R details.
A survey should be conducted 6 months after occupation, which will make up the baseline and target altered to compensate. These need to be then submitted to the council for approval.
A review of the TP should be conducted 1, 3 & 5 years after occupation and submitted to the council for approval."

Response:

4.4. The Baseline surveys re described in paragraph 3.9. Additional paragraph was added to Chapter 7.

4.5. Review requirements added to the Travel Plan.

Comment:

"Please include an actions plan, which includes all aspects of the TP.

- *TPC appointing*
- *Reviews*
- *Surveys*
- *Initiatives*
  - *Cycle days*
  - *Cycle Loans*
  - *cycle parking/showers installed"*

Response:

4.6. Action list added.

Comment:

"Please include details of who will be responsible for funding the TPC role and TP initiatives"

Response:

4.7. LBC HASC will be responsible for founding the Travel Plan, Travel Plan Coordinator and any initiatives, added to Travel Plan.

APPENDIX A: MAMA COMPANY LETTER

MAMA & COMPANY

59-65 Worship Street
London
EC2A 2DU

FAO: Neil McDonald
Planning Services
Camden Council
Camden Town Hall
Argyle Street
London
WC1 8EQ

Date: 25 October 2013

PROPOSED DEVELOPMENT: The Greenwood Centre, Greenwood Place and Highgate Day Centre, 19-37 Highgate Road, London NW5 (the "**Development**")
PLANNING APPLICATION NUMBER: 2013/5947/P
APPLICANT: The London Borough of Camden
SUBMITTED: 3 October 2013

Dear Mr McDonald,

I write in connection with the notification that we received from Tibbalds Planning & Urban Design Limited ("**Tibbalds**") notifying The Forum Club (Kentish Town) Limited ("**Company**") of the planning application (the "**Application**") made by the London Borough of Camden ("**Applicant**") in respect of the above site ("**Site**").

The Company, as owners and operators of the live music venue known as The Forum (located at 9-17 Highgate Road, London NW5 1JY, adjacent to Greenwood Place (south) ("**The Forum**")) is extremely concerned at the potential impact that the development is likely to have on the operation and servicing of The Forum. The Forum is a well-established local and regional facility, the continued operation of which should not be jeopardised.

The Company recognises the Council's intention to redevelop the two sites and has no objection in principle to redevelopment in order to provide the care facilities proposed. The Company however, objects strongly to the proposals contained in the current Application because they are likely to have an unnecessary adverse impact upon the operation of The Forum for the reasons set out below.

In summary:

(a) The Company objects strongly to the proposals in the current Application.

(b) Improved provision for vehicular and pedestrian access to The Forum should be secured.

(c) The noise assessment in respect of The Forum is inadequate. It would be unsafe for the Council to make a decision based on it.

(d) The residential flats should be re-designed so that there are no openings in the flank walls facing The Forum.

If, notwithstanding our representations, the Council were to grant permission, it should impose effective conditions to deal with all the points set out in this letter.

MAMA & COMPANY

LOSS OF AMENITY - direct impact on The Forum

Service vehicles' ingress and egress at The Forum

1. Vehicles servicing the Forum, including lorries and large artist tour buses, currently access the yard area to the rear of The Forum ("**Yard**") via Greenwood Place (north). The most direct route for such vehicles to access The Forum is via Greenwood Place (south), however the relatively narrow width of Greenwood Place (south), and the lack of available space at the end of Greenwood Place (south) to allow a wide vehicle to turn into the Yard, currently precludes access for service vehicles attending The Forum via Greenwood Place (south).

2. The Application puts forward the proposal that Greenwood Place (north) is pedestrianised, and access for all vehicles, including service vehicles attending the Yard, is closed off. Therefore, the only means of access for service vehicles to attend The Forum would be via Greenwood Place (south). This is currently impossible without the road being remodelled. There is no provision for a turning point at the foot of the road, and the gates to the Yard would need to be repositioned in order to create space for such a turning point.

3. It is noted that Tibbalds, acting on behalf of the Applicant in connection with this Application, has given consideration to the repositioning of the gates to the Yard to ensure that a means of access for service vehicles attending The Forum is maintained. The plans in support of the Application do not make sufficiently clear the revised position of the gates, and as a result the Company cannot assess whether practically, the re-model would be fit for purpose and not prevent ingress and egress at The Forum. The repositioning of the gates should be a condition to any planning consent being granted and the Company should be fully consulted on any plans or proposals in this respect. Any changes must be strictly subject to the approval of the Company and the Applicant should be responsible for obtaining the consent of the owner of the Yard, Murphys, to make these adjustments. Any costs associated with the remodel must be met solely by the Applicant, and the remodel of the gates must take place before any other works connected to the Application are commenced, to ensure that ingress and egress at The Forum is maintained.

4. Any planning permission that is granted would also need to include the condition that during the construction process, no lorries involved in the construction would be able to park on Greenwood Place (south) other than those required to effect the remodelling of the gates.

5. It is also pertinent to mention that the Company maintains a clearway as a means of exit from The Forum in case of emergency. It is likely that this clearway will be jeopardised and the Company shall be in breach of its health and safety obligations, unless the repositioning of the gates, and any other remodelling works carried out on Greenwood Place (south) are carefully managed, in consultation with the Company.

6. The Application envisages that the pay and display parking bays currently located on Greenwood Place (south) are moved further down that road, and the pavement running alongside The Forum is narrowed to accommodate the car parking bays. Given that it is suggested that the one and only means of access for wide service vehicles attending the Yard would be via Greenwood Place (south), to maintain that cars may park down Greenwood Place (south) is certain to cause congestion and threaten the safety of pedestrians, including clients and visitors to the Site, particularly as the bays are currently used by the local taxi company as pick-up and drop-off points.

MAMA & COMPANY

7. In addition, it is unclear whether to accommodate pedestrian access to the Site via Greenwood Place (south), adjustments would need to be made to the pavement to allow for access by wheelchair. If this would result in the footpath being widened at any point, then it would further reduce the size of an already narrow road, which, if access via Greenwood Place (north) is prevented, would need to be of a sufficient size to accommodate large heavy goods vehicles.

8. It should be noted that there is currently no street lighting provided along Greenwood Place (south). Any increase in use of Greenwood Place (south) should require increased street lighting provision to protect the safety of pedestrians and road users alike.

9. Please further note that as part of its premises licence conditions, the Company maintains two car parks in the immediate vicinity of The Forum which is for use by its patrons only. The Company is concerned (as stated in this letter below) that there will be increased demand for parking. Any such increase should not encroach upon these designated car parking areas.

Customers' ingress and egress at The Forum

10. Currently, customers queue to enter The Forum along Greenwood Place (south), standing next to the wall of The Forum on the pavement, to avoid causing congestion along the busy Highgate Road. When a queue is present (which can begin to form from early mornings on the day of a popular show), it is likely that there will be insufficient space for pedestrians, and particularly wheelchair users, to access the Site using the pavement on Greenwood Place (south). As per our comments in paragraph 6 above, the plans submitted in support of the Application appear to indicate that the pavement will be narrowed to facilitate the maintenance of the car parking bays along Greenwood Place (south) and street furniture may be removed. This could cause a potential hazard if our customers queuing to enter The Forum are forced to overspill into the road due to a lack of space, which would threaten their safety and that of road users.

11. In addition to the proposed construction/demolition works to be carried out at the Site, it is also proposed that there shall be some major works carried out to address pedestrian accessibility issues in Greenwood Place. The proposed remodelling of Greenwood Place to remove the pay and display parking bays, widen/narrow pedestrian footways, pedestrianise part of the road and realign parking and provide new disabled parking, will cause significant disruption to customers visiting The Forum, and particularly queuing customers. The developer should be required to consult with the Company in respect of the construction and site management plan to manage the impact of the works on The Forum and its customers which is particularly pertinent during the venue's busy seasons.

DEVELOPMENT ACCESSIBILITY - inadequate parking

12. We note that the Application envisages that the Site (which shall include a day centre, cafe, residential units, assisted living units, and potentially additional commercial units) be developed on a car-free basis however, this seems highly impractical given that the day centre is offered specifically to individuals with disabilities who in reality will travel to the Site solely by private car/minibus. The staffing level is to rise from the existing 11 persons to 68. No proper account has been taken of their legitimate parking needs.

13. To provide only 2 loading bays, and 4 minibus/7 disabled car parking spaces to service a day centre (where the Application states it expects 68 full time members of staff to be engaged and up to 369 clients to be accommodated on Site) and for use by community groups and social enterprises, is wholly inadequate. Paragraph 29.8 of the Camden Development Policy requires planning applications to demonstrate how the needs of disabled drivers have been addressed. It would appear that this Application has not addressed such needs to any sufficient degree. It would also appear to be contrary to paragraph 39 of the National Planning Policy Framework which requires local planning authorities to take into account the accessibility of the development when setting local parking standards. We note that the nearest overground/tube station (Kentish Town)

does not facilitate disabled access which will further encourage the use of private vehicles to attend the Site

14. Notwithstanding the availability of good public transport links in the area and the fact it is anticipated some visitors to the Site will travel together by minibus, it is highly likely that demand for car parking spaces along Greenwood Place shall increase. This is expected to be the case in view of there being an increased number of blue badge holders visiting the area.

15. Greenwood Place, which we have already referenced as being a relatively narrow road and really only suitable for traffic moving in one direction; and being a road that is used by taxis as a pick-up and drop-off point, as well as being used by customers queuing to enter The Forum, will now, it is proposed, be relied upon as a means of access by a high number of visitors to the Site, which will inevitably cause heavy congestion. This will further result in a loss of amenity for all parties concerned, and poses a threat to the safety of pedestrians and road users, particularly since this road will be relied on as the only means of access to the Yard by heavy goods vehicles. The area around The Forum is already congested, given its location on a main road, and where a school, sports centre, shops, banks and eateries are all already within the immediate vicinity. It is imperative that the Company contributes to the local council's traffic management and accessibility plans to ensure that the current processes in place are not disturbed by the development. It would be our preference for Greenwood Place (south) to be an access-only road for use by vehicles servicing the Yard.

NOISE AND DISTURBANCE

16. It is a key concern of the Company to ensure that the proposed development does not give rise to any complaints regarding noise or disturbance from, or in connection with, The Forum. Any complaints made to the local council, or any dissatisfaction within the locality regarding the operations of the Company could have serious and significant consequences for our business, which may ultimately lead to revocation of our premises licence. As a long standing establishment with a rich heritage in providing entertainment to the local area since 1934, any threat to the future of The Forum as an entertainment and live music venue must be given serious consideration.

17. We note that the conclusion of the Entertainment Source Noise Survey is that the impact of noise levels on the proposed development can be controlled (a) through the use of standard thermal double glazing; and (b) a mechanical ventilation system with heat recovery (MVHR) to be adopted in each dwelling to reduce the need for occupants to open their windows (where open windows could mean occupants are affected by noise).

18. We consider that it is unrealistic to suggest that occupants of the development will not open windows, and as a result we believe they shall be impacted by the noise generated by The Forum. In fact, the MVHR in itself generates a small amount of noise and may be considered an unsatisfactory solution to combat an alternative source of noise. Therefore, we do not think that the current noise attenuation measures are adequate to address the issue of noise and as such more effective attenuation measures will need to be recommended and included as a condition to any planning consent.

19. Given that the current noise attenuation measures are inadequate, for the reasons set out below, any planning permission granted should contain a condition that any residential flats facing The Forum should be re-designed so that there are no openings in the flank walls facing The Forum.

20. The Camden Development Policy DP28 states that it will not grant planning permission to support "development sensitive to noise in locations with noise pollution, unless appropriate attenuation measures are provided." Given that the development shall be used for purposes particularly sensitive to the impact of noise, we do not believe that the proposed sound attenuation measures are sufficient. Whilst the Noise Impact Assessment ("NIA") suggests that noise will not have a detrimental impact for those in the roof garden or with 'winter garden type' balconies, in our experience this is an unrealistic conclusion. Please note that The Forum has a capacity of 2,350 and is licensed to serve alcohol and late night refreshments until 2am Monday to Saturday, and until midnight on Sunday, with music and entertainment licensed until half an hour before each of these times. On up to six occasions each year, The Forum has extended licensed hours up to 6am depending on the date of the event. As is inevitably the case where a live music venue is located within a residential neighbourhood, local residents have historically made complaints about noise and disturbance linked to The Forum. Whilst the Company works closely with the local residents' committee to promptly resolve any such issues as they arise, it is more than likely that as new residents move into the area and the pool of potential protesters increases, other complaints may be received.

21. Further, to allow flats to be built which "over hear" the noise is to increase the inevitable likelihood of complaints. It is also likely to raise concerns about occupants' safety and security, which is a natural consequence of residential units being developed in the immediate vicinity of a live music venue with a late licence. As a result, we are of the view that the proposed development will not be able to meet the advice set out in paragraph 123 of the National Planning Policy Framework, which requires any planning decision to "avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development."

22. In addition the Development would appear to fall under the definition of "noise sensitive development" under paragraph 28.2 of the Camden Development Policy. The same paragraph also recognises that noise is generated by venues such as The Forum. Paragraph 28.3 of the Camden Development Policy states that planning permission will only be granted for development sensitive to noise in locations that experience noise pollution if appropriate attenuation measures are taken. As set out in paragraph 18, above we do not think that the current noise attenuation measures that have been recommended are appropriate and therefore granting planning permission for this development would be contrary to the Council's own policy on noise.

Noise Impact Assessment - Methodology

23. Notwithstanding our comments above, the methodology adopted in the course of carrying out the NIA is flawed, for the reasons set out below:

    - Contrary to the statements made in the NIA, no event was held at The Forum on 16 June 2013 and therefore the impact of noise arising from an event at The Forum was not correctly represented.

    - In any event, noise measurements taken between the hours of 21:30 and 23:00 is not a sufficiently broad time frame, nor carried out at the appropriate hours, to accurately reflect the highest level of noise that The Forum could generate. At these times, it is unlikely that The Forum would have reached its full capacity, and therefore the level of noise in respect of both people talking/shouting outside, and music breakout, would not be at a maximum.

    - Due to the nature of the local area (i.e. busy main road, availability of public transport throughout the night, shops, restaurants and bars), background noise is constantly changing and will vary significantly depending on the time of the day. A reading of background noise cannot be accurately ascertained by an assessment carried out over a 1-hour period during the day and a 5 minute period at night. As per the methodology adopted on page 9 of the NIA, the likelihood of noise provoking complaints is assessed by subtracting the background noise level from the rating noise level. To rely on an

inaccurate reading of background noise will impact upon the assessment of the effect of noise, when background noise is subtracted from the rating noise level.

- Based on our experience, which extends to the management of live music venues throughout the UK and the organisation and operation of four annual large scale festivals for the past 13 years, we are strongly of the view that the conclusion reached in the NIA is incorrect. Noise levels frequently exceed the figures represented in the NIA, and that an assessment of rating noise against background noise should be based on an average of readings taken over a greater period of time, to accurately reflect the environmental conditions of the locality.

- Other variables were not taken into account as part of the NIA, for example The Forum has now re-located its external smoking area to a different area outside of the building, and changing the origin of sound is likely to impact upon noise levels. Further, the impact of noise emanating from The Forum on the higher floors of the proposed development are only estimates and are unlikely to follow the readings assessed at lower floors of the building due to the nature of the movement of sound (which cannot be accurately predicted). In addition, as far as the assessment shows, the position of the microphone testing the sound was not changed during the course of the assessment.

- As the Council will appreciate it is unsafe to make a planning decision based on evidence that is inaccurate. The NIA was carried out inadequately, with inaccurate conclusions drawn, for the reasons listed above.

24. In light of our comments above, and in order for the Council to make an informed decision regarding this Application, it is essential that we are consulted on any further NIA carried out in relation to The Forum; not only to advise on the best dates and times to carry out testing to enable a fair representation of upper noise levels to be gauged, but moreover, to be given the opportunity to instruct an independent noise consultant who has practical experience of dealing with the nuances of sound testing in relation to a live music venue, the reasonable costs of which should be met by the Applicant.

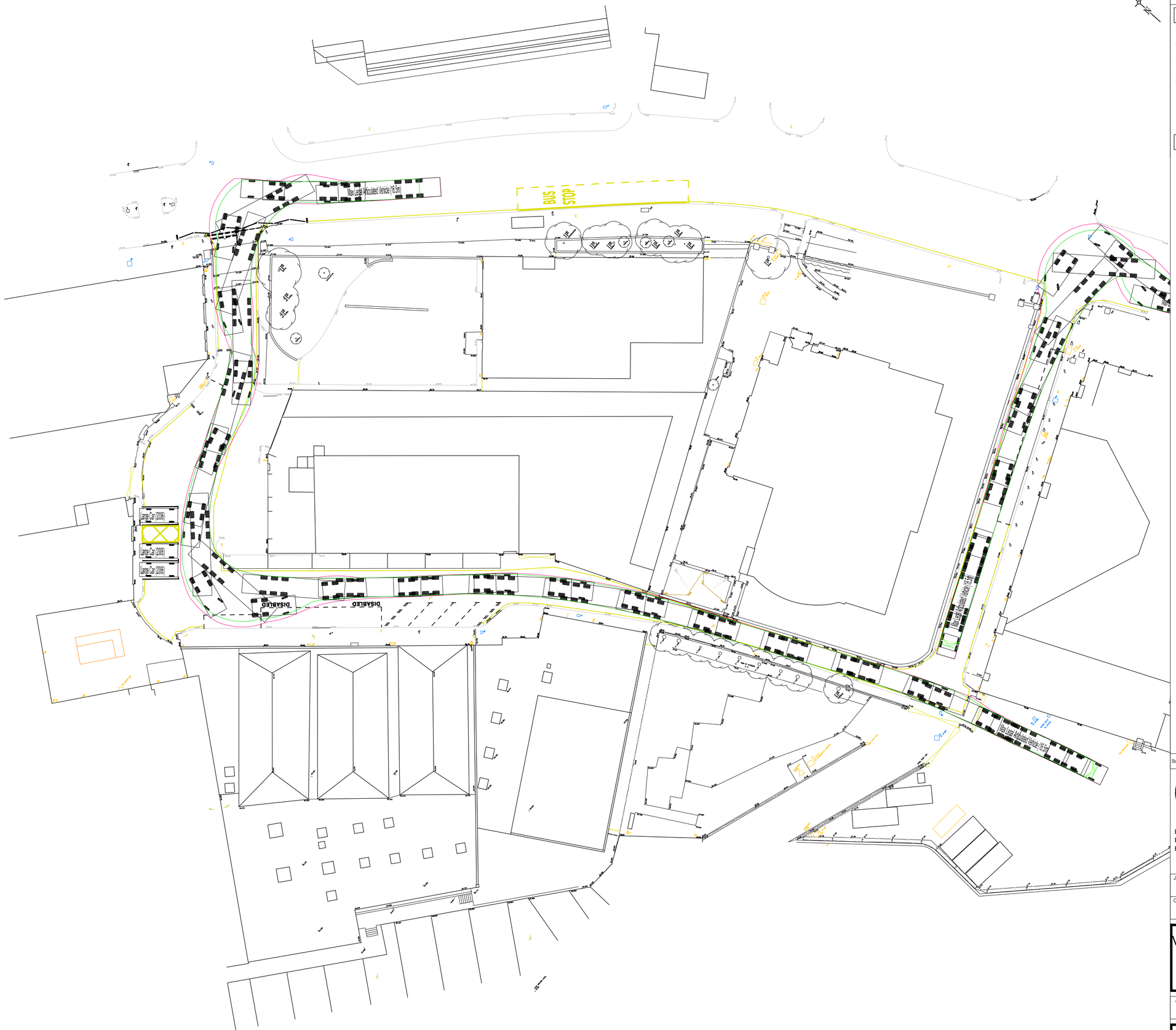
25. We reserve our right to make further representations following this meeting, and should further information in respect of the Application be provided to us (noting that several of the sections of the Framework Travel Plan were incomplete at this time).

Yours sincerely,

Kirsty McShannon
Chief Operating Officer
For and on behalf of
The Forum Club (Kentish Town) Limited

Cc: Tibbalds Planning & Urban Design Limited

APPENDIX B: FIGURES



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   D :– DESIGN DEVELOPMENT ——— Evolving final design drawings for approvals, tenders, billing etc.

   C :– CONSTRUCTION ——— Fully developed drawings issued under instruction for construction.

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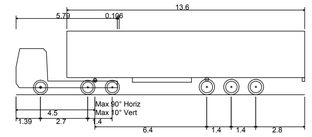

Max Legal Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.500m
Overall Body Height	3.632m
Min Body Ground Clearance	0.396m
Max Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.870m

Status/Rev	Description	Date	By
D1	ISSUED FOR COMMNETS	11.04.13	MJ

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Job Title: GREENWOOD PLACE

Client: LB CAMDEN

VEHICLE SWEPT PATH ANALYSIS OF EXISTING SITE LAYOUT ARTIC ENTERING

drawn	date	scale	C1 checked	CAD filename
MJ	11.04.13	1:250@A1		11167-T118

Job No.	Drg No.	Status/Revision
11167	T118	D1

A1

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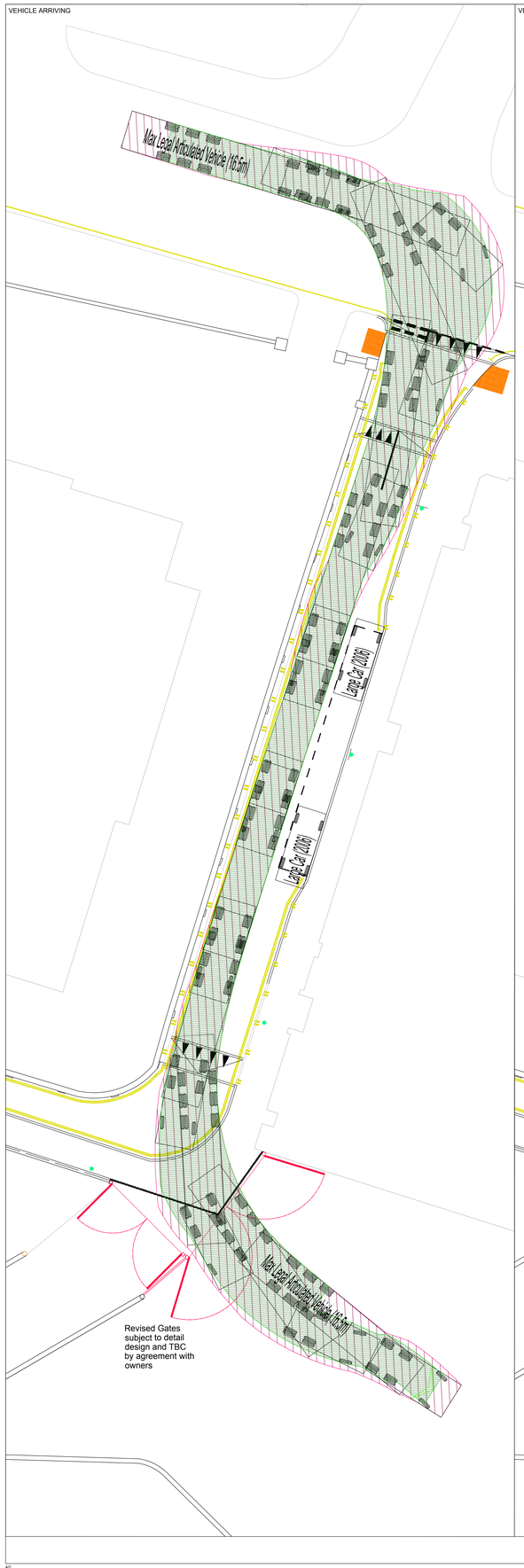

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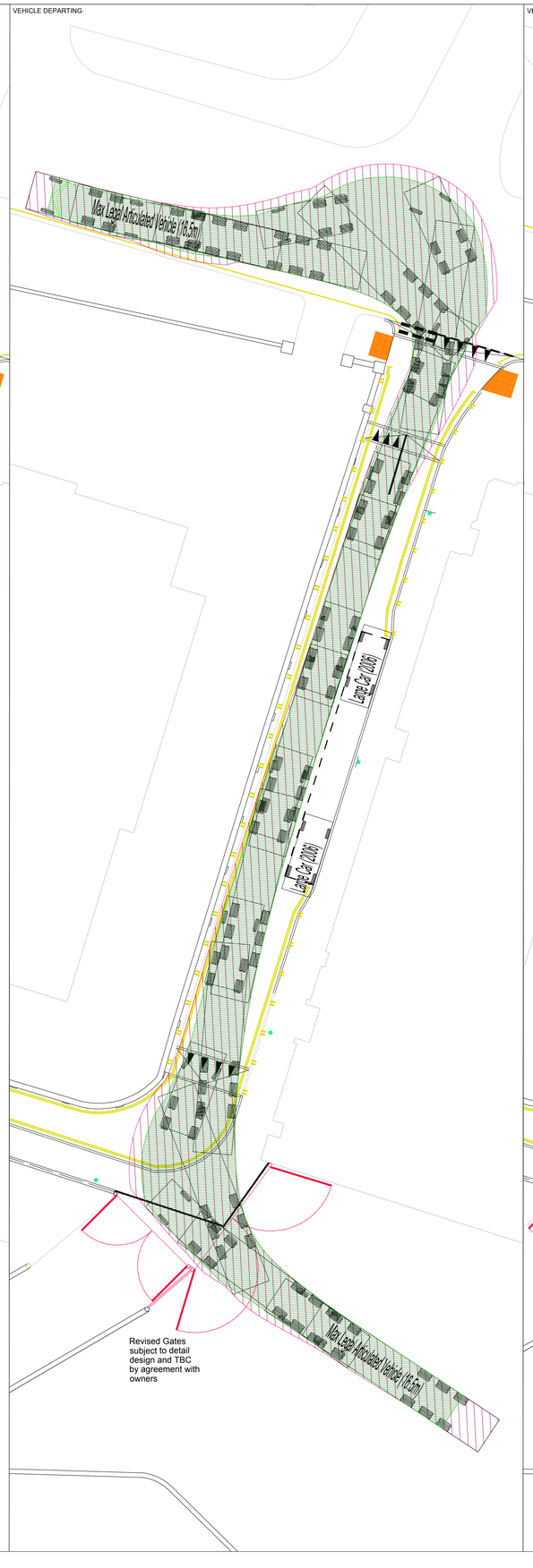

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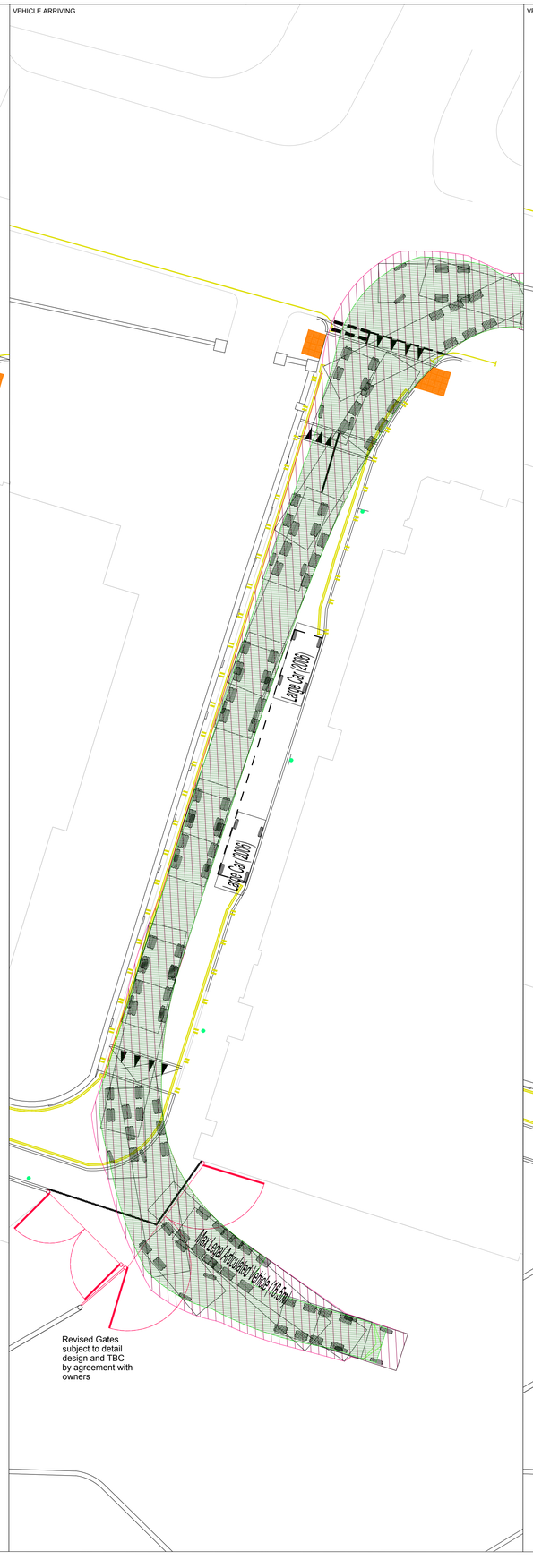

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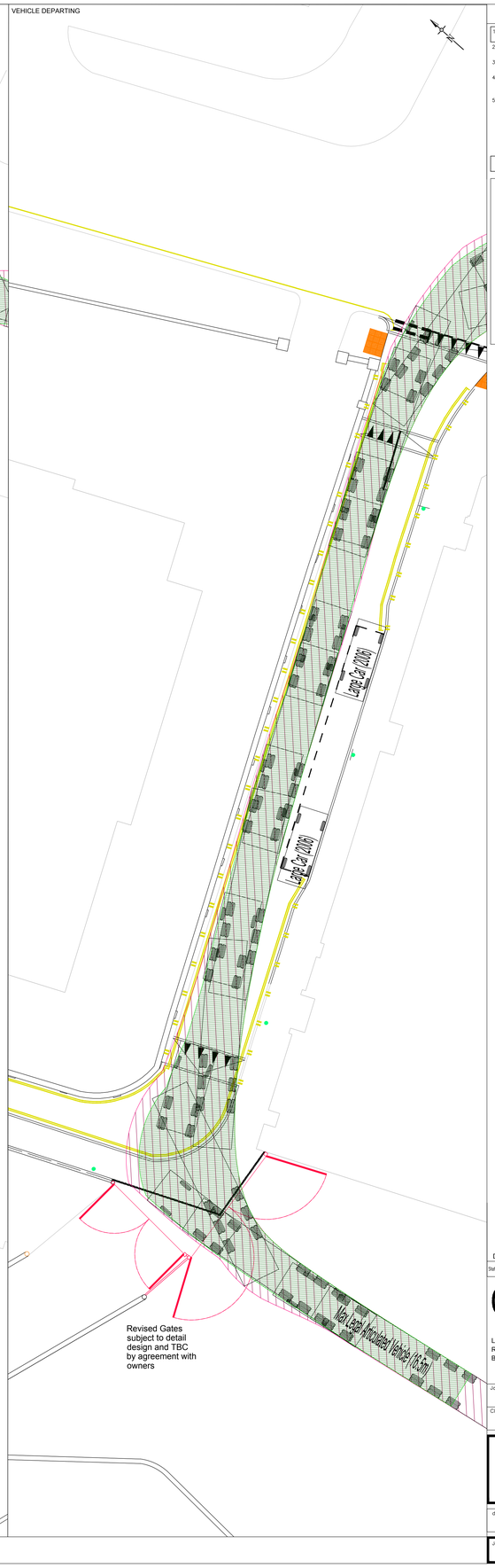

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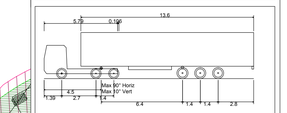

Max Legal Articulated Vehicle (16.5m)	
Overall Length	16.500m
Overall Width	2.500m
Overall Body Height	3.632m
Min Body Ground Clearance	0.396m
Max Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.870m

Status/Rev	Description	Date	By
D1	ISSUED FOR INFORMATION	15/08/13	MJ

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Job Title: GREENWOOD PLACE

Client: LB CAMDEN

PROPOSED ROAD LAYOUT THE YARD GATES ACCESS SWEPT PATH ANALYSIS 1

drawn	date	scale	CI checked	CAD filename
MJ	15.08.13	1:125@A0		11167-T008

Job No.	Drg No.	Status/Revision
11167	T008	D1

A0

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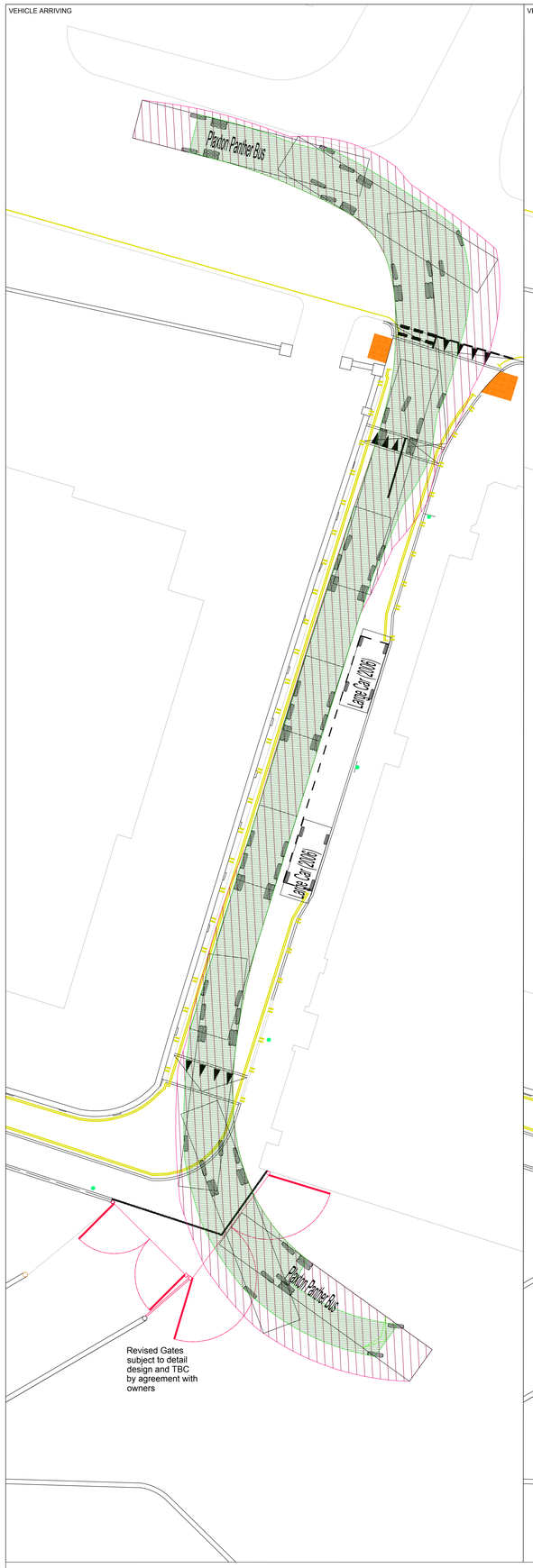

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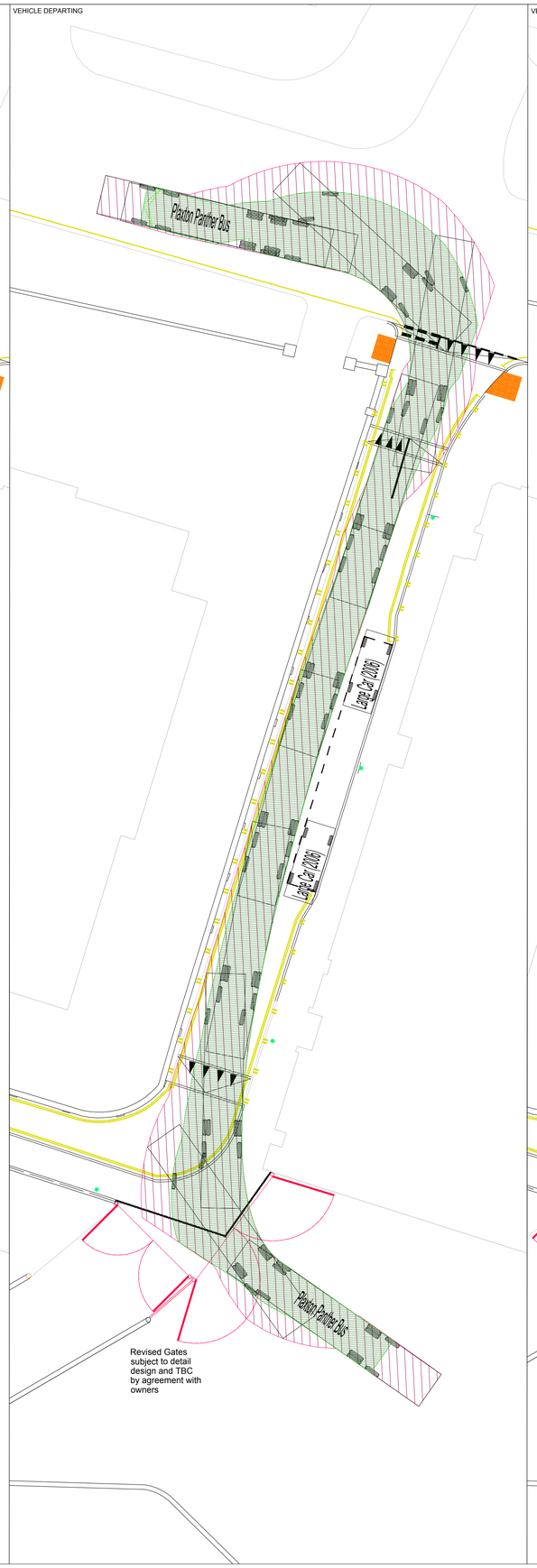

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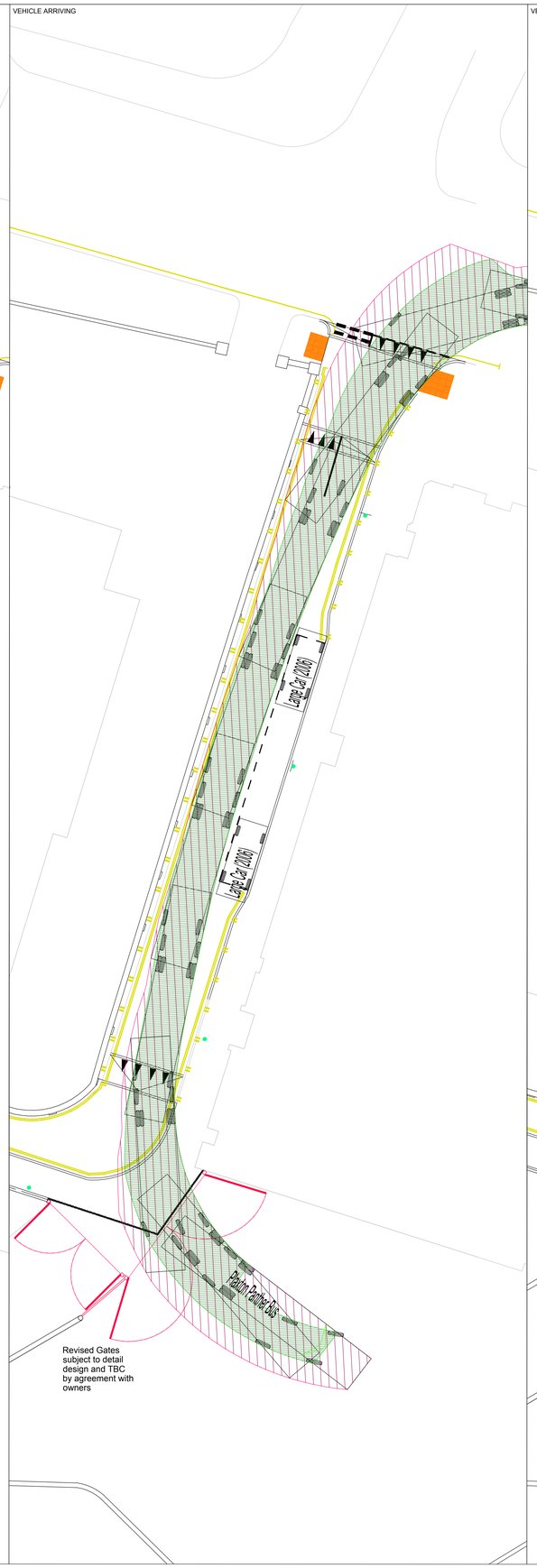

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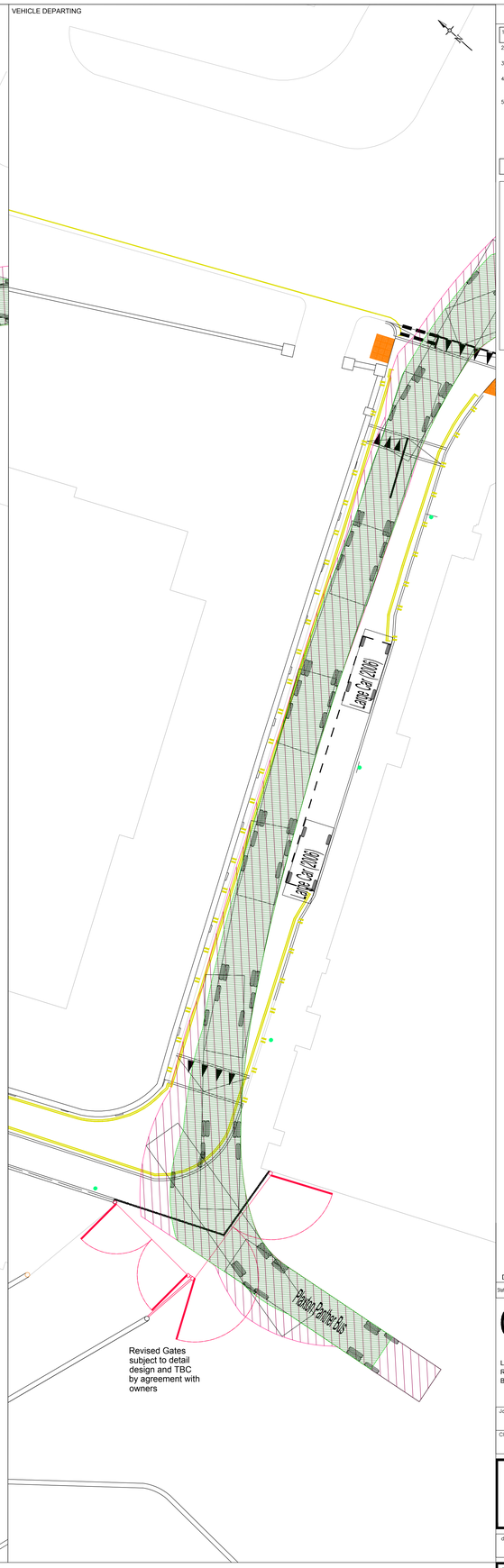

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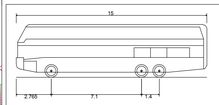

Plaxton Panther Bus	
Overall Length	15.000m
Overall Width	2.500m
Overall Body Height	4.157m
Min Body Ground Clearance	0.397m
Track Width	2.500m
Lock to Lock Time	5.00s
Wall to Wall Turning Radius	12.500m

Status/Rev	Description	Date	By
D1	ISSUED FOR INFORMATION	15/08/13	MJ

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Job Title: GREENWOOD PLACE

Client: LB CAMDEN

PROPOSED ROAD LAYOUT THE YARD GATES ACCESS SWEPT PATH ANALYSIS 2

drawn	date	scale	CI checked	CAD filename
MJ	15.08.13	1:125@A0		11167-T009

Job No.	Drg No.	Status/Revision
11167	T009	D1

A0

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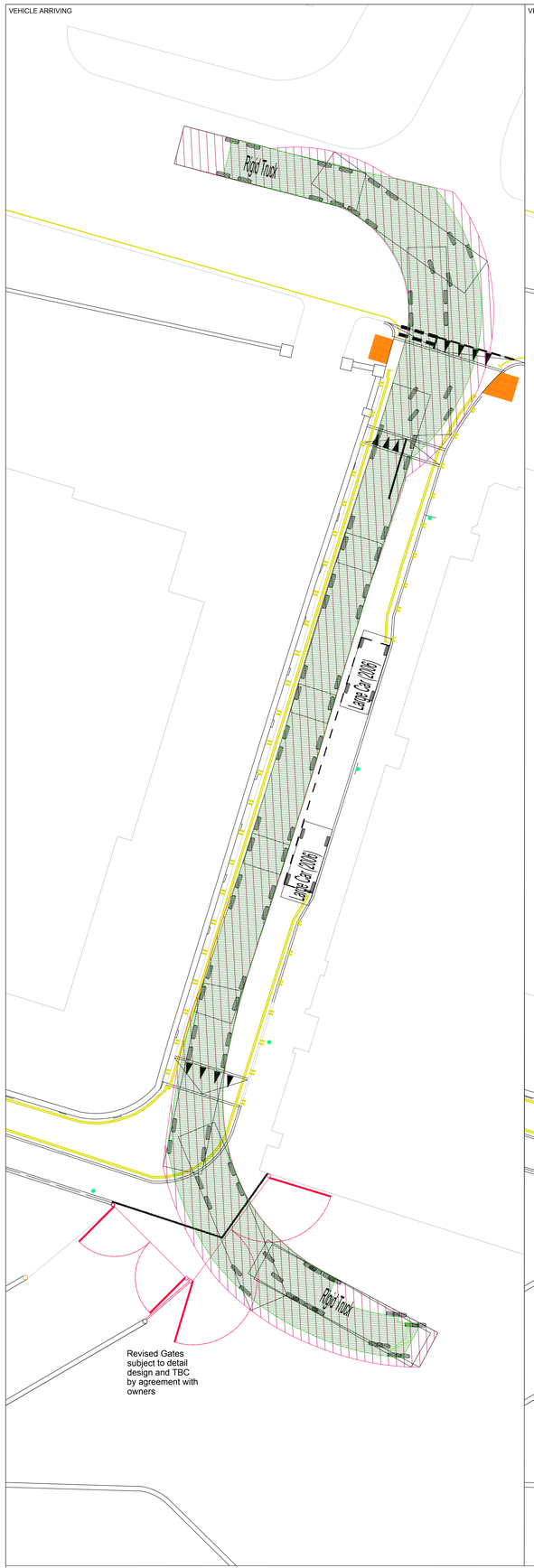

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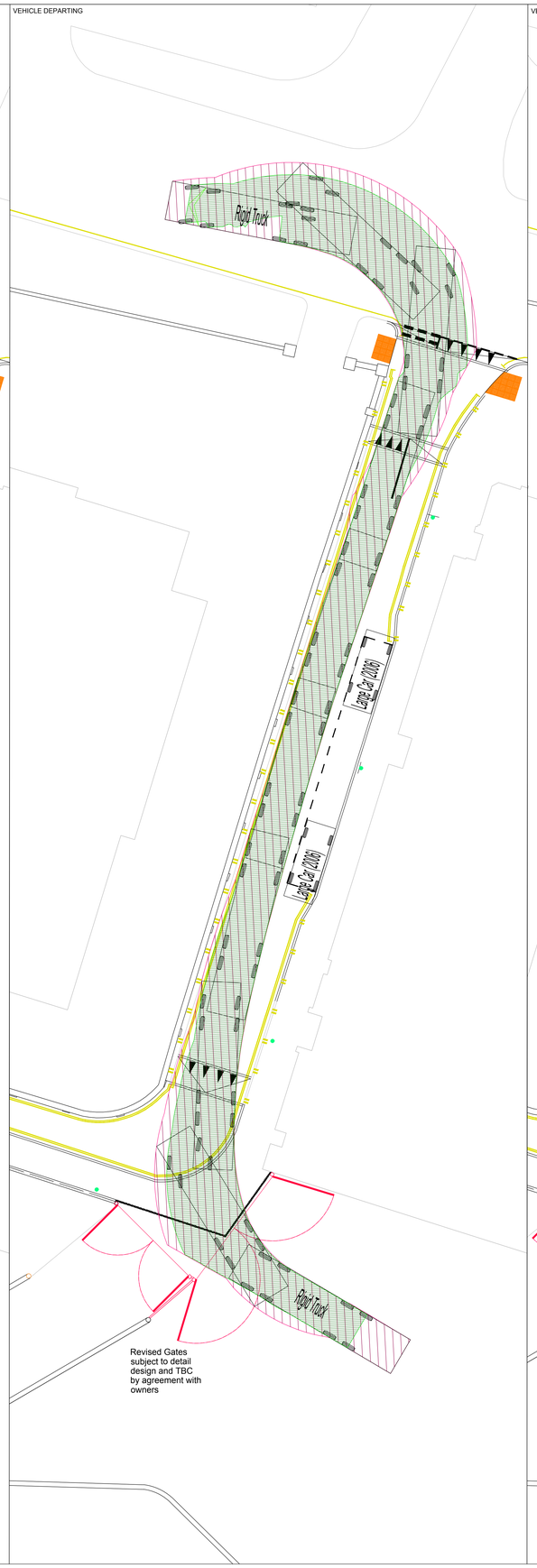

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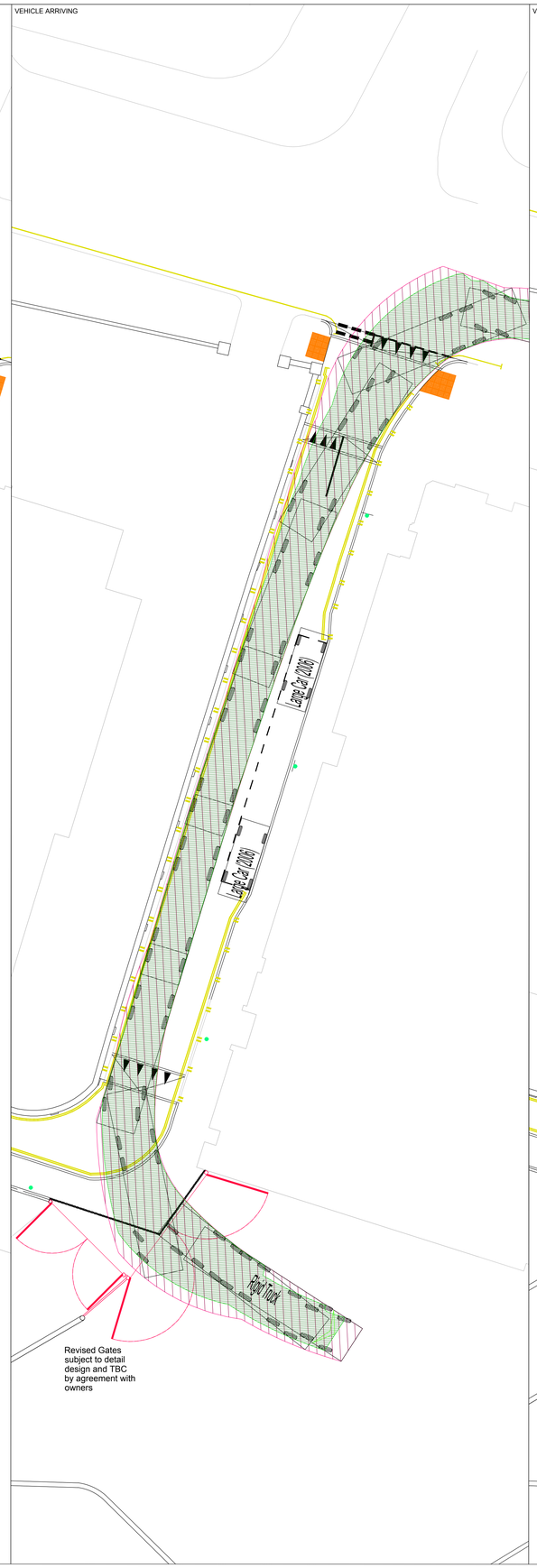

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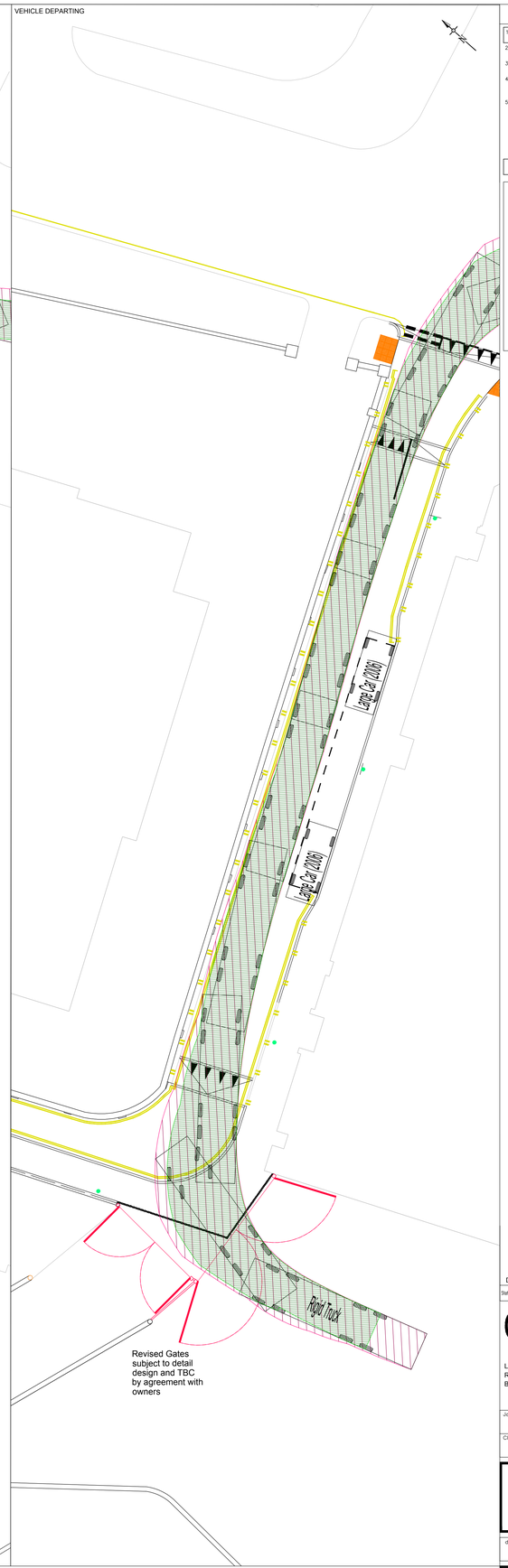

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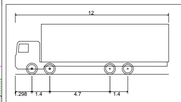

Rigid Truck	
Overall Length	12.000m
Overall Width	2.500m
Overall Body Height	3.928m
Min Body Ground Clearance	0.412m
Track Width	2.471m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	11.900m

Status/Rev	Description	Date	By
D1	ISSUED FOR INFORMATION	15/08/13	MJ

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BRISTOL 0117 916 1066 • DUBAI 00 971 4345 7088
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Job Title: GREENWOOD PLACE

Client: LB CAMDEN

PROPOSED ROAD LAYOUT THE YARD GATES ACCESS SWEPT PATH ANALYSIS 3

drawn	date	scale	C1 checked	CAD filename
MJ	15.08.13	1:125@A0		11167-T010

Job No.	Drg No.	Status/Revision
11167	T010	D1

A0

APPENDIX C: TRANSPORT STRATEGY COMMENTS

TRANSPORT STRATEGY
PUBLIC REALM AND PLANNING

To: Neil McDonald
Development Management

From: John Duffy

Date: 18 November 2013

Re: **19-37 Highgate Road and 25-37 Greenwood Place, London, NW5**

Demolition of existing buildings and redevelopment to provide: a new 3,228sqm (GIA) Centre for Independent Living (CIL) (Class D1) comprising 3 storeys plus basement at Greenwood Place; a part 5 part 7 storey mixed-use development at Highgate Road comprising 42 residential units (including 8 supported affordable housing units) and 100sqm (GIA) social enterprise in flexible retail, restaurant/café, office or community use (Classes A1/A3/B1/D1) at ground floor level; highway improvements to Greenwood Place, and associated plant, landscaping, servicing and disabled car parking.

Reference: **2012/5947/P**

TRANSPORT OBSERVATIONS

Introduction

The proposed development comprises two sites located in close proximity to each other in Kentish Town:

- the Highgate Centre, at 19-37 Highgate Road, which currently provides mental health day services; and
- the Greenwood Centre, at 25-37 Greenwood Place, which is currently part occupied by the Camden Society, which provides services to people with disabilities, and part vacant.

Both properties are owned by Camden Council. The proposals being promoted by the Council's Housing and Adult Social Care (HASC) directorate involve the demolition of both buildings and their replacement with:

- 34 residential units for market sale, 8 affordable supported living units for people with learning disabilities, and a social enterprise café/restaurant/shop on the Highgate Road site; and
- A new Adult Social Care Centre on the Greenwood Place site.

The new centre at Greenwood Place will provide the following services:

- mental health day services, which are currently provided at the Highgate Road Centre;
- dementia care day services, which are currently provided at Raglan House, Raglan Street, Kentish Town;

- learning disabilities day services, which are currently provided at the New Shoots day centre, Shoot Up Hill,
- a new service for younger people with Profound and Multiple Learning Difficulties (PMLD) and Autistic Spectrum Condition (ASC); and
- a new Centre for Independent Living (CIL) providing services and shared facilities for people with all forms of disability, including clients of the services listed above.

As a result of the proposed development the existing centres at Highgate Road, Raglan Street and Shoot Up Hill will be closed and redeveloped for residential use, the proceeds of which will help fund the new centre. The proposals also include improvements to the layout of Greenwood Place, which are seen as essential to improving the accessibility of the new centre to clients, visitors and staff.

Public Transport

The Highgate Road centre has a PTAL score of 6a, whilst the Greenwood Centre has a PTAL score of 5, which indicates that both sites have an excellent level of accessibility by public transport. The nearest station is Kentish Town, located to the south of the site, which is served by Northern line and First Capital Connect (formerly Thameslink) services. Kentish Town West, which is served by London Overground services, is located to the southwest of the site. The nearest bus stops are located on Highgate Road, Fortess Road, and Kentish Town Road.

Parking

Both sites are located within Controlled Parking Zone CA-M, which operates between 8.30am and 6.30pm Monday to Friday. Whilst there are no parking bays on Highgate Road in the immediate vicinity of the site, there are 7 Pay & Display bays on Greenwood Place (2 next to Linton House and 5 along the side of the Forum), 7 Permit holder bays (4 along the Greenwood Centre frontage and 3 in front of Highgate Business Centre), 2 Disabled bays and a motorcycle bay (both along the Greenwood Centre frontage).

Whilst there is no off-street parking at the Greenwood Centre, vehicles accessing the centre use either the Disabled bays or the Permit bays. The car park adjacent to the Highgate Centre can accommodate at least 10 vehicles. It is unclear how well used the car park is, or whether is it reserved for use by staff, clients or both.

The proposed Highgate Road residential development will be car free with the exception of two disabled parking bays along the Greenwood Place side of the building. These spaces are expected to be used by occupants of the assisted living units or their care staff. Residents of the development will be prevented from obtaining on-street parking permits from the Council (with the exception of Blue Badge applicants). This will be secured by condition/shadow Section 106 Agreement.

The proposed changes to parking arrangements in Greenwood Place include the following (see the attached plan):

- the provision of 2 minibus pick up/drop off bays within the curtilage of the new Greenwood Centre;
- the provision of a long Disabled bay adjacent to the northern part of the new Greenwood Centre frontage capable of accommodating 5 cars or 2 minibuses;
- the provision of 1 Disabled bay adjacent to the southern part of the new Greenwood Centre frontage;
- the removal of all Pay & Display bays;
- the re-provision of 7 Permit holder bays along the side of the Forum and beside Highgate Business Centre/Linton House; and
- the relocation of the existing motorcycle bay to near the rear of AA storage.

These proposals are considered to be acceptable in principle, subject to detailed design and consultation. Confirmation is currently awaited from HASC that sufficient numbers of minibus bays/Disabled bays are being provided (see the comments on trip rates below). The alterations will be funded by the applicant and secured by means of a condition/shadow Section 106 Agreement.

Highway Improvements

In addition to the proposed alterations to the current parking arrangements, a number of improvements to the layout of Greenwood Place are proposed, as follows (see the attached plan):

- the provision of a new raised table across the entrance to Greenwood Place south, and improvements to the existing raised table across Greenwood Place north, to improve pedestrian and disabled access;
- widening and resurfacing the footway along the north and western sides of Greenwood Place north, between Linton House and the new centre. This will greatly improve pedestrian and disabled access to the centre, as well as being of benefit to all those who work in or visit Greenwood Place;
- the provision of dropped kerbs and tactile paving at the vehicle access to Highgate Business Centre and Deane House;
- the provision of a widened footway along the new Greenwood Centre frontage;
- the pedestrianisation of a section of Greenwood Place behind Christ Apostolic Church. This will provide a much improved and safe means of access for pedestrians and disabled people travelling along Greenwood Place south, between the western end of The Forum and the new centre. At present the carriageway is narrow and the footway is very narrow and unfit for use by wheelchair users;
- new turning heads will be provided at either end of the pedestrianised section of Greenwood Place, to enable vehicles to turn around; and
- the realignment of The Forum and Murphy's yard access gates to provide improved access for large vehicles to both properties. The improvements will be of particular benefit to The Forum, as articulated vehicles will be able to access the service yard directly from Greenwood Place south. At present these vehicles have to approach

the yard from Greenwood Place north and often require parked vehicles to be moved in order to negotiate the turns in the carriageway. It is understood that these proposals have been agreed with the freeholders of both properties.

These proposals are considered to be acceptable in principle, subject to detailed design and consultation. The alterations will be funded by the applicant and secured by means of a condition/shadow Section 106 Agreement. A further contribution will be required in respect of repaving the footway adjacent to the Highgate Road residential development. An estimate of the likely cost of the proposed alterations will follow in due course. All highway works are to be undertaken by the Council's Engineering Service. The applicant's contractors are not permitted to undertake any works to the public highway.

Other Section 106 Contributions

In addition to the proposed alterations to Greenwood Place, which are a necessary part of the redevelopment of the Greenwood Centre, the applicant is required to make a further contribution of £68,000 in respect of the market residential units. This level of contribution, which is subject to a viability assessment, will be used to fund further improvements to pedestrian and cycle facilities and the public realm in the vicinity of the site.

The development will be subject to the Mayor of London's Community Infrastructure Levy (CIL). Transport for London should be contacted in respect of confirming the level of levy that is to be applied.

Servicing

The existing properties within Greenwood Place north, including the new centre, will be serviced from the street as at present. The proposed turning head arrangement in front of the new centre will enable vehicles to turn around so that they can enter and exit via Greenwood Place north. Vehicles arriving at and departing The Forum and Murphy yard can do so via Greenwood Place south, as previously described.

The new residential development on Highgate Road can be serviced from Highgate Road outside of the proscribed hours, which are 7am to 10am and 4pm to 7pm Monday to Friday and 10am to 7pm on Saturdays, or from Greenwood Place north.

A draft Delivery and Servicing Plan has been submitted in support of the application. This document is very generic in nature and lacks detail in a number of areas. A more detailed plan will need to be submitted prior to the occupation of either building. This should be secured by means of Condition/shadow Section 106 Agreement.

Cycle Parking

Cycle parking for the Highgate Road residential units should be provided in

accordance with the London Plan Revised Early Minor Alterations (October 2013), namely 1 space per 1 or 2 bedroom unit and 2 spaces per 3+ bedroom unit plus 1 space per 40 units for visitors. This gives a requirement for 46 cycle parking spaces. The submitted plan PL110 shows a bike store at the rear of the ground floor, accessed from the courtyard, which states that it can accommodate 48 cycles. The provision of cycle parking should be secured by condition. It is unclear whether all residents of the development will be able to access this bike store – this point should be clarified.

The Transport Assessment states that 16 cycle parking spaces will be provided at the new Greenwood Centre, with 8 spaces for staff and 8 spaces for visitors. However, submitted plan PL160 shows only 8 cycle parking spaces in a corridor which runs along the northern boundary of the site. It is unclear whether this corridor is to be used as an emergency exit. The proposed layout is unsatisfactory and it should to be revised to provide 16 spaces as stated in a more appropriate manner. The provision of good quality cycle parking facilities will help encourage both staff and clients (where physically able) to cycle to and from the site.

The London Plan REMA requires the provision of 1 cycle parking space per 10 staff and 1 space per 10 visitors for D1 health centres. With 68 staff and between 250 and 300 clients attending the centre at any time, this would give a requirement for 7 staff spaces and 30 visitor spaces. However, given the nature of disability that many clients will have it is considered that this requirement can be reduced in this instance and that the proposed level of cycle parking is acceptable. The applicants have stated that additional cycle parking will be provided if required, although it is unclear how this will be achieved with the current layout.

Travel Plan

A Framework Travel Plan for the new Greenwood Centre has been submitted in support of the application. Comments on this will follow in due course from our travel plan officer. An updated version of the plan will need to be submitted prior to the occupation of new Greenwood Centre building. This should be secured by means of Condition/shadow Section 106 Agreement.

Construction Management Plan

An Outline Construction and Environmental Management Plan has been submitted in support of the application. This document is very generic in nature and lacks detail in a number of areas. A more detailed plan will need to be submitted once a principal contractor has been appointed and prior to the development commencing. This should be secured by means of Condition/ shadow Section 106 Agreement.

Trip Rates - Highgate Road

I have the following comments with regards to the trip rates used in the Transport Assessment for the Highgate Road site:

- not all of the TRAVL sites used in the assessment of the residential units are reflective of the proposed development in terms of their location, accessibility (PTAL score) or the provision of car parking;
    - Discovery Dock is a large residential development located in Docklands, near South Quay DLR station. It has a PTAL score of 4 and parking is provided at the rate of 0.93 spaces per unit;
    - Green Dragon House is located just off Shaftesbury Avenue in Central London. It is a car free development with a PTAL score of 6;
    - Sewardstone Road is located in Bethnal Green and has a PTAL score of 3. Whilst parking is provided at the rate of 0.4 spaces per unit, on-street parking is also available;
    - Stanley Close is located in New Eltham, a considerable distance from Central London. It has a PTAL score of 3 and parking is provided at the rate of 1.1 per unit;
    - Winchester Mews is located in Swiss Cottage. It is a car free development with a PTAL score of 6a (not 3 as stated in TRAVL).

- the residential trip rate analysis should be re-run using a more appropriate selection of sites. It may be appropriate to use the TRICS database, rather than TRAVL, as there is often a greater selection of sites. I don't believe it is necessary to provide separate trip rates for the supported living units as these can be treated as standard units for simplicity and robustness.

- the modal split percentages should be based upon the local Output Area data for the surrounding areas, not the Ward data. These areas can be viewed and selected by using the Custom, Map, 2011 Statistical Geography Hierarchy option in Neighbourhood Statistics;

- there should be a consistency in the AM and PM peak hours used for the different land uses. The arrival and departure figures should be shown for the full 12 hour day, not just the peak hours;

- the totals in Tables 7.7 and 7.8 do not tally. It is unclear how many staff there will be at the assisted living units or why the number of car trips is so high as it is unlikely that people with learning disabilities will be able to drive, although the staff might make occasional trips by car. This should be explained or revised.

Trip Rates - Greenwood Centre

I have some concerns with regard to the trip rate assessment of the proposed Greenwood Centre, as follows:

- It is stated that there will be a maximum of approximately 369 clients and 68 staff. Whilst it is stated that there will be on average 250 to 300

clients present at any time, all of the subsequent calculations are based on the lower figure of 250.

- It is disappointing that a travel survey of staff at the existing Highgate Road, Raglan Close and Shoot Up Hill centres has not been carried out. This would have helped determine the likely modal split of staff travelling to the new centre. However, the use of the residential modal split is reluctantly accepted subject to the comment above.

- No information has been provided about the existing Highgate Road centre, such as the number of staff and clients or their current travel arrangements – do clients travel by minibus or do they travel independently ?

- It is very disappointing that full travel surveys were not carried out of clients at the existing Highgate Road, Raglan Close and Shoot Up Hill centres. This would have helped determine the likely modal split of clients and their carers travelling to the new centre. The data that has been provided is very limited and seems to underestimate the number of clients and minibus and car/taxi movements, for example:

    - whilst the Shoot Up Hill centre is served by 3 minibuses doing one round each, the Raglan Centre is served by 2 minibuses doing 2 rounds each, giving a total of 7 arrivals and 7 departures (not 5 as stated);
    - there are on average 10 clients per Shoot Up Hill minibus and 7-8 clients per Raglan minibus (75 clients in total);
    - it seems unrealistic and overambitious to assume that just 50 of the new clients will travel to the site by minibus. This would suggest a requirement for 5 minibuses, not 4 as stated;
    - it also seems unrealistic and overambitious to assume that the remaining 125 new clients (or 175 if the daily total is 300) will travel to the centre by other means. These new clients include unspecified numbers of younger people with Profound and Multiple Learning Difficulties (PMLD) and Autistic Spectrum Disorder (ASD), people with disabilities attending the new Centre for Independent Living (CIL), and existing mental health clients of the Highgate Road centre. No information has been provided to back up these assumptions. These figures should therefore be revised in light of further discussions and assessment by HASC;
    - taking the figures given in Table 7.11 and the above comments into consideration suggests that there would be at least 12 minibus arrivals/departures and 30 car/taxi arrivals/departures in each peak hour (assuming each client travels separately, equivalent to 1 every 2 minutes), which gives a total of 42 vehicle arrivals and 42 departures (not 19 as stated);
    - if it is assumed that each minibus takes around 15 minutes to drop off or pick up clients, then at least 3 bays are required in order to serve all 12 minibuses in one hour, whilst 2 bays will

require up to two hours. More bays or a longer time frame will be required if the drop off/pick process takes longer than 15 minutes per minibus;

- if higher numbers of new clients require the use of a minibus service then a longer arrival/departure timeframe and/or more bays will be required;
- assuming that all arrivals and departures occur in the same hour suggests that the proposed drop off/pick up area is insufficient to cater for the expected level of demand. It would therefore be more realistic to assume that arrivals and departures will be spread over a 2 to 3 hour period as suggested in the report – this should be verified through discussions with HASC;

The trip rate analysis for the proposed Greenwood Centre should be reassessed in light of the comments above and input/confirmation from HASC.

APPENDIX D: TRAVL OUTPUTS

TRAVL - Site Report

Report ID 1

Name	Green Dragon House			**Survey Date**	11/09/2008
Business	Residential			**Survey Hours 1**	0700-2200
Address	Green Dragon House, Stukeley Street, Camden,			**Survey Hours 2**	
				Survey Code	650
District	Holborn				
Borough	CAMDEN				
Postcode	WC2H 5LQ			**Site Area (sq.m)**	700
Location	Inner	**PTAL**	6	**Gross Floor Area (sq.m)**	1500
Class	C3 - Residential			**Retail Floor Area (sq.m)**	0
Construction Phase				**Employees**	0

	Total	Disabled	Visitor	Employee	Coaches	Load Bays
Parking	0	0	0	0	0	0

Managed Parking N **Waiting Restriction** U

	0 Beds	1 beds	2 beds	3 beds	4 beds +
Num Dwellings		0	0	0	0

Residential Units 29 **% Car ownership** 0

Distance To School **Distance To Shops**

	Home	Work	Else
Home	0	0	0
Work	0	11	0
Else	0	0	13

Disabled Access Unknown

Owner Code Unknown Owner

Travel Plan Yes

Site Notes

Green Dragon House is Camden's first car-free residential development. There are 29 flats, managed by the housing association 'SOHOHA'.

The site is an award-winning contemporary design within a gated development with a courtyard area and wooden-clad four-storey buildings. Affordable, rented accommodation is provided for 100 residents in 60 rooms.

The site is a five-minute walk from Holborn underground station within a 5-minute from bus stops on High Holborn.

Survey Note

The survey took place on Thursday 11th September 2008 between 7am and 10pm.

A count of people entering and departing the apartments was recorded. Self-completion travel diaries were sent to households by post, asking for resdeint travel patterns to and from the site on the survey day. Residents were asked to return these by post at the request of the site management team. Due to a poor response rate, further forms were collected on a door-to-door basis following the survey day. This increased the response rate.

No parking or freight surveys were undertaken, as the site was car-free.

Name	Green Dragon House			**Survey Date**	11/09/2008
Business	Residential			**Survey Hours 1**	0700-2200
Address	Green Dragon House, Stukeley Street, Camden,			**Survey Hours 2**	
				Survey Code	650
District	Holborn				
Borough	CAMDEN				
Postcode	WC2H 5LQ			**Site Area (sq.m)**	700
Location	Inner	**PTAL**	6	**Gross Floor Area (sq.m)**	1500
Class	C3 - Residential			**Retail Floor Area (sq.m)**	0
Construction Phase				**Employees**	0

Facilities

The self-contained apartments are within a gated development within an internal courtyard. The apartments are car-free and are located in a residential/business area in Central London. There is an underground station, bus stops and local supermarket within a 5-minute walk.

Exceptional Circumstances

Due to a poor response to postal travel diaries, travel diaries were collected on a door-to-door basis ovr a couple of days after the susrvey day.

TRAVL - Site Report

Report ID 1

Name	Winchester Mews			**Survey Date**	18/09/2008
Business	Residential			**Survey Hours 1**	0700-2200
Address	Winchester Mews Camden London			**Survey Hours 2**	
				Survey Code	649
District	Camden				
Borough	CAMDEN				
Postcode	NW3 3NA			**Site Area (sq.m)**	2000
Location	Inner	**PTAL**	3	**Gross Floor Area (sq.m)**	1600
Class	C3 - Residential			**Retail Floor Area (sq.m)**	0
Construction Phase				**Employees**	0

	Total	Disabled	Visitor	Employee	Coaches	Load Bays
Parking	0	0	0	0	0	0

Managed Parking N **Waiting Restriction** U

	0 Beds	1 beds	2 beds	3 beds	4 beds +
Num Dwellings		0	0	15	15

Residential Units 22 **% Car ownership** 0

Distance To School **Distance To Shops**

	Home	Work	Else
Home	0	0	0
Work	0	3	0
Else	0	1	6

Disabled Access Unknown

Owner Code Private

Travel Plan Yes

Site Notes

The site is part of the Visage and Swiss Cottage Cultural Centre (http://www.cabe.org.uk/default.aspx?contentitemid=2047) and is part of a development comprising of affordable and non-affordable apartments, a leisure centre with swimming pool, library, doctors surgery and cafe.

There is an underground car park but this particular site is designated as car-free.

There are 22 flats in the development of affordable, rented housing managed by Dominion Housing Group. There are 16 flats on one floor which is known as a 'street in the sky' with open walkways and internal courtyards, and a further 8 eastern facing duplex apartments. Approximately 10 of these are 2-bedroom apartments and 12 are 3-bedroom apartments.

The site is within a 2 minute walk from Swiss Cottage tube station and bus stops.

Name	Winchester Mews			**Survey Date**	18/09/2008
Business	Residential			**Survey Hours 1**	0700-2200
Address	Winchester Mews Camden London			**Survey Hours 2**	
				Survey Code	649
District	Camden				
Borough	CAMDEN				
Postcode	NW3 3NA			**Site Area (sq.m)**	2000
Location	Inner	**PTAL**	3	**Gross Floor Area (sq.m)**	1600
Class	C3 - Residential			**Retail Floor Area (sq.m)**	0
Construction Phase				**Employees**	0

Survey Note

The survey took place on Thursday 18th September 2008.

Prior to the survey day, travel diaries were distributed in the post to all flats. On the day of the survey, one surveyor undertook a count of people entering and departing the building between 7am and 10pm. A second surveyor collected all the completed travel diaries on a door-to-door basis. The response rate was good.

No car park or freight surveys were undertaken, as the site was car-free.

Facilities

Within the development site there is a residents underground parking, a leisure centre, library, doctors surgery and sports courts. Across the 22 apartments, there are beds for 80 residents.

The part of the development surveyed is designated as car-free.

Exceptional Circumstances

TRAVL - Average Trip Rate by Mode and Time

Report ID 9

List of Surveys:

Name	Address	Postcode	Survey Date
Green Dragon House	Green Dragon House, Stukeley Street, Camden, WC2H 5LQ	WC2H 5LQ	11/09/2008
Winchester Mews	Winchester Mews Camden London	NW3 3NA	18/09/2008

Number of sites considered 2

Counts By Mode:

Mode: All Modes

Time Band	No of Sites	Trip Rate In	Trip Rate Out	Total Trip Rate	Predicted Trips In	Predicted Trips Out	Predicted Trips Total
07:00-07:30	2	0.00000	0.11765	0.11765	0.0	4.9	4.9
07:30-08:00	2	0.00000	0.37255	0.37255	0.0	15.6	15.6
08:00-08:30	2	0.05882	0.62745	0.68627	2.5	26.4	28.8
08:30-09:00	2	0.11765	0.56863	0.68627	4.9	23.9	28.8
09:00-09:30	2	0.21569	0.23529	0.45098	9.1	9.9	18.9
09:30-10:00	2	0.11765	0.09804	0.21569	4.9	4.1	9.1
10:00-10:30	2	0.00000	0.13725	0.13725	0.0	5.8	5.8
10:30-11:00	2	0.00000	0.11765	0.11765	0.0	4.9	4.9
11:00-11:30	2	0.21569	0.13725	0.35294	9.1	5.8	14.8
11:30-12:00	2	0.05882	0.13725	0.19608	2.5	5.8	8.2
12:00-12:30	2	0.09804	0.13725	0.23529	4.1	5.8	9.9
12:30-13:00	2	0.25490	0.11765	0.37255	10.7	4.9	15.6
13:00-13:30	2	0.21569	0.13725	0.35294	9.1	5.8	14.8
13:30-14:00	2	0.11765	0.15686	0.27451	4.9	6.6	11.5
14:00-14:30	2	0.09804	0.09804	0.19608	4.1	4.1	8.2
14:30-15:00	2	0.05882	0.19608	0.25490	2.5	8.2	10.7
15:00-15:30	2	0.15686	0.21569	0.37255	6.6	9.1	15.6
15:30-16:00	2	0.72549	0.09804	0.82353	30.5	4.1	34.6
16:00-16:30	2	0.15686	0.13725	0.29412	6.6	5.8	12.4
16:30-17:00	2	0.31373	0.17647	0.49020	13.2	7.4	20.6
17:00-17:30	2	0.37255	0.21569	0.58824	15.6	9.1	24.7
17:30-18:00	2	0.49020	0.41176	0.90196	20.6	17.3	37.9
18:00-18:30	2	0.43137	0.11765	0.54902	18.1	4.9	23.1
18:30-19:00	2	0.21569	0.27451	0.49020	9.1	11.5	20.6
19:00-19:30	2	0.25490	0.19608	0.45098	10.7	8.2	18.9
19:30-20:00	2	0.21569	0.07843	0.29412	9.1	3.3	12.4
20:00-20:30	2	0.15686	0.17647	0.33333	6.6	7.4	14.0
20:30-21:00	2	0.21569	0.03922	0.25490	9.1	1.6	10.7
21:00-21:30	2	0.19608	0.05882	0.25490	8.2	2.5	10.7
21:30-22:00	2	0.07843	0.03922	0.11765	3.3	1.6	4.9

Mode: **All Modes**

Time Band	No of Sites	Trip Rate In	Trip Rate Out	Total Trip Rate	Predicted Trips In	Predicted Trips Out	Predicted Trips Total

Peak Period For **All Modes**

In	**15:30-16:00**	**0.73**
Out	**08:00-08:30**	**0.63**
Total	**17:30-18:00**	**0.90**

Mode: Bus

Time Band	No of Sites	Trip Rate In	Trip Rate Out	Total Trip Rate	Predicted Trips In	Predicted Trips Out	Predicted Trips Total
07:30-08:00	2	0.00000	0.15686	0.15686	0.0	6.6	6.6
08:00-08:30	2	0.00000	0.07843	0.07843	0.0	3.3	3.3
08:30-09:00	2	0.01961	0.17647	0.19608	0.8	7.4	8.2
09:00-09:30	2	0.03922	0.05882	0.09804	1.6	2.5	4.1
09:30-10:00	2	0.01961	0.00000	0.01961	0.8	0.0	0.8
13:30-14:00	2	0.01961	0.00000	0.01961	0.8	0.0	0.8
14:30-15:00	2	0.00000	0.07843	0.07843	0.0	3.3	3.3
15:30-16:00	2	0.15686	0.00000	0.15686	6.6	0.0	6.6
16:00-16:30	2	0.01961	0.00000	0.01961	0.8	0.0	0.8
16:30-17:00	2	0.05882	0.00000	0.05882	2.5	0.0	2.5
17:30-18:00	2	0.03922	0.00000	0.03922	1.6	0.0	1.6

Peak Period For Bus

In	**15:30-16:00**	**0.16**
Out	**08:30-09:00**	**0.18**
Total	**08:30-09:00**	**0.20**

Mode: **Motor Cycle**

Time Band	No of Sites	Trip Rate In	Trip Rate Out	Total Trip Rate	Predicted Trips In	Predicted Trips Out	Predicted Trips Total
11:00-11:30	2	0.01961	0.01961	0.03922	0.8	0.8	1.6
20:30-21:00	2	0.01961	0.01961	0.03922	0.8	0.8	1.6

Peak Period For **Motor Cycle**

In	**15:30-16:00**	**0.02**
Out	**08:30-09:00**	**0.02**
Total	**08:30-09:00**	**0.04**

Mode: **Pedal Cycle**

Time Band	No of Sites	Trip Rate In	Trip Rate Out	Total Trip Rate	Predicted Trips In	Predicted Trips Out	Predicted Trips Total
08:30-09:00	2	0.01961	0.03922	0.05882	0.8	1.6	2.5
09:00-09:30	2	0.00000	0.03922	0.03922	0.0	1.6	1.6
09:30-10:00	2	0.00000	0.03922	0.03922	0.0	1.6	1.6
10:00-10:30	2	0.00000	0.01961	0.01961	0.0	0.8	0.8
10:30-11:00	2	0.00000	0.01961	0.01961	0.0	0.8	0.8
11:00-11:30	2	0.01961	0.01961	0.03922	0.8	0.8	1.6
11:30-12:00	2	0.01961	0.00000	0.01961	0.8	0.0	0.8
12:00-12:30	2	0.01961	0.01961	0.03922	0.8	0.8	1.6
12:30-13:00	2	0.00000	0.01961	0.01961	0.0	0.8	0.8
15:00-15:30	2	0.01961	0.01961	0.03922	0.8	0.8	1.6
16:30-17:00	2	0.01961	0.01961	0.03922	0.8	0.8	1.6
18:00-18:30	2	0.05882	0.01961	0.07843	2.5	0.8	3.3
21:00-21:30	2	0.01961	0.00000	0.01961	0.8	0.0	0.8

Peak Period For **Pedal Cycle**

In	**18:00-18:30**	**0.06**
Out	**08:30-09:00**	**0.04**
Total	**18:00-18:30**	**0.08**

Mode: **Underground**

Time Band	No of Sites	Trip Rate In	Trip Rate Out	Total Trip Rate	Predicted Trips In	Predicted Trips Out	Predicted Trips Total
07:30-08:00	2	0.00000	0.01961	0.01961	0.0	0.8	0.8
08:00-08:30	2	0.00000	0.07843	0.07843	0.0	3.3	3.3
08:30-09:00	2	0.01961	0.01961	0.03922	0.8	0.8	1.6
10:00-10:30	2	0.00000	0.00000	0.00000	0.0	0.0	0.0
13:00-13:30	2	0.03922	0.00000	0.03922	1.6	0.0	1.6
15:30-16:00	2	0.05882	0.00000	0.05882	2.5	0.0	2.5
16:00-16:30	2	0.01961	0.00000	0.01961	0.8	0.0	0.8
18:30-19:00	2	0.01961	0.00000	0.01961	0.8	0.0	0.8

Peak Period For **Underground**

In	**15:30-16:00**	**0.06**
Out	**08:00-08:30**	**0.08**
Total	**08:00-08:30**	**0.08**

Mode: **Walk only**

Time Band	No of Sites	Trip Rate In	Trip Rate Out	Total Trip Rate	Predicted Trips In	Predicted Trips Out	Predicted Trips Total
07:00-07:30	2	0.00000	0.11765	0.11765	0.0	4.9	4.9
07:30-08:00	2	0.00000	0.19608	0.19608	0.0	8.2	8.2
08:00-08:30	2	0.05882	0.47059	0.52941	2.5	19.8	22.2
08:30-09:00	2	0.05882	0.33333	0.39216	2.5	14.0	16.5
09:00-09:30	2	0.17647	0.13725	0.31373	7.4	5.8	13.2
09:30-10:00	2	0.09804	0.05882	0.15686	4.1	2.5	6.6
10:00-10:30	2	0.00000	0.11765	0.11765	0.0	4.9	4.9
10:30-11:00	2	0.00000	0.09804	0.09804	0.0	4.1	4.1
11:00-11:30	2	0.17647	0.09804	0.27451	7.4	4.1	11.5
11:30-12:00	2	0.03922	0.13725	0.17647	1.6	5.8	7.4
12:00-12:30	2	0.07843	0.11765	0.19608	3.3	4.9	8.2
12:30-13:00	2	0.25490	0.09804	0.35294	10.7	4.1	14.8
13:00-13:30	2	0.17647	0.13725	0.31373	7.4	5.8	13.2
13:30-14:00	2	0.09804	0.15686	0.25490	4.1	6.6	10.7
14:00-14:30	2	0.09804	0.09804	0.19608	4.1	4.1	8.2
14:30-15:00	2	0.05882	0.11765	0.17647	2.5	4.9	7.4
15:00-15:30	2	0.13725	0.19608	0.33333	5.8	8.2	14.0
15:30-16:00	2	0.50980	0.09804	0.60784	21.4	4.1	25.5
16:00-16:30	2	0.11765	0.13725	0.25490	4.9	5.8	10.7
16:30-17:00	2	0.23529	0.15686	0.39216	9.9	6.6	16.5
17:00-17:30	2	0.37255	0.21569	0.58824	15.6	9.1	24.7
17:30-18:00	2	0.45098	0.41176	0.86275	18.9	17.3	36.2
18:00-18:30	2	0.37255	0.09804	0.47059	15.6	4.1	19.8
18:30-19:00	2	0.19608	0.27451	0.47059	8.2	11.5	19.8
19:00-19:30	2	0.25490	0.19608	0.45098	10.7	8.2	18.9
19:30-20:00	2	0.21569	0.07843	0.29412	9.1	3.3	12.4
20:00-20:30	2	0.15686	0.17647	0.33333	6.6	7.4	14.0
20:30-21:00	2	0.19608	0.01961	0.21569	8.2	0.8	9.1
21:00-21:30	2	0.17647	0.05882	0.23529	7.4	2.5	9.9
21:30-22:00	2	0.07843	0.03922	0.11765	3.3	1.6	4.9

Peak Period For **Walk only**

In	**15:30-16:00**	**0.51**
Out	**08:00-08:30**	**0.47**
Total	**17:30-18:00**	**0.86**

APPENDIX E: TRICS OUTPUTS

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

01	GREATER LONDON		
	KN	KENSINGTON AND CHELSEA	1 days
	WH	WANDSWORTH	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Number of dwellings
Actual Range:	30 to 72 (units:)
Range Selected by User:	20 to 80 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/08 to 11/05/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Wednesday	1 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C3	2 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

125,001 to 250,000	1 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	2 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 KN-03-C-03 BLOCK OF FLATS KENSINGTON AND CHELSEA
ALLEN STREET

KENSINGTON
Edge of Town Centre
Residential Zone
Total Number of dwellings: 72
Survey date: FRIDAY 11/05/12 Survey Type: MANUAL

2 WH-03-C-01 BLOCKS OF FLATS WANDSWORTH
AMIES STREET

CLAPHAM JUNCTION
Edge of Town Centre
Residential Zone
Total Number of dwellings: 30
Survey date: WEDNESDAY 09/05/12 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
Estimated TRIP rate value per 42 DWELLS shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	2	51	0.029	1.235	2	51	0.431	18.118	2	51	0.460	19.353
08:00 - 09:00	2	51	0.118	4.941	2	51	0.882	37.059	2	51	1.000	42.000
09:00 - 10:00	2	51	0.098	4.118	2	51	0.157	6.588	2	51	0.255	10.706
10:00 - 11:00	2	51	0.000	0.000	2	51	0.088	3.706	2	51	0.088	3.706
11:00 - 12:00	2	51	0.039	1.647	2	51	0.049	2.059	2	51	0.088	3.706
12:00 - 13:00	2	51	0.157	6.588	2	51	0.049	2.059	2	51	0.206	8.647
13:00 - 14:00	2	51	0.108	4.529	2	51	0.059	2.471	2	51	0.167	7.000
14:00 - 15:00	2	51	0.049	2.059	2	51	0.147	6.176	2	51	0.196	8.235
15:00 - 16:00	2	51	0.608	25.529	2	51	0.069	2.882	2	51	0.677	28.411
16:00 - 17:00	2	51	0.147	6.176	2	51	0.029	1.235	2	51	0.176	7.411
17:00 - 18:00	2	51	0.382	16.059	2	51	0.059	2.471	2	51	0.441	18.530
18:00 - 19:00	2	51	0.196	8.235	2	51	0.039	1.647	2	51	0.235	9.882
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			1.931	81.116			2.058	86.471			3.989	167.587

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

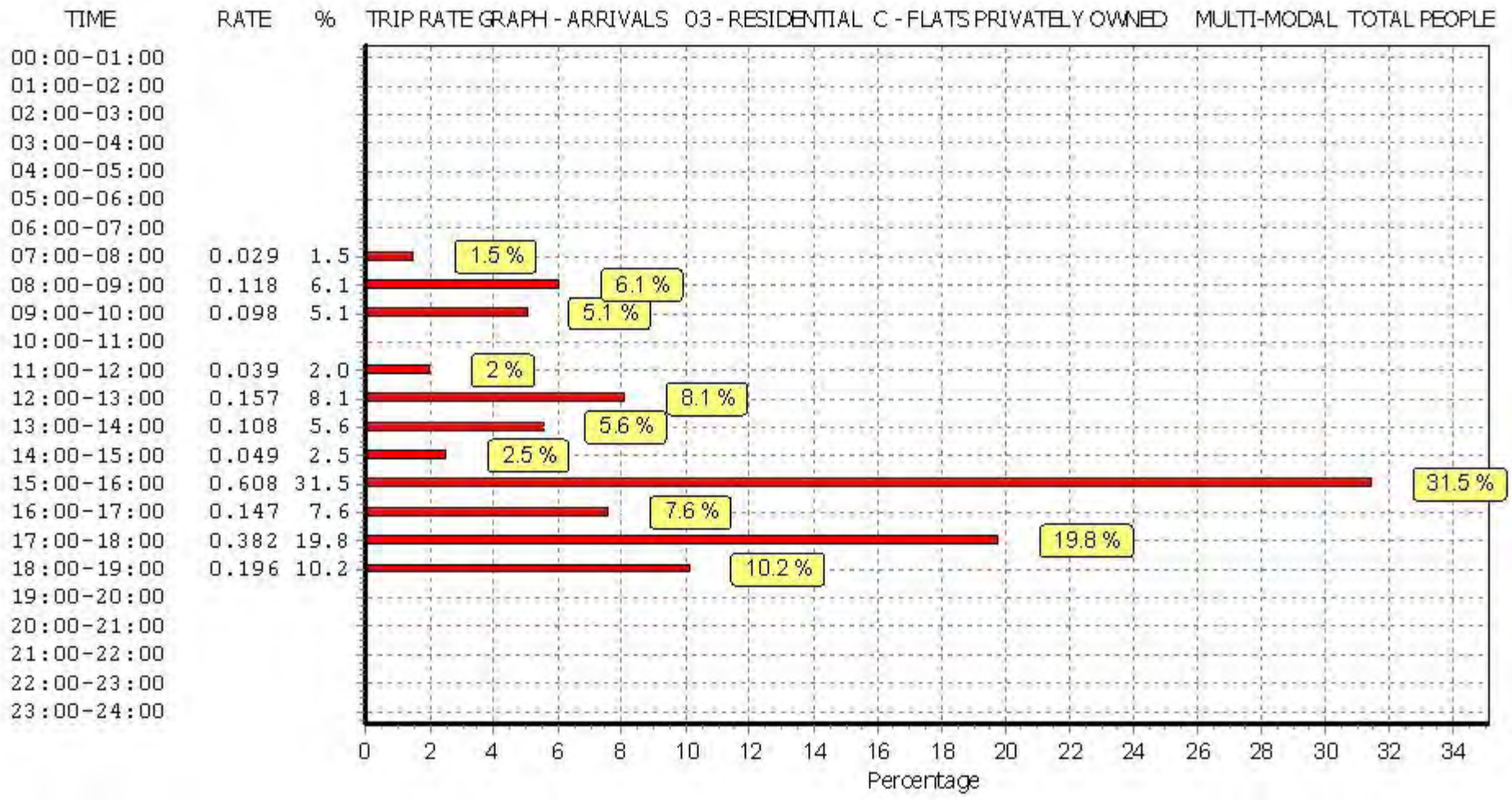
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	30 - 72 (units:)
Survey date date range:	01/01/08 - 11/05/12
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

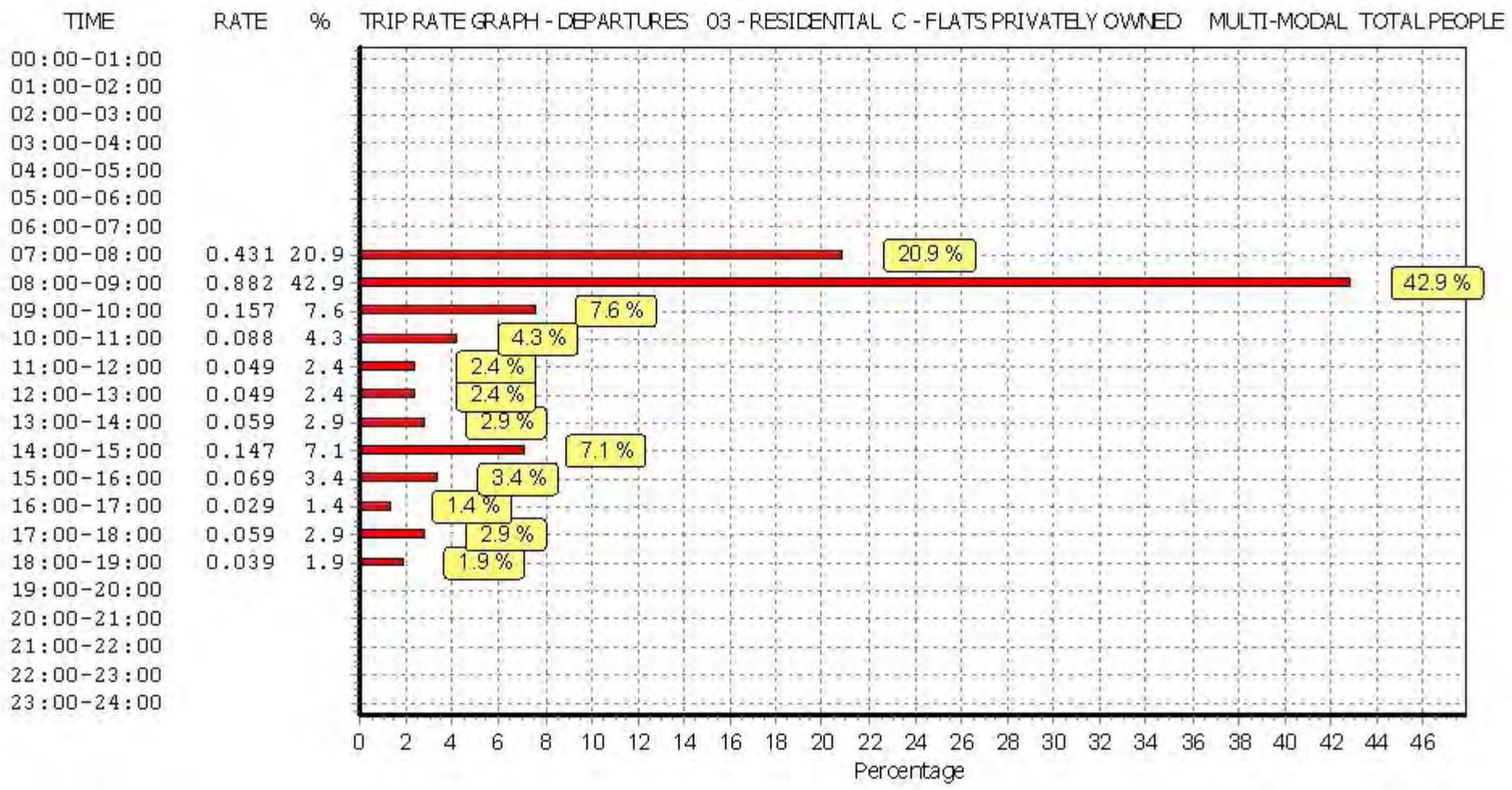
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

CampbellReith London Road Redhill Licence No: 426201



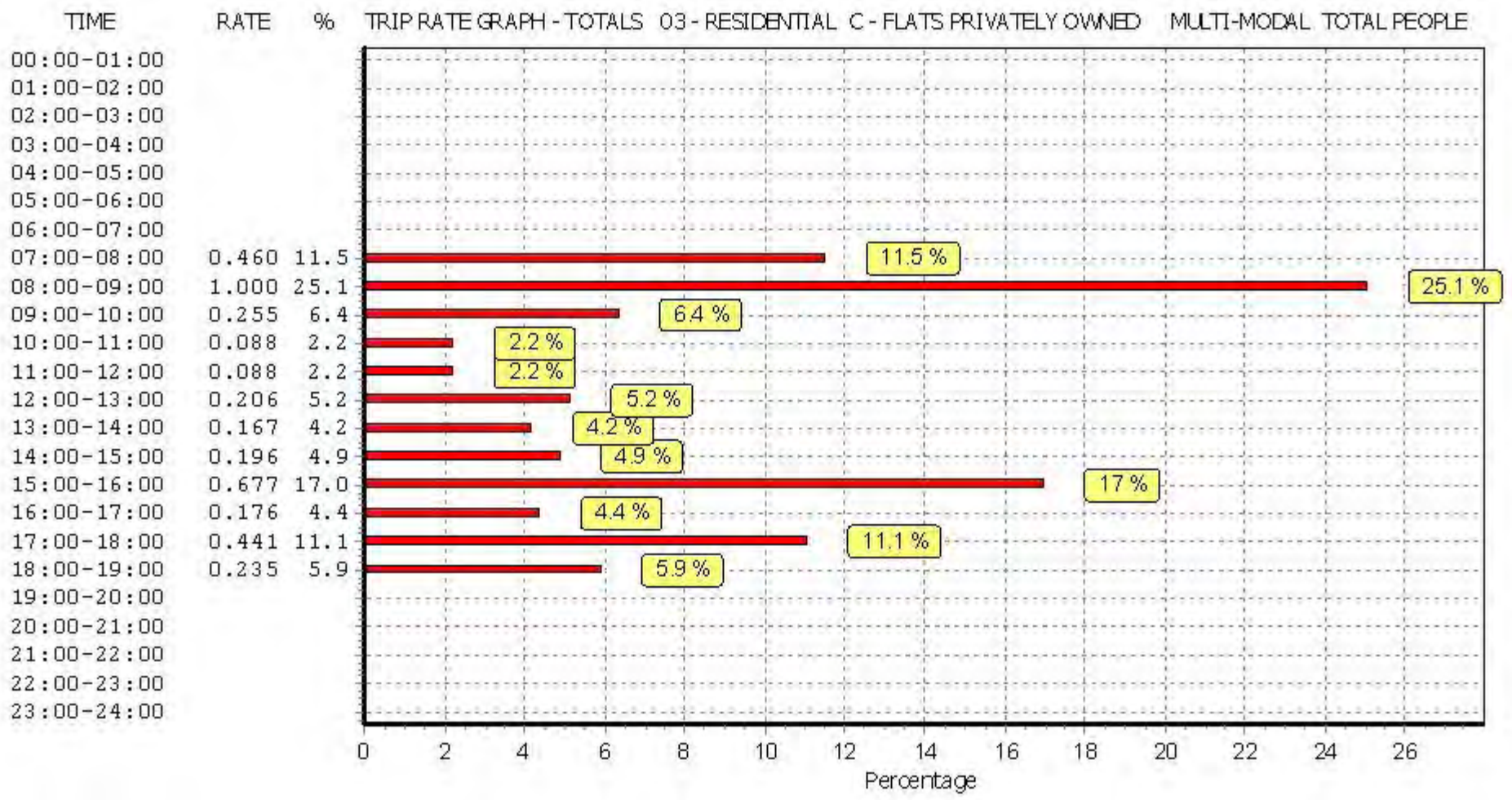
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

CampbellReith London Road Redhill Licence No: 426201



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

CampbellReith London Road Redhill Licence No: 426201



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

APPENDIX F: JUNCTION CAPACITY ASSESSMENT OUTPUTS

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.2.316 [14 Feb 2013]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: Greenwood Place Model Updated.arc8
Path: X:\Documents\11000-11249\11167 - HCA Greenwood Place Community Centre\CR Docs\Reports\Transport\Junctions 8 Model
Report generation date: 22/11/2013 14:07:25

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2020 Developed - 2020 Dev							
Junction 1 - Stream B-ACD	0.37	19.36	0.25	C	0.47	17.47	0.33	C
Junction 1 - Stream A-B	-	-	-	-	-	-	-	-
Junction 1 - Stream A-C	-	-	-	-	-	-	-	-
Junction 1 - Stream A-D	0.15	12.40	0.11	B	0.11	9.16	0.10	A
Junction 1 - Stream D-ABC	0.44	18.79	0.29	C	0.09	13.91	0.09	B
Junction 1 - Stream C-D	-	-	-	-	-	-	-	-
Junction 1 - Stream C-A	-	-	-	-	-	-	-	-
Junction 1 - Stream C-B	0.16	10.72	0.11	B	0.05	8.79	0.05	A
Junction 2 - Stream B-ACD	0.02	13.67	0.02	B	0.02	15.42	0.02	C
Junction 2 - Stream A-B	-	-	-	-	-	-	-	-
Junction 2 - Stream A-C	-	-	-	-	-	-	-	-
Junction 2 - Stream A-D	0.00	0.00	0.00	A	0.04	11.13	0.03	B
Junction 2 - Stream D-ABC	0.51	25.17	0.30	D	0.52	24.08	0.33	C
Junction 2 - Stream C-D	-	-	-	-	-	-	-	-
Junction 2 - Stream C-A	-	-	-	-	-	-	-	-
Junction 2 - Stream C-B	0.04	15.12	0.02	C	0.01	8.46	0.01	A

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

"D1 - 2013 Base, AM" model duration: 08:45 - 09:45
"D2 - 2013 Base, PM" model duration: 18:00 - 19:00
"D3 - 2015 Base, AM" model duration: 08:45 - 09:45
"D4 - 2015 Base, PM" model duration: 18:00 - 19:00
"D5 - 2020 Base, AM" model duration: 08:45 - 09:45
"D6 - 2020 Base, PM" model duration: 18:00 - 19:00
"D7 - 2015 Dev, AM" model duration: 08:45 - 09:45
"D8 - 2015 Dev, PM" model duration: 18:00 - 19:00
"D9 - 2020 Dev, AM " model duration: 08:45 - 09:45
"D10 - 2020 Dev, PM" model duration: 18:00 - 19:00

Run using Junctions 8.0.2.316 at 22/11/2013 14:07:19

File summary

File Description

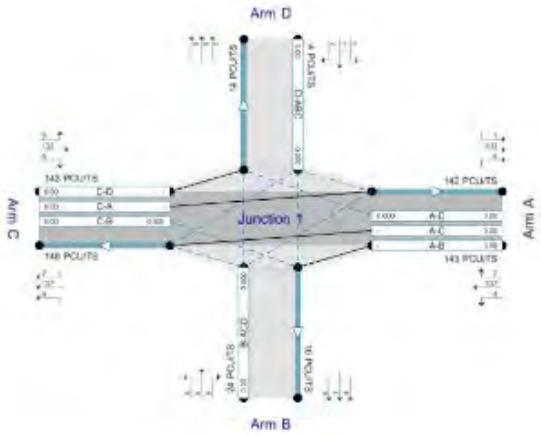
Title	Greenwood Place
Location	Kentish Town, Camden
Site Number	11167/01
Date	22/08/2013
Version	
Status	Final
Identifier	
Client	LBC
Jobnumber	11165/50
Enumerator	
Description	North Greenwood Place Junction

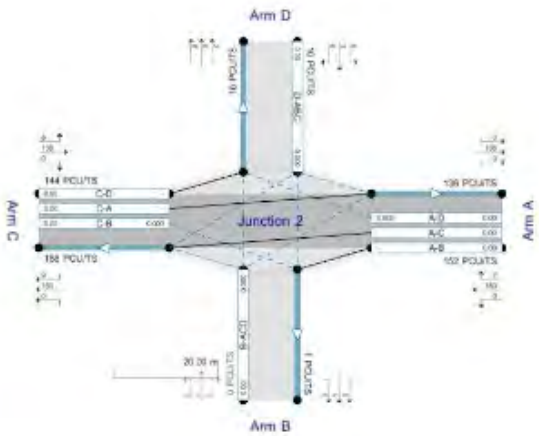
Analysis Options

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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	mph	Veh	PCU	perTimeSegment	s	-Min	perMin





Test overlays show modelled flow through the junction (entry and exit flows: PCU/TS)
Streams (upstream) show Total Demand (PCU/TS); Streams (downstream) show RFC ()

Time Segment: (08:45-09:00)
Showing Analysis Set: "A5 - 2020 Developed "; Demand Set: "D9 - 2020 Dev, AM "

The junction diagram reflects the last run of ARCADY.

2020 Developed - 2020 Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set (s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2020 Developed	N/A		✓	✓	D9,D10		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Us Relatio
2020 Dev, AM	2020 Dev	AM		DIRECT	08:45	09:45	60	15			✓	✓	

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	North Greenwood Place Junction	Crossroads	Two-way	A,B,C,D		16.31	C
2	South Greenwood Place Junction	Crossroads	Two-way	A,B,C,D		23.91	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Name	Description	Arm Type
1	A	Highgate Road		Major
1	B	Greenwood Place		Minor
1	C	Highgate Road (North)		Major
1	D	Burghley Road		Minor
2	A	Highgate Road (South)		Major
2	B	Greenwood Place		Minor
2	C	Highgate Road		Major
2	D	Fortess Walk		Minor

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
1	A	6.00		0.00		2.20	0.00		
1	C	6.00		0.00		2.20	0.00		
2	A	6.00		0.00		2.20	0.00		
2	C	6.00		0.00		2.20	0.00		

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

Minor Arm Geometry

Junction	Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
1	B	One lane	2.20										0	0
1	D	One lane	2.20										0	0
2	B	One lane	2.20										0	0
2	D	One lane	2.20										0	0

Pedestrian Crossings

Junction	Arm	Crossing Type
1	A	None
1	B	None
1	C	None
1	D	None
2	A	None
2	B	None
2	C	None
2	D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	143.491	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
1	B-A	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	-	0.202	0.202	0.101
1	B-C	143.491	0.088	0.222	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
1	B-D, offside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
1	C-B	143.491	0.222	0.222	0.318	-	-	-	-	-	-	-	-	-
1	D-A	143.491	-	-	-	-	-	-	0.222	-	0.088	-	-	-
1	D-B, nearside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
1	D-B, offside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
1	D-C	109.895	-	0.127	0.289	0.101	0.202	0.202	0.202	0.202	0.080	-	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
2	A-D	143.491	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
2	B-A	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	-	0.202	0.202	0.101
2	B-C	143.491	0.088	0.222	-	-	-	-	-	-	-	-	-	-
2	B-D, nearside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
2	B-D, offside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
2	C-B	143.491	0.222	0.222	0.318	-	-	-	-	-	-	-	-	-
2	D-A	143.491	-	-	-	-	-	-	0.222	-	0.088	-	-	-
2	D-B, nearside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
2	D-B, offside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
2	D-C	109.895	-	0.127	0.289	0.101	0.202	0.202	0.202	0.202	0.080	-	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/TS)	Flow Scaling Factor (%)
1	A	DIRECT	✓	N/A	100.000
1	B	DIRECT	✓	N/A	100.000
1	C	DIRECT	✓	N/A	100.000
1	D	DIRECT	✓	N/A	100.000
2	A	DIRECT	✓	N/A	100.000
2	B	DIRECT	✓	N/A	100.000
2	C	DIRECT	✓	N/A	100.000
2	D	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.000	8.322	89.683	0.000
	B	5.000	0.000	7.214	2.500
	C	119.578	10.536	0.000	5.536
	D	9.965	4.714	3.322	0.000

Turning Proportions (Veh) - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.00	0.08	0.92	0.00
	B	0.34	0.00	0.49	0.17
	C	0.88	0.08	0.00	0.04
	D	0.55	0.26	0.18	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.000	16.072	86.362	8.858
	B	7.214	0.000	5.000	3.607
	C	156.115	12.750	0.000	3.322
	D	7.750	8.036	2.214	0.000

Turning Proportions (Veh) - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.00	0.14	0.78	0.08
	B	0.46	0.00	0.32	0.23
	C	0.91	0.07	0.00	0.02
	D	0.43	0.45	0.12	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.000	10.536	94.112	6.643
	B	5.000	0.000	7.214	3.607
	C	149.472	9.429	0.000	3.322
	D	7.750	3.607	1.107	0.000

Turning Proportions (Veh) - Junction 1 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.00	0.09	0.85	0.06
	B	0.32	0.00	0.46	0.23
	C	0.92	0.06	0.00	0.02
	D	0.62	0.29	0.09	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.000	10.536	78.611	7.750
	B	6.107	0.000	5.000	4.714
	C	127.328	10.536	0.000	2.214
	D	4.429	3.607	5.536	0.000

Turning Proportions (Veh) - Junction 1 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.00	0.11	0.81	0.08
	B	0.39	0.00	0.32	0.30
	C	0.91	0.08	0.00	0.02
	D	0.33	0.27	0.41	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.000	0.000	91.362	0.000
	B	0.000	0.000	0.000	1.107
	C	103.541	1.107	0.000	23.251
	D	0.000	2.214	5.536	0.000

Turning Proportions (Veh) - Junction 2 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.00	0.00	1.00	0.00
	B	0.00	0.00	0.00	1.00
	C	0.81	0.01	0.00	0.18
	D	0.00	0.29	0.71	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.000	1.107	101.326	0.000
	B	0.000	0.000	0.000	0.000
	C	142.293	0.000	0.000	18.822
	D	0.000	0.000	7.750	0.000

Turning Proportions (Veh) - Junction 2 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.00	0.01	0.99	0.00
	B	0.25	0.25	0.25	0.25
	C	0.88	0.00	0.00	0.12
	D	0.00	0.00	1.00	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.000	0.000	99.112	0.000
	B	0.000	0.000	0.000	0.000
	C	144.507	0.000	0.000	19.930
	D	0.000	0.000	9.965	0.000

Turning Proportions (Veh) - Junction 2 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.00	0.00	1.00	0.00
	B	0.25	0.25	0.25	0.25
	C	0.88	0.00	0.00	0.12
	D	0.00	0.00	1.00	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.000	1.107	84.718	0.000
	B	1.107	0.000	0.000	0.000
	C	153.365	2.214	0.000	9.965
	D	0.000	1.107	12.179	0.000

Turning Proportions (Veh) - Junction 2 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.00	0.01	0.99	0.00
	B	1.00	0.00	0.00	0.00
	C	0.93	0.01	0.00	0.06
	D	0.00	0.08	0.92	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	1.000	1.000	1.111	1.000
	B	1.000	1.000	1.235	1.000
	C	1.139	1.267	1.000	1.200
	D	1.111	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.000	0.000	11.111	0.000
	B	0.000	0.000	23.485	0.000
	C	13.889	26.725	0.000	20.000
	D	11.111	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	1.000	1.000	1.115	1.250
	B	1.235	1.000	1.000	1.000
	C	1.071	1.000	1.000	1.000
	D	1.429	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.000	0.000	11.538	25.000
	B	23.485	0.000	0.000	0.000
	C	7.092	0.000	0.000	0.000
	D	42.857	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (09:15-09:30)

		To			
		A	B	C	D
From	A	1.000	1.000	1.129	1.167
	B	1.000	1.000	1.235	1.000
	C	1.059	1.000	1.000	1.000
	D	1.143	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.000	0.000	12.941	16.667
	B	0.000	0.000	23.485	0.000
	C	5.926	0.000	0.000	0.000
	D	14.286	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (09:30-09:45)

		To			
		A	B	C	D
From	A	1.000	1.000	1.113	1.429
	B	1.000	1.000	1.000	1.000
	C	1.087	1.000	1.000	1.000
	D	1.250	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.000	0.000	11.268	42.857
	B	0.000	0.000	0.000	0.000
	C	8.696	0.000	0.000	0.000
	D	25.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 2 - (08:45-09:00)

		To			
		A	B	C	D
From	A	1.000	1.000	1.099	1.000
	B	1.000	1.000	1.000	1.000
	C	1.110	2.000	1.000	1.238
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 2 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.000	0.000	9.912	0.000
	B	0.000	0.000	0.000	0.000
	C	10.958	100.000	0.000	23.810
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 2 - (09:00-09:15)

		To			
		A	B	C	D
From	A	1.000	2.000	1.100	1.000
	B	1.000	1.000	1.000	1.000
	C	1.071	1.000	1.000	1.118
	D	1.000	1.000	1.429	1.000

Heavy Vehicle Percentages - Junction 2 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.000	100.000	10.032	0.000
	B	0.000	0.000	0.000	0.000
	C	7.128	0.000	0.000	11.765
	D	0.000	0.000	42.857	0.000

Average PCU Per Vehicle - Junction 2 - (09:15-09:30)

		To			
		A	B	C	D
From	A	1.000	1.000	1.137	1.000
	B	1.000	1.000	1.000	1.000
	C	1.078	1.000	1.000	1.111
	D	1.000	1.000	1.111	1.000

Heavy Vehicle Percentages - Junction 2 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.000	0.000	13.682	0.000
	B	0.000	0.000	0.000	0.000
	C	7.797	0.000	0.000	11.111
	D	0.000	0.000	11.111	0.000

Average PCU Per Vehicle - Junction 2 - (09:30-09:45)

		To			
		A	B	C	D
From	A	1.000	1.000	1.107	1.000
	B	1.000	1.000	1.000	1.000
	C	1.088	1.000	1.000	1.111
	D	1.000	1.000	1.455	1.000

Heavy Vehicle Percentages - Junction 2 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.000	0.000	10.708	0.000
	B	0.000	0.000	0.000	0.000
	C	8.807	0.000	0.000	11.111
	D	0.000	0.000	45.455	0.000

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	B-ACD	0.25	19.36	0.37	C	16.81	67.26	17.83	15.91	0.30	17.84	15.91
1	A-B	-	-	-	-	11.37	45.47	-	-	-	-	-
1	A-C	-	-	-	-	97.43	389.73	-	-	-	-	-
1	A-D	0.11	12.40	0.15	B	7.47	29.89	5.80	11.64	0.10	5.80	11.65
1	D-ABC	0.29	18.79	0.44	C	17.17	68.68	17.86	15.60	0.30	17.87	15.61
1	C-D	-	-	-	-	3.88	15.50	-	-	-	-	-
1	C-A	-	-	-	-	150.03	600.10	-	-	-	-	-
1	C-B	0.11	10.72	0.16	B	11.52	46.07	7.15	9.31	0.12	7.15	9.31
2	B-ACD	0.02	13.67	0.02	B	0.55	2.21	0.46	12.52	0.01	0.46	12.52
2	A-B	-	-	-	-	0.83	3.32	-	-	-	-	-
2	A-C	-	-	-	-	104.59	418.37	-	-	-	-	-
2	A-D	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	D-ABC	0.30	25.17	0.51	D	12.18	48.72	16.31	20.09	0.27	16.34	20.12
2	C-D	-	-	-	-	20.76	83.04	-	-	-	-	-
2	C-A	-	-	-	-	147.49	589.97	-	-	-	-	-
2	C-B	0.02	15.12	0.04	C	1.11	4.43	0.88	11.87	0.01	0.88	11.87

Main Results for each time segment

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

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	16.41	16.41	16.15	0.00	86.87	0.189	0.00	0.25	14.139	B
1	A-B	8.32	8.32	8.32	0.00	-	-	-	-	-	-
1	A-C	99.65	99.65	99.65	0.00	-	-	-	-	-	-
1	A-D	0.00	0.00	0.00	0.00	107.49	0.000	0.00	0.00	0.000	A
1	D-ABC	19.11	19.11	18.81	0.00	85.81	0.223	0.00	0.30	14.198	B
1	C-D	6.64	6.64	6.64	0.00	-	-	-	-	-	-
1	C-A	136.19	136.19	136.19	0.00	-	-	-	-	-	-
1	C-B	13.35	13.35	13.19	0.00	119.48	0.112	0.00	0.16	10.716	B
2	B-ACD	1.11	1.11	1.09	0.00	70.64	0.016	0.00	0.02	12.937	B
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	100.42	100.42	100.42	0.00	-	-	-	-	-	-
2	A-D	0.00	0.00	0.00	0.00	110.84	0.000	0.00	0.00	0.000	A
2	D-ABC	7.75	7.75	7.63	0.00	70.95	0.109	0.00	0.12	14.187	B
2	C-D	28.79	28.79	28.79	0.00	-	-	-	-	-	-
2	C-A	114.89	114.89	114.89	0.00	-	-	-	-	-	-
2	C-B	2.21	2.21	2.18	0.00	121.16	0.018	0.00	0.04	15.123	C

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

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	17.52	17.52	17.40	0.00	68.97	0.254	0.25	0.37	19.364	C
1	A-B	16.07	16.07	16.07	0.00	-	-	-	-	-	-
1	A-C	96.33	96.33	96.33	0.00	-	-	-	-	-	-
1	A-D	11.07	11.07	10.92	0.00	101.47	0.109	0.00	0.15	12.405	B
1	D-ABC	21.32	21.32	21.18	0.00	73.81	0.289	0.30	0.44	18.786	C
1	C-D	3.32	3.32	3.32	0.00	-	-	-	-	-	-
1	C-A	167.19	167.19	167.19	0.00	-	-	-	-	-	-
1	C-B	12.75	12.75	12.77	0.00	114.98	0.111	0.16	0.14	10.018	B
2	B-ACD	0.00	0.00	0.02	0.00	65.06	0.000	0.02	0.00	0.000	A
2	A-B	2.21	2.21	2.21	0.00	-	-	-	-	-	-
2	A-C	111.49	111.49	111.49	0.00	-	-	-	-	-	-
2	A-D	0.00	0.00	0.00	0.00	104.90	0.000	0.00	0.00	0.000	A
2	D-ABC	11.07	11.07	10.95	0.00	63.16	0.175	0.12	0.24	20.294	C
2	C-D	21.04	21.04	21.04	0.00	-	-	-	-	-	-
2	C-A	152.44	152.44	152.44	0.00	-	-	-	-	-	-
2	C-B	0.00	0.00	0.04	0.00	118.20	0.000	0.04	0.00	0.000	A

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

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	17.52	17.52	17.57	0.00	81.05	0.216	0.37	0.31	15.712	C
1	A-B	10.54	10.54	10.54	0.00	-	-	-	-	-	-
1	A-C	106.29	106.29	106.29	0.00	-	-	-	-	-	-
1	A-D	7.75	7.75	7.80	0.00	104.50	0.074	0.15	0.10	11.344	B
1	D-ABC	13.57	13.57	13.78	0.00	82.93	0.164	0.44	0.23	15.090	C
1	C-D	3.32	3.32	3.32	0.00	-	-	-	-	-	-
1	C-A	158.33	158.33	158.33	0.00	-	-	-	-	-	-
1	C-B	9.43	9.43	9.48	0.00	115.00	0.082	0.14	0.09	8.532	A
2	B-ACD	0.00	0.00	0.00	0.00	73.25	0.000	0.00	0.00	0.000	A
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	112.67	112.67	112.67	0.00	-	-	-	-	-	-
2	A-D	0.00	0.00	0.00	0.00	103.92	0.000	0.00	0.00	0.000	A
2	D-ABC	11.07	11.07	11.05	0.00	62.25	0.178	0.24	0.27	22.507	C
2	C-D	22.14	22.14	22.14	0.00	-	-	-	-	-	-
2	C-A	155.77	155.77	155.77	0.00	-	-	-	-	-	-
2	C-B	0.00	0.00	0.00	0.00	118.43	0.000	0.00	0.00	0.000	A

Main results: (09:30-09:45)

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	15.82	15.82	15.86	0.00	78.31	0.202	0.31	0.27	15.388	C
1	A-B	10.54	10.54	10.54	0.00	-	-	-	-	-	-
1	A-C	87.47	87.47	87.47	0.00	-	-	-	-	-	-
1	A-D	11.07	11.07	11.03	0.00	108.84	0.102	0.10	0.14	11.917	B
1	D-ABC	14.68	14.68	14.65	0.00	75.77	0.194	0.23	0.26	15.982	C
1	C-D	2.21	2.21	2.21	0.00	-	-	-	-	-	-
1	C-A	138.40	138.40	138.40	0.00	-	-	-	-	-	-
1	C-B	10.54	10.54	10.53	0.00	118.15	0.089	0.09	0.10	8.363	A
2	B-ACD	1.11	1.11	1.09	0.00	66.90	0.017	0.00	0.02	13.673	B
2	A-B	1.11	1.11	1.11	0.00	-	-	-	-	-	-
2	A-C	93.79	93.79	93.79	0.00	-	-	-	-	-	-
2	A-D	0.00	0.00	0.00	0.00	103.22	0.000	0.00	0.00	0.000	A
2	D-ABC	18.82	18.82	18.58	0.00	62.74	0.300	0.27	0.51	25.174	D
2	C-D	11.07	11.07	11.07	0.00	-	-	-	-	-	-
2	C-A	166.87	166.87	166.87	0.00	-	-	-	-	-	-
2	C-B	2.21	2.21	2.19	0.00	122.39	0.018	0.00	0.02	10.042	B

Queueing Delay Results for each time segment

Queueing Delay results: (08:45-09:00)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	3.60	0.24	14.139	B	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	0.00	0.00	0.000	A	A
1	D-ABC	4.21	0.28	14.198	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	2.25	0.15	10.716	B	B
2	B-ACD	0.22	0.01	12.937	B	B
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.00	0.00	0.000	A	A
2	D-ABC	1.71	0.11	14.187	B	B
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.52	0.03	15.123	C	B

Queueing Delay results: (09:00-09:15)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	5.27	0.35	19.364	C	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	2.15	0.14	12.405	B	B
1	D-ABC	6.26	0.42	18.786	C	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	2.06	0.14	10.018	B	B
2	B-ACD	0.00	0.00	0.000	A	A
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.00	0.00	0.000	A	A
2	D-ABC	3.50	0.23	20.294	C	C
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.00	0.00	0.000	A	A

Queueing Delay results: (09:15-09:30)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	4.82	0.32	15.712	C	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	1.53	0.10	11.344	B	B
1	D-ABC	3.64	0.24	15.090	C	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	1.40	0.09	8.532	A	A
2	B-ACD	0.00	0.00	0.000	A	A
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.00	0.00	0.000	A	A
2	D-ABC	3.86	0.26	22.507	C	C
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.00	0.00	0.000	A	A

Queueing Delay results: (09:30-09:45)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	4.15	0.28	15.388	C	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	2.12	0.14	11.917	B	B
1	D-ABC	3.75	0.25	15.982	C	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	1.44	0.10	8.363	A	A
2	B-ACD	0.24	0.02	13.673	B	B
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.00	0.00	0.000	A	A
2	D-ABC	7.24	0.48	25.174	D	C
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.35	0.02	10.042	B	B

2020 Developed - 2020 Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set (s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2020 Developed	N/A		✓	✓	D9,D10		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Us Relatio
2020 Dev, PM	2020 Dev	PM		DIRECT	18:00	19:00	60	15			✓	✓	

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	North Greenwood Place Junction	Crossroads	Two-way	A,B,C,D		14.23	B
2	South Greenwood Place Junction	Crossroads	Two-way	A,B,C,D		21.73	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Name	Description	Arm Type
1	A	Highgate Road		Major
1	B	Greenwood Place		Minor
1	C	Highgate Road (North)		Major
1	D	Burghley Road		Minor
2	A	Highgate Road (South)		Major
2	B	Greenwood Place		Minor
2	C	Highgate Road		Major
2	D	Fortess Walk		Minor

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
1	A	6.00		0.00		2.20	0.00		
1	C	6.00		0.00		2.20	0.00		
2	A	6.00		0.00		2.20	0.00		
2	C	6.00		0.00		2.20	0.00		

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

Minor Arm Geometry

Junction	Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
1	B	One lane	2.20										0	0
1	D	One lane	2.20										0	0
2	B	One lane	2.20										0	0
2	D	One lane	2.20										0	0

Pedestrian Crossings

Junction	Arm	Crossing Type
1	A	None
1	B	None
1	C	None
1	D	None
2	A	None
2	B	None
2	C	None
2	D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	143.491	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
1	B-A	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	-	0.202	0.202	0.101
1	B-C	143.491	0.088	0.222	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
1	B-D, offside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
1	C-B	143.491	0.222	0.222	0.318	-	-	-	-	-	-	-	-	-
1	D-A	143.491	-	-	-	-	-	-	0.222	-	0.088	-	-	-
1	D-B, nearside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
1	D-B, offside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
1	D-C	109.895	-	0.127	0.289	0.101	0.202	0.202	0.202	0.202	0.080	-	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
2	A-D	143.491	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
2	B-A	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	-	0.202	0.202	0.101
2	B-C	143.491	0.088	0.222	-	-	-	-	-	-	-	-	-	-
2	B-D, nearside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
2	B-D, offside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
2	C-B	143.491	0.222	0.222	0.318	-	-	-	-	-	-	-	-	-
2	D-A	143.491	-	-	-	-	-	-	0.222	-	0.088	-	-	-
2	D-B, nearside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
2	D-B, offside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
2	D-C	109.895	-	0.127	0.289	0.101	0.202	0.202	0.202	0.202	0.080	-	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/TS)	Flow Scaling Factor (%)
1	A	DIRECT	✓	N/A	100.000
1	B	DIRECT	✓	N/A	100.000
1	C	DIRECT	✓	N/A	100.000
1	D	DIRECT	✓	N/A	100.000
2	A	DIRECT	✓	N/A	100.000
2	B	DIRECT	✓	N/A	100.000
2	C	DIRECT	✓	N/A	100.000
2	D	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.000	4.103	134.517	2.205
	B	9.116	0.000	9.116	6.160
	C	127.902	4.955	0.000	5.513
	D	1.103	1.000	2.205	0.000

Turning Proportions (Veh) - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.00	0.03	0.96	0.02
	B	0.37	0.00	0.37	0.25
	C	0.92	0.04	0.00	0.04
	D	0.26	0.23	0.51	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.000	5.205	141.133	11.026
	B	5.808	0.000	5.808	2.853
	C	142.235	3.853	0.000	3.308
	D	5.513	1.000	1.103	0.000

Turning Proportions (Veh) - Junction 1 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.00	0.03	0.90	0.07
	B	0.40	0.00	0.40	0.20
	C	0.95	0.03	0.00	0.02
	D	0.72	0.13	0.14	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.000	4.103	115.773	3.308
	B	8.013	0.000	4.705	2.853
	C	143.338	2.750	0.000	4.410
	D	1.103	1.000	1.103	0.000

Turning Proportions (Veh) - Junction 1 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.00	0.03	0.94	0.03
	B	0.51	0.00	0.30	0.18
	C	0.95	0.02	0.00	0.03
	D	0.34	0.31	0.34	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.000	5.205	135.620	9.923
	B	10.218	0.000	4.705	1.750
	C	129.004	4.955	0.000	1.103
	D	2.205	1.000	1.103	0.000

Turning Proportions (Veh) - Junction 1 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.00	0.03	0.90	0.07
	B	0.61	0.00	0.28	0.10
	C	0.96	0.04	0.00	0.01
	D	0.51	0.23	0.26	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.000	0.000	147.441	2.205
	B	0.000	0.000	0.000	0.000
	C	132.607	0.000	0.000	6.616
	D	0.000	1.103	7.718	0.000

Turning Proportions (Veh) - Junction 2 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.00	0.00	0.99	0.01
	B	0.25	0.25	0.25	0.25
	C	0.95	0.00	0.00	0.05
	D	0.00	0.13	0.87	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.000	0.000	138.620	1.103
	B	1.103	0.000	0.000	0.000
	C	146.941	0.000	0.000	11.026
	D	0.000	1.103	17.642	0.000

Turning Proportions (Veh) - Junction 2 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.00	0.00	0.99	0.01
	B	1.00	0.00	0.00	0.00
	C	0.93	0.00	0.00	0.07
	D	0.00	0.06	0.94	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.000	0.000	109.952	1.103
	B	0.000	0.000	0.000	0.000
	C	148.043	0.000	0.000	7.718
	D	1.103	0.000	4.410	0.000

Turning Proportions (Veh) - Junction 2 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.00	0.00	0.99	0.01
	B	0.25	0.25	0.25	0.25
	C	0.95	0.00	0.00	0.05
	D	0.20	0.00	0.80	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.000	0.000	154.056	2.205
	B	0.000	0.000	0.000	0.000
	C	128.196	1.103	0.000	11.026
	D	0.000	1.103	7.718	0.000

Turning Proportions (Veh) - Junction 2 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.00	0.00	0.99	0.01
	B	0.25	0.25	0.25	0.25
	C	0.91	0.01	0.00	0.08
	D	0.00	0.13	0.87	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	1.000	1.000	1.016	1.000
	B	1.000	1.000	1.000	1.000
	C	1.034	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.000	0.000	1.639	0.000
	B	0.000	0.000	0.000	0.000
	C	3.448	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (18:15-18:30)

		To			
		A	B	C	D
From	A	1.000	1.000	1.039	1.000
	B	1.000	1.000	1.000	1.000
	C	1.023	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.000	0.000	3.906	0.000
	B	0.000	0.000	0.000	0.000
	C	2.326	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (18:30-18:45)

		To			
		A	B	C	D
From	A	1.000	1.000	1.029	1.000
	B	1.000	1.000	1.000	1.000
	C	1.038	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.000	0.000	2.857	0.000
	B	0.000	0.000	0.000	0.000
	C	3.846	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (18:45-19:00)

		To			
		A	B	C	D
From	A	1.000	1.000	1.033	1.000
	B	1.000	1.000	1.000	1.000
	C	1.051	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.000	0.000	3.252	0.000
	B	0.000	0.000	0.000	0.000
	C	5.128	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 2 - (18:00-18:15)

		To			
		A	B	C	D
From	A	1.000	1.000	1.015	1.000
	B	1.000	1.000	1.000	1.000
	C	1.025	1.000	1.000	1.167
	D	1.000	1.000	1.143	1.000

Heavy Vehicle Percentages - Junction 2 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.000	0.000	1.496	0.000
	B	0.000	0.000	0.000	0.000
	C	2.494	0.000	0.000	16.667
	D	0.000	0.000	14.286	0.000

Average PCU Per Vehicle - Junction 2 - (18:15-18:30)

		To			
		A	B	C	D
From	A	1.000	1.000	1.032	1.000
	B	1.000	1.000	1.000	1.000
	C	1.023	1.000	1.000	1.000
	D	1.000	1.000	1.063	1.000

Heavy Vehicle Percentages - Junction 2 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.000	0.000	3.182	0.000
	B	0.000	0.000	0.000	0.000
	C	2.251	0.000	0.000	0.000
	D	0.000	0.000	6.250	0.000

Average PCU Per Vehicle - Junction 2 - (18:30-18:45)

		To			
		A	B	C	D
From	A	1.000	1.000	1.030	1.000
	B	1.000	1.000	1.000	1.000
	C	1.037	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 2 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.000	0.000	3.008	0.000
	B	0.000	0.000	0.000	0.000
	C	3.724	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 2 - (18:45-19:00)

		To			
		A	B	C	D
From	A	1.000	1.000	1.021	1.500
	B	1.000	1.000	1.000	1.000
	C	1.052	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 2 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.000	0.000	2.147	50.000
	B	0.000	0.000	0.000	0.000
	C	5.161	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	B-ACD	0.33	17.47	0.47	C	17.78	71.11	19.19	16.20	0.32	19.20	16.21
1	A-B	-	-	-	-	4.65	18.62	-	-	-	-	-
1	A-C	-	-	-	-	135.62	542.48	-	-	-	-	-
1	A-D	0.10	9.16	0.11	A	6.62	26.46	3.79	8.60	0.06	3.79	8.60
1	D-ABC	0.09	13.91	0.09	B	4.86	19.44	3.89	12.00	0.06	3.89	12.01
1	C-D	-	-	-	-	3.58	14.33	-	-	-	-	-
1	C-A	-	-	-	-	140.58	562.33	-	-	-	-	-
1	C-B	0.05	8.79	0.05	A	4.13	16.51	2.32	8.44	0.04	2.32	8.44
2	B-ACD	0.02	15.42	0.02	C	0.28	1.10	0.27	14.45	0.00	0.27	14.45
2	A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
2	A-C	-	-	-	-	140.83	563.30	-	-	-	-	-
2	A-D	0.03	11.13	0.04	B	1.93	7.72	1.19	9.25	0.02	1.19	9.25
2	D-ABC	0.33	24.08	0.52	C	11.03	44.11	14.02	19.07	0.23	14.02	19.08
2	C-D	-	-	-	-	9.37	37.49	-	-	-	-	-
2	C-A	-	-	-	-	143.63	574.53	-	-	-	-	-
2	C-B	0.01	8.46	0.01	A	0.28	1.10	0.15	8.09	0.00	0.15	8.09

Main Results for each time segment

Main results: (18:00-18:15)

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	24.39	24.39	23.92	0.00	74.99	0.325	0.00	0.47	17.472	C
1	A-B	4.10	4.10	4.10	0.00	-	-	-	-	-	-
1	A-C	136.72	136.72	136.72	0.00	-	-	-	-	-	-
1	A-D	2.21	2.21	2.18	0.00	111.27	0.020	0.00	0.02	8.250	A
1	D-ABC	4.31	4.31	4.24	0.00	68.88	0.063	0.00	0.07	13.909	B
1	C-D	5.51	5.51	5.51	0.00	-	-	-	-	-	-
1	C-A	132.31	132.31	132.31	0.00	-	-	-	-	-	-
1	C-B	4.96	4.96	4.91	0.00	111.47	0.044	0.00	0.05	8.442	A
2	B-ACD	0.00	0.00	0.00	0.00	68.51	0.000	0.00	0.00	0.000	A
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	149.65	149.65	149.65	0.00	-	-	-	-	-	-
2	A-D	2.21	2.21	2.19	0.00	111.55	0.020	0.00	0.02	8.228	A
2	D-ABC	9.92	9.92	9.71	0.00	62.08	0.160	0.00	0.21	19.261	C
2	C-D	7.72	7.72	7.72	0.00	-	-	-	-	-	-
2	C-A	135.91	135.91	135.91	0.00	-	-	-	-	-	-
2	C-B	0.00	0.00	0.00	0.00	109.51	0.000	0.00	0.00	0.000	A

Main results: (18:15-18:30)

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	14.47	14.47	14.67	0.00	70.52	0.205	0.47	0.26	16.172	C
1	A-B	5.21	5.21	5.21	0.00	-	-	-	-	-	-
1	A-C	146.65	146.65	146.65	0.00	-	-	-	-	-	-
1	A-D	11.03	11.03	10.93	0.00	109.15	0.101	0.02	0.11	9.155	A
1	D-ABC	7.62	7.62	7.59	0.00	86.92	0.088	0.07	0.09	11.341	B
1	C-D	3.31	3.31	3.31	0.00	-	-	-	-	-	-
1	C-A	145.54	145.54	145.54	0.00	-	-	-	-	-	-
1	C-B	3.85	3.85	3.86	0.00	106.21	0.036	0.05	0.04	8.793	A
2	B-ACD	1.10	1.10	1.08	0.00	59.45	0.019	0.00	0.02	15.415	C
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	143.03	143.03	143.03	0.00	-	-	-	-	-	-
2	A-D	1.10	1.10	1.11	0.00	107.63	0.010	0.02	0.01	8.451	A
2	D-ABC	19.85	19.85	19.54	0.00	59.97	0.331	0.21	0.52	24.077	C
2	C-D	11.03	11.03	11.03	0.00	-	-	-	-	-	-
2	C-A	150.25	150.25	150.25	0.00	-	-	-	-	-	-
2	C-B	0.00	0.00	0.00	0.00	111.33	0.000	0.00	0.00	0.000	A

Main results: (18:30-18:45)

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	15.57	15.57	15.57	0.00	74.60	0.209	0.26	0.26	15.245	C
1	A-B	4.10	4.10	4.10	0.00	-	-	-	-	-	-
1	A-C	119.08	119.08	119.08	0.00	-	-	-	-	-	-
1	A-D	3.31	3.31	3.39	0.00	108.52	0.030	0.11	0.03	8.568	A
1	D-ABC	3.21	3.21	3.25	0.00	72.63	0.044	0.09	0.05	12.980	B
1	C-D	4.41	4.41	4.41	0.00	-	-	-	-	-	-
1	C-A	148.85	148.85	148.85	0.00	-	-	-	-	-	-
1	C-B	2.75	2.75	2.76	0.00	115.01	0.024	0.04	0.02	8.020	A
2	B-ACD	0.00	0.00	0.02	0.00	66.47	0.000	0.02	0.00	0.000	A
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	113.26	113.26	113.26	0.00	-	-	-	-	-	-
2	A-D	1.10	1.10	1.10	0.00	107.63	0.010	0.01	0.01	8.450	A
2	D-ABC	5.51	5.51	5.94	0.00	68.68	0.080	0.52	0.09	15.146	C
2	C-D	7.72	7.72	7.72	0.00	-	-	-	-	-	-
2	C-A	153.56	153.56	153.56	0.00	-	-	-	-	-	-
2	C-B	0.00	0.00	0.00	0.00	117.95	0.000	0.00	0.00	0.000	A

Main results: (18:45-19:00)

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	16.67	16.67	16.62	0.00	68.80	0.242	0.26	0.31	17.230	C
1	A-B	5.21	5.21	5.21	0.00	-	-	-	-	-	-
1	A-C	140.03	140.03	140.03	0.00	-	-	-	-	-	-
1	A-D	9.92	9.92	9.86	0.00	111.50	0.089	0.03	0.10	8.849	A
1	D-ABC	4.31	4.31	4.30	0.00	78.13	0.055	0.05	0.06	12.187	B
1	C-D	1.10	1.10	1.10	0.00	-	-	-	-	-	-
1	C-A	135.62	135.62	135.62	0.00	-	-	-	-	-	-
1	C-B	4.96	4.96	4.93	0.00	108.03	0.046	0.02	0.05	8.727	A
2	B-ACD	0.00	0.00	0.00	0.00	66.23	0.000	0.00	0.00	0.000	A
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	157.36	157.36	157.36	0.00	-	-	-	-	-	-
2	A-D	3.31	3.31	3.28	0.00	110.71	0.030	0.01	0.04	11.128	B
2	D-ABC	8.82	8.82	8.75	0.00	60.57	0.146	0.09	0.17	17.341	C
2	C-D	11.03	11.03	11.03	0.00	-	-	-	-	-	-
2	C-A	134.81	134.81	134.81	0.00	-	-	-	-	-	-
2	C-B	1.10	1.10	1.09	0.00	107.44	0.010	0.00	0.01	8.463	A

Queueing Delay Results for each time segment

Queueing Delay results: (18:00-18:15)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	6.51	0.43	17.472	C	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	0.29	0.02	8.250	A	A
1	D-ABC	0.93	0.06	13.909	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	0.67	0.04	8.442	A	A
2	B-ACD	0.00	0.00	0.000	A	A
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.29	0.02	8.228	A	A
2	D-ABC	2.91	0.19	19.261	C	B
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.00	0.00	0.000	A	A

Queueing Delay results: (18:15-18:30)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	4.18	0.28	16.172	C	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	1.60	0.11	9.155	A	A
1	D-ABC	1.38	0.09	11.341	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	0.58	0.04	8.793	A	A
2	B-ACD	0.26	0.02	15.415	C	B
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.16	0.01	8.451	A	A
2	D-ABC	7.18	0.48	24.077	C	C
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.00	0.00	0.000	A	A

Queueing Delay results: (18:30-18:45)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	3.96	0.26	15.245	C	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	0.50	0.03	8.568	A	A
1	D-ABC	0.74	0.05	12.980	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	0.38	0.03	8.020	A	A
2	B-ACD	0.00	0.00	0.000	A	A
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.16	0.01	8.450	A	A
2	D-ABC	1.54	0.10	15.146	C	B
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.00	0.00	0.000	A	A

Queueing Delay results: (18:45-19:00)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	4.55	0.30	17.230	C	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	1.40	0.09	8.849	A	A
1	D-ABC	0.84	0.06	12.187	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	0.69	0.05	8.727	A	A
2	B-ACD	0.00	0.00	0.000	A	A
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.58	0.04	11.128	B	B
2	D-ABC	2.38	0.16	17.341	C	B
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.15	0.01	8.463	A	A

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.2.316 [14 Feb 2013]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: Greenwood Place Model Updated.arc8
Path: X:\Documents\11000-11249\11167 - HCA Greenwood Place Community Centre\CR Docs\Reports\Transport\Junctions 8 Model
Report generation date: 22/11/2013 14:04:16

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2015 Developed - 2015 Dev							
Junction 1 - Stream B-ACD	0.33	17.58	0.23	C	0.40	15.87	0.29	C
Junction 1 - Stream A-B	-	-	-	-	-	-	-	-
Junction 1 - Stream A-C	-	-	-	-	-	-	-	-
Junction 1 - Stream A-D	0.13	11.84	0.10	B	0.10	8.83	0.09	A
Junction 1 - Stream D-ABC	0.36	16.94	0.25	C	0.08	13.07	0.08	B
Junction 1 - Stream C-D	-	-	-	-	-	-	-	-
Junction 1 - Stream C-A	-	-	-	-	-	-	-	-
Junction 1 - Stream C-B	0.14	10.39	0.10	B	0.04	8.53	0.04	A
Junction 2 - Stream B-ACD	0.01	12.96	0.01	B	0.02	14.38	0.02	B
Junction 2 - Stream A-B	-	-	-	-	-	-	-	-
Junction 2 - Stream A-C	-	-	-	-	-	-	-	-
Junction 2 - Stream A-D	0.00	0.00	0.00	A	0.04	10.84	0.03	B
Junction 2 - Stream D-ABC	0.42	22.58	0.26	C	0.42	21.13	0.28	C
Junction 2 - Stream C-D	-	-	-	-	-	-	-	-
Junction 2 - Stream C-A	-	-	-	-	-	-	-	-
Junction 2 - Stream C-B	0.03	14.88	0.02	B	0.01	8.23	0.01	A

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

"D1 - 2013 Base, AM" model duration: 08:45 - 09:45
"D2 - 2013 Base, PM" model duration: 18:00 - 19:00
"D3 - 2015 Base, AM" model duration: 08:45 - 09:45
"D4 - 2015 Base, PM" model duration: 18:00 - 19:00
"D5 - 2020 Base, AM" model duration: 08:45 - 09:45
"D6 - 2020 Base, PM" model duration: 18:00 - 19:00
"D7 - 2015 Dev, AM " model duration: 08:45 - 09:45
"D8 - 2015 Dev, PM" model duration: 18:00 - 19:00
"D9 - 2020 Dev, AM" model duration: 08:45 - 09:45
"D10 - 2020 Dev, PM" model duration: 18:00 - 19:00

Run using Junctions 8.0.2.316 at 22/11/2013 14:04:09

File summary

File Description

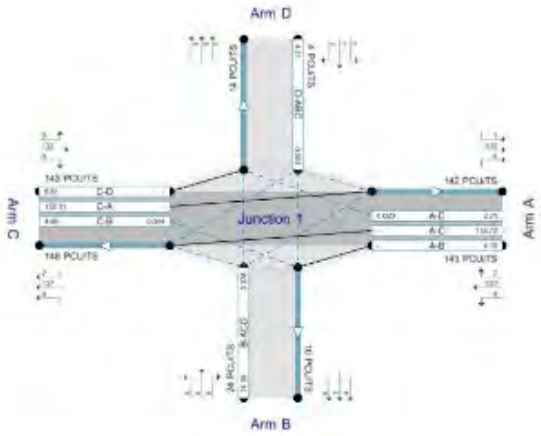
Title	Greenwood Place
Location	Kentish Town, Camden
Site Number	11167/01
Date	22/08/2013
Version	
Status	Final
Identifier	
Client	LBC
Jobnumber	11165/50
Enumerator	
Description	North Greenwood Place Junction

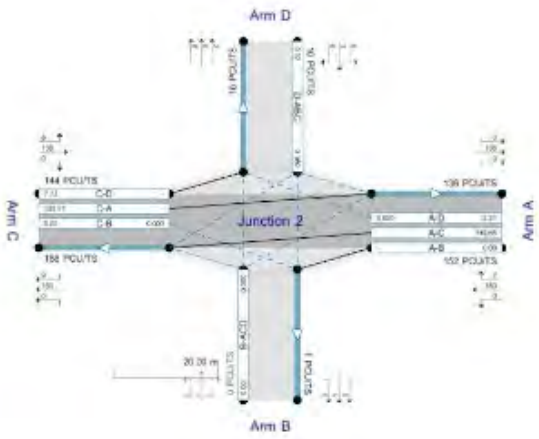
Analysis Options

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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	mph	Veh	PCU	perTimeSegment	s	-Min	perMin





Text overlays show modelled flow through the junction (entry and exit flows: PCU/TS)
Streams (upstream) show Total Demand (PCU/TS). Streams (downstream) show RFC ()

Time Segment: (08:45-09:00)
Showing Analysis Set: "A4 - 2015 Developed "; Demand Set: "D7 - 2015 Dev, AM "

The junction diagram reflects the last run of ARCADY.

2015 Developed - 2015 Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set (s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2015 Developed	N/A		✓	✓	D7,D8		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Us Relatio
2015 Dev, AM	2015 Dev	AM		DIRECT	08:45	09:45	60	15			✓	✓	

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	North Greenwood Place Junction	Crossroads	Two-way	A,B,C,D		15.02	C
2	South Greenwood Place Junction	Crossroads	Two-way	A,B,C,D		21.58	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Name	Description	Arm Type
1	A	Highgate Road		Major
1	B	Greenwood Place		Minor
1	C	Highgate Road (North)		Major
1	D	Burghley Road		Minor
2	A	Highgate Road (South)		Major
2	B	Greenwood Place		Minor
2	C	Highgate Road		Major
2	D	Fortess Walk		Minor

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
1	A	6.00		0.00		2.20	0.00		
1	C	6.00		0.00		2.20	0.00		
2	A	6.00		0.00		2.20	0.00		
2	C	6.00		0.00		2.20	0.00		

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

Minor Arm Geometry

Junction	Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
1	B	One lane	2.20										0	0
1	D	One lane	2.20										0	0
2	B	One lane	2.20										0	0
2	D	One lane	2.20										0	0

Pedestrian Crossings

Junction	Arm	Crossing Type
1	A	None
1	B	None
1	C	None
1	D	None
2	A	None
2	B	None
2	C	None
2	D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	143.491	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
1	B-A	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	-	0.202	0.202	0.101
1	B-C	143.491	0.088	0.222	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
1	B-D, offside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
1	C-B	143.491	0.222	0.222	0.318	-	-	-	-	-	-	-	-	-
1	D-A	143.491	-	-	-	-	-	-	0.222	-	0.088	-	-	-
1	D-B, nearside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
1	D-B, offside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
1	D-C	109.895	-	0.127	0.289	0.101	0.202	0.202	0.202	0.202	0.080	-	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
2	A-D	143.491	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
2	B-A	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	-	0.202	0.202	0.101
2	B-C	143.491	0.088	0.222	-	-	-	-	-	-	-	-	-	-
2	B-D, nearside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
2	B-D, offside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
2	C-B	143.491	0.222	0.222	0.318	-	-	-	-	-	-	-	-	-
2	D-A	143.491	-	-	-	-	-	-	0.222	-	0.088	-	-	-
2	D-B, nearside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
2	D-B, offside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
2	D-C	109.895	-	0.127	0.289	0.101	0.202	0.202	0.202	0.202	0.080	-	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/TS)	Flow Scaling Factor (%)
1	A	DIRECT	✓	N/A	100.000
1	B	DIRECT	✓	N/A	100.000
1	C	DIRECT	✓	N/A	100.000
1	D	DIRECT	✓	N/A	100.000
2	A	DIRECT	✓	N/A	100.000
2	B	DIRECT	✓	N/A	100.000
2	C	DIRECT	✓	N/A	100.000
2	D	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.000	8.037	82.004	0.000
	B	5.000	0.000	7.025	2.500
	C	109.339	10.062	0.000	5.062
	D	9.112	4.525	3.037	0.000

Turning Proportions (Veh) - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.00	0.09	0.91	0.00
	B	0.34	0.00	0.48	0.17
	C	0.88	0.08	0.00	0.04
	D	0.55	0.27	0.18	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.000	15.124	78.967	8.099
	B	7.025	0.000	5.000	3.512
	C	142.748	12.087	0.000	3.037
	D	7.087	7.562	2.025	0.000

Turning Proportions (Veh) - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.00	0.15	0.77	0.08
	B	0.45	0.00	0.32	0.23
	C	0.90	0.08	0.00	0.02
	D	0.43	0.45	0.12	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.000	10.062	86.054	6.074
	B	5.000	0.000	7.025	3.512
	C	136.674	9.050	0.000	3.037
	D	7.087	3.512	1.012	0.000

Turning Proportions (Veh) - Junction 1 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.00	0.10	0.84	0.06
	B	0.32	0.00	0.45	0.23
	C	0.92	0.06	0.00	0.02
	D	0.61	0.30	0.09	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.000	10.062	71.880	7.087
	B	6.012	0.000	5.000	4.525
	C	116.426	10.062	0.000	2.025
	D	4.050	3.512	5.062	0.000

Turning Proportions (Veh) - Junction 1 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.00	0.11	0.81	0.08
	B	0.39	0.00	0.32	0.29
	C	0.91	0.08	0.00	0.02
	D	0.32	0.28	0.40	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.000	0.000	83.967	0.000
	B	0.000	0.000	0.000	1.012
	C	95.104	1.012	0.000	21.260
	D	0.000	2.025	5.062	0.000

Turning Proportions (Veh) - Junction 2 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.00	0.00	1.00	0.00
	B	0.00	0.00	0.00	1.00
	C	0.81	0.01	0.00	0.18
	D	0.00	0.29	0.71	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.000	1.012	93.079	0.000
	B	0.000	0.000	0.000	0.000
	C	130.538	0.000	0.000	17.211
	D	0.000	0.000	7.087	0.000

Turning Proportions (Veh) - Junction 2 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.00	0.01	0.99	0.00
	B	0.25	0.25	0.25	0.25
	C	0.88	0.00	0.00	0.12
	D	0.00	0.00	1.00	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.000	0.000	91.054	0.000
	B	0.000	0.000	0.000	0.000
	C	132.562	0.000	0.000	18.223
	D	0.000	0.000	9.112	0.000

Turning Proportions (Veh) - Junction 2 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.00	0.00	1.00	0.00
	B	0.25	0.25	0.25	0.25
	C	0.88	0.00	0.00	0.12
	D	0.00	0.00	1.00	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.000	1.012	77.893	0.000
	B	1.012	0.000	0.000	0.000
	C	140.662	2.025	0.000	9.112
	D	0.000	1.012	11.136	0.000

Turning Proportions (Veh) - Junction 2 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.00	0.01	0.99	0.00
	B	1.00	0.00	0.00	0.00
	C	0.93	0.01	0.00	0.06
	D	0.00	0.08	0.92	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	1.000	1.000	1.111	1.000
	B	1.000	1.000	1.224	1.000
	C	1.139	1.259	1.000	1.200
	D	1.111	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.000	0.000	11.111	0.000
	B	0.000	0.000	22.374	0.000
	C	13.889	25.919	0.000	20.000
	D	11.111	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	1.000	1.000	1.115	1.250
	B	1.224	1.000	1.000	1.000
	C	1.071	1.000	1.000	1.000
	D	1.429	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.000	0.000	11.538	25.000
	B	22.374	0.000	0.000	0.000
	C	7.092	0.000	0.000	0.000
	D	42.857	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (09:15-09:30)

		To			
		A	B	C	D
From	A	1.000	1.000	1.129	1.167
	B	1.000	1.000	1.224	1.000
	C	1.059	1.000	1.000	1.000
	D	1.143	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.000	0.000	12.941	16.667
	B	0.000	0.000	22.374	0.000
	C	5.926	0.000	0.000	0.000
	D	14.286	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (09:30-09:45)

		To			
		A	B	C	D
From	A	1.000	1.000	1.113	1.429
	B	1.000	1.000	1.000	1.000
	C	1.087	1.000	1.000	1.000
	D	1.250	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.000	0.000	11.268	42.857
	B	0.000	0.000	0.000	0.000
	C	8.696	0.000	0.000	0.000
	D	25.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 2 - (08:45-09:00)

		To			
		A	B	C	D
From	A	1.000	1.000	1.099	1.000
	B	1.000	1.000	1.000	1.000
	C	1.109	2.000	1.000	1.238
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 2 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.000	0.000	9.881	0.000
	B	0.000	0.000	0.000	0.000
	C	10.933	100.000	0.000	23.810
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 2 - (09:00-09:15)

		To			
		A	B	C	D
From	A	1.000	2.000	1.100	1.000
	B	1.000	1.000	1.000	1.000
	C	1.071	1.000	1.000	1.118
	D	1.000	1.000	1.429	1.000

Heavy Vehicle Percentages - Junction 2 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.000	100.000	10.004	0.000
	B	0.000	0.000	0.000	0.000
	C	7.116	0.000	0.000	11.765
	D	0.000	0.000	42.857	0.000

Average PCU Per Vehicle - Junction 2 - (09:15-09:30)

		To			
		A	B	C	D
From	A	1.000	1.000	1.136	1.000
	B	1.000	1.000	1.000	1.000
	C	1.078	1.000	1.000	1.111
	D	1.000	1.000	1.111	1.000

Heavy Vehicle Percentages - Junction 2 - (09:15-09:30)

		To			
		A	B	C	D
From	A	0.000	0.000	13.642	0.000
	B	0.000	0.000	0.000	0.000
	C	7.784	0.000	0.000	11.111
	D	0.000	0.000	11.111	0.000

Average PCU Per Vehicle - Junction 2 - (09:30-09:45)

		To			
		A	B	C	D
From	A	1.000	1.000	1.107	1.000
	B	1.000	1.000	1.000	1.000
	C	1.088	1.000	1.000	1.111
	D	1.000	1.000	1.455	1.000

Heavy Vehicle Percentages - Junction 2 - (09:30-09:45)

		To			
		A	B	C	D
From	A	0.000	0.000	10.672	0.000
	B	0.000	0.000	0.000	0.000
	C	8.793	0.000	0.000	11.111
	D	0.000	0.000	45.455	0.000

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	B-ACD	0.23	17.58	0.33	C	16.46	65.85	16.25	14.81	0.27	16.26	14.81
1	A-B	-	-	-	-	10.82	43.29	-	-	-	-	-
1	A-C	-	-	-	-	89.09	356.36	-	-	-	-	-
1	A-D	0.10	11.84	0.13	B	6.83	27.33	5.09	11.18	0.08	5.09	11.18
1	D-ABC	0.25	16.94	0.36	C	15.91	63.66	15.31	14.43	0.26	15.32	14.44
1	C-D	-	-	-	-	3.54	14.17	-	-	-	-	-
1	C-A	-	-	-	-	137.18	548.72	-	-	-	-	-
1	C-B	0.10	10.39	0.14	B	10.97	43.87	6.62	9.05	0.11	6.62	9.05
2	B-ACD	0.01	12.96	0.01	B	0.51	2.02	0.40	11.94	0.01	0.40	11.94
2	A-B	-	-	-	-	0.76	3.04	-	-	-	-	-
2	A-C	-	-	-	-	96.08	384.34	-	-	-	-	-
2	A-D	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	D-ABC	0.26	22.58	0.42	C	11.14	44.55	13.66	18.40	0.23	13.68	18.42
2	C-D	-	-	-	-	18.98	75.93	-	-	-	-	-
2	C-A	-	-	-	-	135.31	541.24	-	-	-	-	-
2	C-B	0.02	14.88	0.03	B	1.01	4.05	0.79	11.68	0.01	0.79	11.68

Main Results for each time segment

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

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	16.10	16.10	15.86	0.00	89.87	0.179	0.00	0.24	13.435	B
1	A-B	8.04	8.04	8.04	0.00	-	-	-	-	-	-
1	A-C	91.12	91.12	91.12	0.00	-	-	-	-	-	-
1	A-D	0.00	0.00	0.00	0.00	110.42	0.000	0.00	0.00	0.000	A
1	D-ABC	17.69	17.69	17.43	0.00	89.09	0.199	0.00	0.26	13.275	B
1	C-D	6.07	6.07	6.07	0.00	-	-	-	-	-	-
1	C-A	124.53	124.53	124.53	0.00	-	-	-	-	-	-
1	C-B	12.67	12.67	12.53	0.00	121.44	0.104	0.00	0.14	10.391	B
2	B-ACD	1.01	1.01	1.00	0.00	73.86	0.014	0.00	0.01	12.353	B
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	92.26	92.26	92.26	0.00	-	-	-	-	-	-
2	A-D	0.00	0.00	0.00	0.00	113.53	0.000	0.00	0.00	0.000	A
2	D-ABC	7.09	7.09	6.98	0.00	74.13	0.096	0.00	0.10	13.383	B
2	C-D	26.32	26.32	26.32	0.00	-	-	-	-	-	-
2	C-A	105.50	105.50	105.50	0.00	-	-	-	-	-	-
2	C-B	2.02	2.02	1.99	0.00	122.97	0.016	0.00	0.03	14.875	B

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

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	17.11	17.11	17.02	0.00	73.51	0.233	0.24	0.33	17.582	C
1	A-B	15.12	15.12	15.12	0.00	-	-	-	-	-	-
1	A-C	88.08	88.08	88.08	0.00	-	-	-	-	-	-
1	A-D	10.12	10.12	9.99	0.00	104.93	0.096	0.00	0.13	11.836	B
1	D-ABC	19.71	19.71	19.61	0.00	78.13	0.252	0.26	0.36	16.940	C
1	C-D	3.04	3.04	3.04	0.00	-	-	-	-	-	-
1	C-A	152.87	152.87	152.87	0.00	-	-	-	-	-	-
1	C-B	12.09	12.09	12.10	0.00	117.32	0.103	0.14	0.13	9.687	A
2	B-ACD	0.00	0.00	0.01	0.00	68.75	0.000	0.01	0.00	0.000	A
2	A-B	2.02	2.02	2.02	0.00	-	-	-	-	-	-
2	A-C	102.39	102.39	102.39	0.00	-	-	-	-	-	-
2	A-D	0.00	0.00	0.00	0.00	108.11	0.000	0.00	0.00	0.000	A
2	D-ABC	10.12	10.12	10.02	0.00	67.01	0.151	0.10	0.21	18.679	C
2	C-D	19.24	19.24	19.24	0.00	-	-	-	-	-	-
2	C-A	139.83	139.83	139.83	0.00	-	-	-	-	-	-
2	C-B	0.00	0.00	0.03	0.00	120.27	0.000	0.03	0.00	0.000	A

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

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	17.11	17.11	17.15	0.00	84.67	0.202	0.33	0.28	14.687	B
1	A-B	10.06	10.06	10.06	0.00	-	-	-	-	-	-
1	A-C	97.19	97.19	97.19	0.00	-	-	-	-	-	-
1	A-D	7.09	7.09	7.13	0.00	107.70	0.066	0.13	0.09	10.900	B
1	D-ABC	12.62	12.62	12.79	0.00	86.57	0.146	0.36	0.20	14.088	B
1	C-D	3.04	3.04	3.04	0.00	-	-	-	-	-	-
1	C-A	144.77	144.77	144.77	0.00	-	-	-	-	-	-
1	C-B	9.05	9.05	9.09	0.00	117.35	0.077	0.13	0.08	8.316	A
2	B-ACD	0.00	0.00	0.00	0.00	76.96	0.000	0.00	0.00	0.000	A
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	103.48	103.48	103.48	0.00	-	-	-	-	-	-
2	A-D	0.00	0.00	0.00	0.00	107.21	0.000	0.00	0.00	0.000	A
2	D-ABC	10.12	10.12	10.11	0.00	66.19	0.153	0.21	0.23	20.474	C
2	C-D	20.25	20.25	20.25	0.00	-	-	-	-	-	-
2	C-A	142.88	142.88	142.88	0.00	-	-	-	-	-	-
2	C-B	0.00	0.00	0.00	0.00	120.48	0.000	0.00	0.00	0.000	A

Main results: (09:30-09:45)

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	15.54	15.54	15.57	0.00	81.99	0.190	0.28	0.25	14.401	B
1	A-B	10.06	10.06	10.06	0.00	-	-	-	-	-	-
1	A-C	79.98	79.98	79.98	0.00	-	-	-	-	-	-
1	A-D	10.12	10.12	10.08	0.00	111.67	0.091	0.09	0.13	11.486	B
1	D-ABC	13.64	13.64	13.62	0.00	79.37	0.172	0.20	0.22	14.836	B
1	C-D	2.03	2.03	2.03	0.00	-	-	-	-	-	-
1	C-A	126.55	126.55	126.55	0.00	-	-	-	-	-	-
1	C-B	10.06	10.06	10.06	0.00	120.22	0.084	0.08	0.09	8.169	A
2	B-ACD	1.01	1.01	1.00	0.00	70.43	0.014	0.00	0.01	12.957	B
2	A-B	1.01	1.01	1.01	0.00	-	-	-	-	-	-
2	A-C	86.21	86.21	86.21	0.00	-	-	-	-	-	-
2	A-D	0.00	0.00	0.00	0.00	106.56	0.000	0.00	0.00	0.000	A
2	D-ABC	17.21	17.21	17.01	0.00	66.63	0.258	0.23	0.42	22.577	C
2	C-D	10.12	10.12	10.12	0.00	-	-	-	-	-	-
2	C-A	153.03	153.03	153.03	0.00	-	-	-	-	-	-
2	C-B	2.03	2.03	2.00	0.00	124.10	0.016	0.00	0.02	9.879	A

Queueing Delay Results for each time segment

Queueing Delay results: (08:45-09:00)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	3.37	0.22	13.435	B	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	0.00	0.00	0.000	A	A
1	D-ABC	3.66	0.24	13.275	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	2.08	0.14	10.391	B	B
2	B-ACD	0.20	0.01	12.353	B	B
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.00	0.00	0.000	A	A
2	D-ABC	1.48	0.10	13.383	B	B
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.47	0.03	14.875	B	B

Queueing Delay results: (09:00-09:15)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	4.71	0.31	17.582	C	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	1.88	0.13	11.836	B	B
1	D-ABC	5.26	0.35	16.940	C	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	1.90	0.13	9.687	A	A
2	B-ACD	0.00	0.00	0.000	A	A
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.00	0.00	0.000	A	A
2	D-ABC	2.96	0.20	18.679	C	B
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.00	0.00	0.000	A	A

Queueing Delay results: (09:15-09:30)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	4.38	0.29	14.687	B	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	1.35	0.09	10.900	B	B
1	D-ABC	3.15	0.21	14.088	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	1.30	0.09	8.316	A	A
2	B-ACD	0.00	0.00	0.000	A	A
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.00	0.00	0.000	A	A
2	D-ABC	3.23	0.22	20.474	C	C
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.00	0.00	0.000	A	A

Queueing Delay results: (09:30-09:45)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	3.81	0.25	14.401	B	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	1.87	0.12	11.486	B	B
1	D-ABC	3.25	0.22	14.836	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	1.34	0.09	8.169	A	A
2	B-ACD	0.21	0.01	12.957	B	B
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.00	0.00	0.000	A	A
2	D-ABC	5.99	0.40	22.577	C	C
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.32	0.02	9.879	A	A

2015 Developed - 2015 Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set (s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2015 Developed	N/A		✓	✓	D7,D8		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relatio
2015 Dev, PM	2015 Dev	PM		DIRECT	18:00	19:00	60	15			✓	✓	

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	North Greenwood Place Junction	Crossroads	Two-way	A,B,C,D		13.17	B
2	South Greenwood Place Junction	Crossroads	Two-way	A,B,C,D		19.26	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Name	Description	Arm Type
1	A	Highgate Road		Major
1	B	Greenwood Place		Minor
1	C	Highgate Road (North)		Major
1	D	Burghley Road		Minor
2	A	Highgate Road (South)		Major
2	B	Greenwood Place		Minor
2	C	Highgate Road		Major
2	D	Fortess Walk		Minor

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
1	A	6.00		0.00		2.20	0.00		
1	C	6.00		0.00		2.20	0.00		
2	A	6.00		0.00		2.20	0.00		
2	C	6.00		0.00		2.20	0.00		

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

Minor Arm Geometry

Junction	Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
1	B	One lane	2.20										0	0
1	D	One lane	2.20										0	0
2	B	One lane	2.20										0	0
2	D	One lane	2.20										0	0

Pedestrian Crossings

Junction	Arm	Crossing Type
1	A	None
1	B	None
1	C	None
1	D	None
2	A	None
2	B	None
2	C	None
2	D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	143.491	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
1	B-A	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	-	0.202	0.202	0.101
1	B-C	143.491	0.088	0.222	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
1	B-D, offside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
1	C-B	143.491	0.222	0.222	0.318	-	-	-	-	-	-	-	-	-
1	D-A	143.491	-	-	-	-	-	-	0.222	-	0.088	-	-	-
1	D-B, nearside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
1	D-B, offside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
1	D-C	109.895	-	0.127	0.289	0.101	0.202	0.202	0.202	0.202	0.080	-	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/TS)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
2	A-D	143.491	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
2	B-A	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	-	0.202	0.202	0.101
2	B-C	143.491	0.088	0.222	-	-	-	-	-	-	-	-	-	-
2	B-D, nearside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
2	B-D, offside lane	109.895	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
2	C-B	143.491	0.222	0.222	0.318	-	-	-	-	-	-	-	-	-
2	D-A	143.491	-	-	-	-	-	-	0.222	-	0.088	-	-	-
2	D-B, nearside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
2	D-B, offside lane	109.895	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
2	D-C	109.895	-	0.127	0.289	0.101	0.202	0.202	0.202	0.202	0.080	-	-	-

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

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

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/TS)	Flow Scaling Factor (%)
1	A	DIRECT	✓	N/A	100.000
1	B	DIRECT	✓	N/A	100.000
1	C	DIRECT	✓	N/A	100.000
1	D	DIRECT	✓	N/A	100.000
2	A	DIRECT	✓	N/A	100.000
2	B	DIRECT	✓	N/A	100.000
2	C	DIRECT	✓	N/A	100.000
2	D	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.000	4.011	123.330	2.022
	B	8.565	0.000	8.565	5.794
	C	117.264	4.772	0.000	5.055
	D	1.011	1.000	2.022	0.000

Turning Proportions (Veh) - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.00	0.03	0.95	0.02
	B	0.37	0.00	0.37	0.25
	C	0.92	0.04	0.00	0.04
	D	0.25	0.25	0.50	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.000	5.022	129.395	10.109
	B	5.533	0.000	5.533	2.761
	C	130.406	3.761	0.000	3.033
	D	5.055	1.000	1.011	0.000

Turning Proportions (Veh) - Junction 1 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.00	0.03	0.90	0.07
	B	0.40	0.00	0.40	0.20
	C	0.95	0.03	0.00	0.02
	D	0.72	0.14	0.14	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.000	4.011	106.145	3.033
	B	7.555	0.000	4.522	2.761
	C	131.417	2.750	0.000	4.044
	D	1.011	1.000	1.011	0.000

Turning Proportions (Veh) - Junction 1 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.00	0.04	0.94	0.03
	B	0.51	0.00	0.30	0.19
	C	0.95	0.02	0.00	0.03
	D	0.33	0.33	0.33	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 1 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.000	5.022	124.341	9.098
	B	9.576	0.000	4.522	1.750
	C	118.275	4.772	0.000	1.011
	D	2.022	1.000	1.011	0.000

Turning Proportions (Veh) - Junction 1 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.00	0.04	0.90	0.07
	B	0.60	0.00	0.29	0.11
	C	0.95	0.04	0.00	0.01
	D	0.50	0.25	0.25	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.000	0.000	135.428	2.022
	B	0.000	0.000	0.000	0.000
	C	121.786	0.000	0.000	6.065
	D	0.000	1.011	7.076	0.000

Turning Proportions (Veh) - Junction 2 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.00	0.00	0.99	0.01
	B	0.25	0.25	0.25	0.25
	C	0.95	0.00	0.00	0.05
	D	0.00	0.13	0.87	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.000	0.000	127.341	1.011
	B	1.011	0.000	0.000	0.000
	C	134.928	0.000	0.000	10.109
	D	0.000	1.011	16.174	0.000

Turning Proportions (Veh) - Junction 2 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.00	0.00	0.99	0.01
	B	1.00	0.00	0.00	0.00
	C	0.93	0.00	0.00	0.07
	D	0.00	0.06	0.94	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.000	0.000	101.057	1.011
	B	0.000	0.000	0.000	0.000
	C	135.939	0.000	0.000	7.076
	D	1.011	0.000	4.044	0.000

Turning Proportions (Veh) - Junction 2 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.00	0.00	0.99	0.01
	B	0.25	0.25	0.25	0.25
	C	0.95	0.00	0.00	0.05
	D	0.20	0.00	0.80	0.00

Turning Counts or Proportions (Veh/ TS) - Junction 2 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.000	0.000	141.493	2.022
	B	0.000	0.000	0.000	0.000
	C	117.743	1.011	0.000	10.109
	D	0.000	1.011	7.076	0.000

Turning Proportions (Veh) - Junction 2 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.00	0.00	0.99	0.01
	B	0.25	0.25	0.25	0.25
	C	0.91	0.01	0.00	0.08
	D	0.00	0.13	0.87	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	1.000	1.000	1.016	1.000
	B	1.000	1.000	1.000	1.000
	C	1.034	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.000	0.000	1.639	0.000
	B	0.000	0.000	0.000	0.000
	C	3.448	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (18:15-18:30)

		To			
		A	B	C	D
From	A	1.000	1.000	1.039	1.000
	B	1.000	1.000	1.000	1.000
	C	1.023	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.000	0.000	3.906	0.000
	B	0.000	0.000	0.000	0.000
	C	2.326	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (18:30-18:45)

		To			
		A	B	C	D
From	A	1.000	1.000	1.029	1.000
	B	1.000	1.000	1.000	1.000
	C	1.038	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.000	0.000	2.857	0.000
	B	0.000	0.000	0.000	0.000
	C	3.846	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 1 - (18:45-19:00)

		To			
		A	B	C	D
From	A	1.000	1.000	1.033	1.000
	B	1.000	1.000	1.000	1.000
	C	1.051	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.000	0.000	3.252	0.000
	B	0.000	0.000	0.000	0.000
	C	5.128	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 2 - (18:00-18:15)

		To			
		A	B	C	D
From	A	1.000	1.000	1.015	1.000
	B	1.000	1.000	1.000	1.000
	C	1.025	1.000	1.000	1.167
	D	1.000	1.000	1.143	1.000

Heavy Vehicle Percentages - Junction 2 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.000	0.000	1.493	0.000
	B	0.000	0.000	0.000	0.000
	C	2.490	0.000	0.000	16.667
	D	0.000	0.000	14.286	0.000

Average PCU Per Vehicle - Junction 2 - (18:15-18:30)

		To			
		A	B	C	D
From	A	1.000	1.000	1.032	1.000
	B	1.000	1.000	1.000	1.000
	C	1.022	1.000	1.000	1.000
	D	1.000	1.000	1.063	1.000

Heavy Vehicle Percentages - Junction 2 - (18:15-18:30)

		To			
		A	B	C	D
From	A	0.000	0.000	3.175	0.000
	B	0.000	0.000	0.000	0.000
	C	2.248	0.000	0.000	0.000
	D	0.000	0.000	6.250	0.000

Average PCU Per Vehicle - Junction 2 - (18:30-18:45)

		To			
		A	B	C	D
From	A	1.000	1.000	1.030	1.000
	B	1.000	1.000	1.000	1.000
	C	1.037	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 2 - (18:30-18:45)

		To			
		A	B	C	D
From	A	0.000	0.000	3.001	0.000
	B	0.000	0.000	0.000	0.000
	C	3.718	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - Junction 2 - (18:45-19:00)

		To			
		A	B	C	D
From	A	1.000	1.000	1.021	1.500
	B	1.000	1.000	1.000	1.000
	C	1.052	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 2 - (18:45-19:00)

		To			
		A	B	C	D
From	A	0.000	0.000	2.143	50.000
	B	0.000	0.000	0.000	0.000
	C	5.151	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/TS)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	B-ACD	0.29	15.87	0.40	C	16.86	67.44	16.67	14.83	0.28	16.68	14.84
1	A-B	-	-	-	-	4.52	18.07	-	-	-	-	-
1	A-C	-	-	-	-	124.34	497.36	-	-	-	-	-
1	A-D	0.09	8.83	0.10	A	6.07	24.26	3.37	8.32	0.06	3.37	8.33
1	D-ABC	0.08	13.07	0.08	B	4.54	18.15	3.45	11.39	0.06	3.45	11.39
1	C-D	-	-	-	-	3.29	13.14	-	-	-	-	-
1	C-A	-	-	-	-	128.89	515.56	-	-	-	-	-
1	C-B	0.04	8.53	0.04	A	4.01	16.06	2.20	8.22	0.04	2.20	8.22
2	B-ACD	0.02	14.38	0.02	B	0.25	1.01	0.23	13.52	0.00	0.23	13.52
2	A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
2	A-C	-	-	-	-	129.36	517.45	-	-	-	-	-
2	A-D	0.03	10.84	0.04	B	1.77	7.08	1.06	9.01	0.02	1.06	9.01
2	D-ABC	0.28	21.13	0.42	C	10.11	40.44	11.63	17.26	0.19	11.64	17.27
2	C-D	-	-	-	-	8.59	34.37	-	-	-	-	-
2	C-A	-	-	-	-	131.90	527.58	-	-	-	-	-
2	C-B	0.01	8.23	0.01	A	0.25	1.01	0.13	7.87	0.00	0.13	7.87

Main Results for each time segment

Main results: (18:00-18:15)

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	22.92	22.92	22.52	0.00	78.85	0.291	0.00	0.40	15.870	C
1	A-B	4.01	4.01	4.01	0.00	-	-	-	-	-	-
1	A-C	125.35	125.35	125.35	0.00	-	-	-	-	-	-
1	A-D	2.02	2.02	2.00	0.00	113.87	0.018	0.00	0.02	8.044	A
1	D-ABC	4.03	4.03	3.98	0.00	72.78	0.055	0.00	0.06	13.070	B
1	C-D	5.06	5.06	5.06	0.00	-	-	-	-	-	-
1	C-A	121.31	121.31	121.31	0.00	-	-	-	-	-	-
1	C-B	4.77	4.77	4.73	0.00	114.08	0.042	0.00	0.04	8.224	A
2	B-ACD	0.00	0.00	0.00	0.00	72.56	0.000	0.00	0.00	0.000	A
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	137.45	137.45	137.45	0.00	-	-	-	-	-	-
2	A-D	2.02	2.02	2.00	0.00	114.16	0.018	0.00	0.02	8.024	A
2	D-ABC	9.10	9.10	8.92	0.00	65.98	0.138	0.00	0.18	17.692	C
2	C-D	7.08	7.08	7.08	0.00	-	-	-	-	-	-
2	C-A	124.82	124.82	124.82	0.00	-	-	-	-	-	-
2	C-B	0.00	0.00	0.00	0.00	112.28	0.000	0.00	0.00	0.000	A

Main results: (18:15-18:30)

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	13.83	13.83	14.00	0.00	74.88	0.185	0.40	0.23	14.822	B
1	A-B	5.02	5.02	5.02	0.00	-	-	-	-	-	-
1	A-C	134.45	134.45	134.45	0.00	-	-	-	-	-	-
1	A-D	10.11	10.11	10.03	0.00	111.93	0.090	0.02	0.10	8.832	A
1	D-ABC	7.07	7.07	7.04	0.00	90.53	0.078	0.06	0.08	10.776	B
1	C-D	3.03	3.03	3.03	0.00	-	-	-	-	-	-
1	C-A	133.44	133.44	133.44	0.00	-	-	-	-	-	-
1	C-B	3.76	3.76	3.77	0.00	109.26	0.034	0.04	0.04	8.531	A
2	B-ACD	1.01	1.01	1.00	0.00	63.57	0.016	0.00	0.02	14.379	B
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	131.38	131.38	131.38	0.00	-	-	-	-	-	-
2	A-D	1.01	1.01	1.02	0.00	110.56	0.009	0.02	0.01	8.217	A
2	D-ABC	18.20	18.20	17.95	0.00	64.05	0.284	0.18	0.42	21.133	C
2	C-D	10.11	10.11	10.11	0.00	-	-	-	-	-	-
2	C-A	137.96	137.96	137.96	0.00	-	-	-	-	-	-
2	C-B	0.00	0.00	0.00	0.00	113.95	0.000	0.00	0.00	0.000	A

Main results: (18:30-18:45)

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	14.84	14.84	14.84	0.00	78.39	0.189	0.23	0.23	14.161	B
1	A-B	4.01	4.01	4.01	0.00	-	-	-	-	-	-
1	A-C	109.18	109.18	109.18	0.00	-	-	-	-	-	-
1	A-D	3.03	3.03	3.10	0.00	111.36	0.027	0.10	0.03	8.320	A
1	D-ABC	3.02	3.02	3.06	0.00	76.28	0.040	0.08	0.04	12.301	B
1	C-D	4.04	4.04	4.04	0.00	-	-	-	-	-	-
1	C-A	136.47	136.47	136.47	0.00	-	-	-	-	-	-
1	C-B	2.75	2.75	2.76	0.00	117.32	0.023	0.04	0.02	7.856	A
2	B-ACD	0.00	0.00	0.02	0.00	70.01	0.000	0.02	0.00	0.000	A
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	104.09	104.09	104.09	0.00	-	-	-	-	-	-
2	A-D	1.01	1.01	1.01	0.00	110.56	0.009	0.01	0.01	8.216	A
2	D-ABC	5.06	5.06	5.39	0.00	72.57	0.070	0.42	0.08	14.117	B
2	C-D	7.08	7.08	7.08	0.00	-	-	-	-	-	-
2	C-A	140.99	140.99	140.99	0.00	-	-	-	-	-	-
2	C-B	0.00	0.00	0.00	0.00	120.02	0.000	0.00	0.00	0.000	A

Main results: (18:45-19:00)

Junction	Stream	Total Demand (PCU/TS)	Junction Arrivals (PCU)	Entry Flow (PCU/TS)	Pedestrian Demand (Ped/TS)	Capacity (PCU/TS)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	B-ACD	15.85	15.85	15.81	0.00	73.05	0.217	0.23	0.27	15.709	C
1	A-B	5.02	5.02	5.02	0.00	-	-	-	-	-	-
1	A-C	128.38	128.38	128.38	0.00	-	-	-	-	-	-
1	A-D	9.10	9.10	9.04	0.00	114.09	0.080	0.03	0.09	8.563	A
1	D-ABC	4.03	4.03	4.02	0.00	81.76	0.049	0.04	0.05	11.575	B
1	C-D	1.01	1.01	1.01	0.00	-	-	-	-	-	-
1	C-A	124.34	124.34	124.34	0.00	-	-	-	-	-	-
1	C-B	4.77	4.77	4.75	0.00	110.92	0.043	0.02	0.04	8.477	A
2	B-ACD	0.00	0.00	0.00	0.00	70.49	0.000	0.00	0.00	0.000	A
2	A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
2	A-C	144.53	144.53	144.53	0.00	-	-	-	-	-	-
2	A-D	3.03	3.03	3.01	0.00	113.39	0.027	0.01	0.04	10.838	B
2	D-ABC	8.09	8.09	8.03	0.00	64.60	0.125	0.08	0.14	15.889	C
2	C-D	10.11	10.11	10.11	0.00	-	-	-	-	-	-
2	C-A	123.81	123.81	123.81	0.00	-	-	-	-	-	-
2	C-B	1.01	1.01	1.00	0.00	110.38	0.009	0.00	0.01	8.228	A

Queueing Delay Results for each time segment

Queueing Delay results: (18:00-18:15)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	5.60	0.37	15.870	C	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	0.26	0.02	8.044	A	A
1	D-ABC	0.82	0.05	13.070	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	0.63	0.04	8.224	A	A
2	B-ACD	0.00	0.00	0.000	A	A
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.26	0.02	8.024	A	A
2	D-ABC	2.47	0.16	17.692	C	B
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.00	0.00	0.000	A	A

Queueing Delay results: (18:15-18:30)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	3.64	0.24	14.822	B	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	1.42	0.09	8.832	A	A
1	D-ABC	1.22	0.08	10.776	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	0.55	0.04	8.531	A	A
2	B-ACD	0.23	0.02	14.379	B	B
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.14	0.01	8.217	A	A
2	D-ABC	5.85	0.39	21.133	C	C
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.00	0.00	0.000	A	A

Queueing Delay results: (18:30-18:45)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	3.47	0.23	14.161	B	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	0.44	0.03	8.320	A	A
1	D-ABC	0.66	0.04	12.301	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	0.37	0.02	7.856	A	A
2	B-ACD	0.00	0.00	0.000	A	A
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.14	0.01	8.216	A	A
2	D-ABC	1.31	0.09	14.117	B	B
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.00	0.00	0.000	A	A

Queueing Delay results: (18:45-19:00)

Junction	Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	B-ACD	3.96	0.26	15.709	C	B
1	A-B	-	-	-	-	-
1	A-C	-	-	-	-	-
1	A-D	1.24	0.08	8.563	A	A
1	D-ABC	0.75	0.05	11.575	B	B
1	C-D	-	-	-	-	-
1	C-A	-	-	-	-	-
1	C-B	0.65	0.04	8.477	A	A
2	B-ACD	0.00	0.00	0.000	A	A
2	A-B	-	-	-	-	-
2	A-C	-	-	-	-	-
2	A-D	0.52	0.03	10.838	B	B
2	D-ABC	2.01	0.13	15.889	C	B
2	C-D	-	-	-	-	-
2	C-A	-	-	-	-	-
2	C-B	0.13	0.01	8.228	A	A

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