Local Plan Technical Report

2018/2019 Infrastructure Delivery Plan Appendices

Part 20A: Education – Hertfordshire County Council

Appendix 65 (Part A)

St Albans City & District Council

Appendix 65: St Albans Primary School Site Search Report (January 2017)

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Primary school site search report

St Albans

On behalf of Hertfordshire County Council

March 2016
(Updated January 2017)

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ST ALBANS PRIMARY SCHOOL SITE SEARCH REPORT FOR HERTFORDSHIRE CC

1.0 INTRODUCTION

1.1 This report summarises the results of a study which has been undertaken on behalf of Hertfordshire County Council to identify and assess potential sites for a new 2FE primary school to meet primary educational needs in the central area of St Albans. The report was originally prepared in March 2016 and has been partially updated and expanded to reflect further technical investigations which have been carried out for a number of the shortlisted sites.

1.2 The report looks at the potential sites from a planning point of view and will need to be considered alongside educational considerations by Children's Services in terms of suitability of the sites and the locations from an education perspective, including meeting educational needs, implications for school catchment areas, and suitability of sites for accommodating a school.

1.3 Section 2.0 summarises the methodology and assumptions used in undertaking the study, including the area of search, size of site, and shape and characteristics of site. It also identifies the sources of potential sites, and the considerations which have been taken into account in identifying and assessing the sites.

1.4 Section 3.0 summarises the process of identifying and reviewing potential sites for a new primary school, including the various stages which the process went through, and outlines the main results and conclusions of this exercise.

1.5 Section 4.0 summarises the main findings and conclusions of a more detailed assessment of a number of short listed sites which were identified as potentially the most suitable sites for accommodating a new primary school (or schools), including the main findings of high level transport and access appraisals undertaken by transportation consultants.

1.6 The planning appraisal reports for each site form Section 5.0 and comprise a series of separate reports on each of the short listed school sites. Each report is accompanied by a series of drawings which provide more information on the sites and show the principles of how a school could be accommodated on the sites. Apart from one, where a more detailed Transport Assessment has been undertaken, each report is also accompanied by a High Level Accessibility Appraisal.

1.7 Section 6.0 is the main summary and conclusions of this study. This section has been updated to take account of the further technical investigations.

1.8 The report is accompanied by a series of schedules which summarise the information on the sites.

2.0 STUDY METHODOLOGY

2.1 This section summarises the methodology and assumptions used in undertaking the study. The study was based on the initial brief prepared by the client and the approved workplan, as subsequently modified and amplified in conjunction with the client.

AREA OF SEARCH

2.2 An area of search was agreed with Hertfordshire CC at the start of the study, based on the area of greatest need for a new primary school, which was based on a review of the broad locations for new housing development proposed by the Local Plan in the period to 3031. This indicates that of the 3,800 dwellings which are likely to come forward in St Albans (city) approximately 74%, or 2,800, would come forward in the City Centre - mainly on the eastern side of the City Centre.

2.3 The area of search was therefore centred on the City Centre and the area to the east of the City Centre.

Study area boundary

2.4 A study area, or area of search, was identified and defined in conjunction with the client and comprised three areas:

- **Core Search Area** – the preferred, or optimum, location for a new primary school based on the area of anticipated greatest need, and centred on the City Centre.

- **Wider Search Area** – the wider area of search beyond the Core Search Area, which is a sub-optimal location but may help to meet needs within Core Search Area, depending on location and linkages with the Core Area. This was weighted towards the east of the City Centre, to reflect the greater need to the east.

- **Outside Search Area** – an outer area of search (within 200m of the Wider Search Area, and Core Search area to the west) was also considered in case there are potentially suitable locations just outside the Wider Search Area, or Core Area to the west, which, although sub-optimal, could help to meet needs within Core Search Area, if no better located sites are identified.

2.5 The boundaries of the Core Area and Wider Area were defined to relate to strong features wherever possible e.g. main roads and railway lines, River Ver, and the edge of the built up area.

2.6 The study area and search area boundaries are shown on drawing 5115/005.

Site location and referencing

2.7 For ease of undertaking the study and reviewing potential sites the areas of search were divided into geographical sectors and a referencing system adopted so that sites could be given individual reference numbers. Sites were identified by means of locational reference letters and numerical reference numbers, as follows:

- CW = Core Search Area West
- CE = Core Search Area East
- WNW = Wider Search Area North West
- WNE = Wider Search Area North East
- WE = Wider Search Area East
- WSE = Wider Search Area South East
- O = Outside Core Search Area / Wider Search Area

2.8 These geographical areas are also shown on drawing 5115/005.

SIZE OF SITE

2.9 Preferably potential sites should be of sufficient size to comply with the County Council's BB103 based Space Standards for new 2 forms of entry (FE) primary schools for unrestrained school sites in non-urban locations. The standards note that BB103 provide for a range of areas of between 1.6ha and 2.0ha and suggest a minimum site area of 19,890sqm (or 1.99ha). A copy of the County Council's Space Standards is attached at Appendix 1.

2.10 As set out in the Standards a minimum 1.99ha site would allow for the following:

- Single storey building
- 60 place nursery
- Hard and soft outdoor PE areas – including grass playing field and Multi Use Games Area
- Hard and soft informal and social areas

- Habitat areas
- Car parking for staff (44 spaces), visitor parking and dropping off, cycle parking and turning area.
- Allowance for site constraints and drainage.

2.11 However, bearing in mind the location and anticipated difficulties finding suitable sites of 1.99ha, for the purposes of this study it was assumed that the potential sites should be a minimum of 0.7ha, which is considered to be the absolute minimum necessary to be able to accommodate a new 2FE primary school on a constrained site in an urban location. This area is based on the site area for the recently established Watford Free School at Ascot Road, Watford which has a site area of 0.72ha. This area assumes the following:

- New build 2FE primary school (420 pupils) with an adjoining nursery (30 FTE) and early years unit
- Two storey building
- MUGA and hard and soft play
- Nursery with external play area
- Staff car park for 33 spaces
- Regular shaped square or rectangular site with no site features or constraints which would affect the layout or reduce the area available e.g. trees, topographical features, drainage features etc.

2.12 The site area does not include a playing field, which would need to be provided elsewhere and would need to be the subject of a separate exercise to identify potential sites for these (possibly sharing a public open space or other facility). It also does not include full parking provision for staff, or any parent parking, or dropping off / picking up facility.

2.13 It is noted that two storey buildings may not be appropriate in some locations eg visually sensitive or Green Belt locations. Also, the number of parking spaces is unlikely to be Local Plan policy compliant. Transport studies may require additional staff parking, and parent parking and dropping off / picking up facilities, to be provided to avoid highways safety issues, so this level of provision may not be appropriate in some locations.

2.14 It is also noted that prior to publication of BB103 the County Council's usual standards for new 2 FE primary schools for unrestrained school sites in non-urban locations sought minimum sites of 2.5ha, so 0.7ha is significantly smaller than the minimum previously required. Even sites of 1.99ha would be smaller than those previously sought.

SITE SHAPE AND CHARACTERISTICS

2.15 Preferably the site should have the following characteristics:

- Shape of site – ideally square or rectangular
- Topography – level or nearly level (to avoid need for significant terracing)
- Site features – ideally clear site free of significant site features and constraints e.g. trees, streams, existing buildings, public footpaths, overhead power lines etc
- Access – preferably served by A or B road or other main road, and should avoid narrow country lanes and residential roads, and dual carriageways.

IDENTIFICATION OF SITES

2.16 Potential primary school sites were identified within the study area (Core Area / Wider Area and Outer Area) based on the following sources of information:

- Sites identified by Lambert Smith Hampton for the County Council following a search for buildings and land potentially available, including undeveloped land
- Land owned by Hertfordshire County Council
- Sites identified by St Albans City and District Council in its Strategic Housing Land Availability Assessment
- Other sites identified by V&G following a review of Planning and Environmental Constraints (see below), a review of OS base plans and aerial photographs, and our local knowledge.

2.17 These are shown on drawing 5115/003A:

Planning and environmental constraints and designations

2.18 In identifying potential sites, and assessing sites identified by LSH, land owned by the County Council, and SHLAA sites, planning and environmental constraints and designations (and a number of other

considerations) within the study area and just outside were identified and plotted. These are shown on drawing 5115/002A and include:

- Core and Wider Search Areas
- Green Belt
- Golf courses
- Public open space / parks / playing fields and recreation grounds
- Private sports grounds
- Areas of woodland
- Cemeteries
- Allotments
- Registered Common Land
- Local Nature Reserves
- Conservation Areas
- Areas of Archaeological Interest
- Scheduled Ancient Monuments
- Public Rights of Way
- Land liable to flooding

2.19 Existing school sites, including attached and detached playing fields (including independent schools and playing fields), were also identified and plotted.

ASSESSMENT OF SITES

2.20 All the identified potential sites were assessed to establish which site (or sites) might be the most appropriate to accommodate a new primary school (or schools).

2.21 A series of steps or sieves were undertaken to identify potentially suitable sites for further considerations. The following section 3.0 outlines the stages which were undertaken and the results, but in summary the assessment process involved the following stages:

- Firstly the ‘full list’ of sites was reviewed and those sites which were too small (ie less than 0.7ha), or subject to fundamental constraints and designations, such as land liable to flooding, or were existing school sites, were rejected.

- Secondly, the remaining sites (or the ‘Long List’ of sites) were assessed according to their type and existing use, and a number of planning and environmental constraints and designations. Based on this assessment a number of conclusions were able to be drawn on the relative merits of the sites and a number of sites were rejected and others were identified which merited further consideration.

- Next, the remaining sites (or the ‘Medium List’ of sites), were given further consideration, including location, existing use and type of site, and planning and environmental constraints and considerations, to identify those potential sites which had the greatest potential and merited more detailed consideration.

- The final stage was a more detailed assessment of the ‘Short Listed’ sites, including undertaking a high level transport and access appraisal from specialist transportation consultants, to establish which site (or sites) might be best suited to accommodate a new primary school (or schools). The commission allowed for undertaking 5 detailed assessments of potential sites, but the study identified 7 potential sites which merited further consideration.

2.22 For further details see the following section.

3.0 SITE IDENTIFICATION AND REVIEW PROCESS

3.1 This section summarises the process of identifying and reviewing potential sites for a new 2FE primary school, including the various stages or sieves which this process went through.

FULL LIST OF SITES

3.2 A full list of all potential sites within the study area (and just outside) was assembled based on the sources identified earlier at section 2.0 (ie LSH sites, HCC land, SHLAA sites and other sites identified by V&G). Sites which were cemeteries / graveyards or golf courses were not included.

3.3 In total 145 potential primary school sites were identified and were plotted on drawing 5115/003A, which also identifies the sources of the sites (see section 2.0). The sites are listed in Schedule 1 and are listed by location and reference letter/number. The following information is also given:

- Source of site
- Site area
- Constraints (see below)
- Summary

Review

3.4 The sites on the list were reviewed against a number of criteria which were considered to be fundamental to their ability to potentially accommodate a new 2FE primary school, to see which sites should be taken forward for further consideration. These criteria were:

- Size of site
- Existing school sites
- Scheduled Ancient Monuments
- Land liable to flooding
- Registered Common Land

3.5 Sites of less than 0.7ha were rejected, as were sites which were currently used as schools (including independent schools and related

playing fields). Sites which were designated Scheduled Ancient Monuments, registered Common Land, or liable to flooding were also rejected. This sieve exercise reduced the number of potential sites from 145 to 53 sites, to produce a 'long list' of sites for further consideration. See the full list of sites at Schedule 1 for a summary of why particular sites were rejected or carried forward.

3.6 In summary:

- In the Core Search Area 54 potential sites were identified. Of these 42 were rejected and 12 were carried forward.
- In the Wider Search Area 66 potential sites were identified. Of these 43 were rejected and 23 were carried forward.
- Outside these areas 25 potential sites were identified. Of these 7 were rejected and 18 were carried forward.
- In total 145 sites were identified, 92 were rejected and 53 were carried forward for further consideration.

LONG LIST OF SITES

3.7 A long list of those sites which were carried forward from the Full List was prepared. Sites were listed according to their type of location, as follows:

- Within built up area - urban brownfield (previously developed land)
- Within built up area - urban greenfield
- Urban edge greenfield / Green Belt

3.8 They were also sub-categorised according to their location relative to the Area of Search, ie Core Area / Wider Area / Outer Area.

3.9 The list of sites, which is attached as Schedule 2, lists the sites by type of location and area, and includes the following information:

- Site reference number
- Site location / address
- Source of site
- Site area
- Current use of site

- Site constraints:
    - Planning and environmental constraints and designations which may apply to the sites, over and above those identified earlier in the previous stage (see below for details)
    - Practical considerations including site shape and features and whether the sites are likely to be in multiple ownership / occupation
    - These constraints have been identified by means of a red amber green system (see below)
- Conclusion – overall conclusion

Assessment

3.10 The sites were assessed according to their existing use and planning and environmental constraints and designations, as follows:

- Current use of site:
    - Existing public open space / park / recreation ground / public playing fields
    - Allotments
    - Private sports grounds
    - Areas of woodland / significant trees
- Planning and environmental constraints and designations:
    - Green Belt
    - Local Nature Reserve
    - Conservation Area
    - Area of Archaeological Interest
- Other considerations:
    - Public Rights of Way
    - Site shape and features
    - Multiple ownership / occupation

3.11 The schedule identifies the constraints by means of a red amber green system, as follows:

- Green – constraint not applicable to site
- Amber / yellow – constraint affects part of site, or immediately adjoins site
- Red – all, or majority, of site affected by constraint

3.12 Sites which were areas of woodland and/or significant trees and Local Nature Reserves were rejected as were a number of other sites for other reasons including: sites were in multiple ownership / occupation, which would mean that the site would be unlikely to be available in at least the near future, preliminary access considerations, and practical considerations including site shape and features, for example long narrow sites or awkwardly shaped sites which would be difficult to accommodate a school. In a number of cases a combination of constraints and considerations resulted in sites being rejected rather than an individual constraint or consideration.

3.13 See Schedule 2 for details

Conclusions

3.14 Based on this review a number of conclusions were able to be drawn and a number of sites rejected and others identified which merited further consideration.

3.15 See Schedule 3 which indicates which sites were rejected and the reasons for rejection and those sites which merited being taken forward for further consideration. As a result of this assessment the number of sites was reduced from 53 potential primary school sites to 21 which were considered to merit further consideration.

3.16 In summary:

- In the Core Search Area 12 potential sites were considered. Of these 9 were rejected and 3 were carried forward.
- In the Wider Search Area 23 potential sites were considered. Of these 13 were rejected and were 10 carried forward.
- Outside these areas 18 potential sites were considered. Of these 10 were rejected and 8 were carried forward.

- In total 53 sites were considered, 32 were rejected and 21 were carried forward for further consideration.

MEDIUM LIST OF SITES

3.17 The review of the long list of sites resulted in 21 potential sites being identified which were considered to merit further consideration, in particular their location relative to the optimum location / area of need, and the type of site, as follows:

- Core Search Area – optimal location
    - Within built up area - urban brownfield - preferable
    - Within built up area - urban greenfield – less preferable
    - Urban edge greenfield / Green Belt – only if no non- Green Belt sites available
- Wider Search Area – sub-optimal location
    - Within built up area - urban brownfield - preferable
    - Within built up area - urban greenfield – less preferable
    - Urban edge greenfield / Green Belt – only if no non-Green Belt sites available
- Outer Area – less than sub-optimal location
    - Within built up area - urban brownfield - preferable
    - Within built up area - urban greenfield – less preferable
    - Urban edge greenfield / Green Belt – only if no non- Green Belt sites available

3.18 Further consideration was also give to the existing use of the sites, as follows:

- Public open space
- Allotments
- Unused land
- Farmland

3.19 These 21 sites were then reviewed in conjunction with the client, taking account of the following considerations:

- Location (ie Core / Wider / outer area - relationship to area of need) and type of site (ie brownfield / greenfield / Green Belt – sequential) (see above)
- Existing use of site (see above)
- Planning and environmental constraints and designations (see above)
- Size of site and whether proposed school would result in the partial or complete loss of the use eg public open space or allotments
- Possible access / highways issues (and whether additional properties would be likely to need to be acquire to provide a satisfactory access)

Conclusions

3.20 Based on this review a number of conclusions were able to be drawn and a number of sites rejected and others identified which merited further consideration. See Schedule 4 for the main conclusions of this exercise.

3.21 In summary;

- In the Core Search Area 2 potential primary school sites were considered. None were considered to merit more detailed consideration.
- In the Wider Search Area 11 potential sites were considered. Of these 5 were considered to merit more detailed consideration.
- Outside these areas 8 potential sites were considered. Of these 2 were considered to merit more detailed consideration.
- In total 21 potential primary school sites were considered, and 7 were considered to merit more detailed consideration.

SHORT LIST OF SITES

3.22 The review of the medium list of sites resulted in 7 potential sites being identified which were considered to merit further, more detailed, consideration, including commissioning high level transportation and access studies from specialist consultants. See Section 4.0 for further details.

4.0 SHORT LIST SITES

INTRODUCTION

4.1 Seven possible sites were identified, or short listed, for more detailed consideration for possibly accommodating a new primary school to serve the central St Albans area, as follows:

- WE6 Land west of Foxcroft
- WSE13 Land North of Verulam GC
- WSE 4 Old Oak / Marlborough Recreation area
- O14 Birklands detached playing field, London Road
- O22 Land west of Batchwood Drive
- WNW10 Ariston Works (main site)
- WNW11 Ariston Works (former playing field)

4.2 See drawing 5115/004 for the location of the short listed sites, including their locations relative to the Core Search Area and the Wider Search Area.

4.3 The planning appraisal reports, which summarise the more detailed assessment for each of these sites, comprise Section 5.0. As set out in the introduction each report:

- Describes the site and the surrounding area and planning and environmental considerations
- Summarises relevant local planning policies and planning history
- Assesses the potential of the site to accommodate a new primary school, and
- Gives a summary and conclusion.

4.4 Each report is accompanied by the following drawings:

- Site Location Plan
- Site Identification Plan
- Aerial Photograph
- Site Appraisal

- Development Principles

4.5 Apart from WSE13 Land North of Verulam GC, where a Transport Assessment has been undertaken by Pell Frischmann, each report is accompanied by a High Level Accessibility Appraisal, including drawing, prepared by Stomor Civil Engineering Consultants. Following the initial study further technical work was undertaken for a number of the short listed sites to address issues which had been identified, as follows:

- WSE13 Land North of Verulam GC – preliminary access design, Stage 1 Road Safety Audit, and Design Team's Response to Safety Audit

- WNW10 Ariston Works (main site) - Technical Note on the Heathlands Drive / Harpenden Road junction, and report on Geotechnical Hazards.

- WNW11 Ariston Works (former playing field) - Technical Note on the Heathlands Drive / Harpenden Road junction, and report on Geotechnical Hazards

4.6 This updated report incorporates the main findings of this further technical work and revises the conclusions to reflect these findings.

4.7 From a planning (and Green Belt) point of view the sites have been considered on a sequential basis (with the top of the list being preferable to the bottom of the list), as follows:

- Brownfield sites within built up area i.e. previously developed land

- Greenfield sites within built up area

- Greenfield sites outside the urban area (mostly Green Belt)

4.8 Only one of the short listed sites comprises a brownfield site within the built up area:

- WNW10 Ariston Works (main site)

4.9 This site is located in the Wider Search area, which is less than optimal.

4.10 Two of the short listed sites comprise greenfield sites within the built up area:

- WE6 Land west of Foxcroft

- WNW11 Ariston Works (former playing field)

4.11 Both sites are also located in the Wider Search area, which is less than optimal.

4.12 Four of the short listed sites comprise greenfield sites located outside the built up area, which are also located in the Green Belt.

- WSE13 Land North of Verulam GC
- WSE 4 Old Oak / Marlborough Recreation area
- O14 Birklands detached playing field, London Road
- O22 Land west of Batchwood Drive

4.13 Two of these sites (WSE13, and WSE4) are also located in the Wider Search area, which is less than optimal, although one of these (WSE13) is located just outside the Core Area, which is the optimum location.

4.14 Two of these sites (O22 and O14) are located outside the Wider Search area, which is less than optimal, although one of these (O22) is located just outside the Core Area, which is the optimum location.

CONCLUSIONS

4.15 The main conclusions of the assessments of each of the short listed sites are summarised below, in the sequential order given above ie:

- Brownfield sites within built up area i.e. previously developed land
- Greenfield sites within built up area
- Greenfield sites outside the urban area (mostly Green Belt)

4.16 The main conclusions are also set out in Schedule 4.

4.17 For further details see the Planning Reports at 5.0.

Brownfield sites within built up area

4.18 There is only one potential brownfield primary school site within the built up area, which is located within the Wider Search Area. The main conclusions for this site are:

<u>WNW10 Ariston Works (main site)</u>

- The site is of sufficient size to be able to accommodate a new primary school and could accommodate a larger school site based on the area for an unconstrained site in a non-urban area, ie 1.99ha (subject to a number of considerations which are set out in the report)

- The site is a previously developed site and is relatively unconstrained in terms of planning and environmental constraints.

- The high level transportation and accessibility appraisal advises that the site offers a fairly straight forward opportunity to locate a 2FE primary school with reasonably good accessibility and the existing access should be able to adequately deal with the proposed use.

- It is located outside the Core Area, which is the optimum location for a new school to meet primary educational needs, being located in the Wider Search Area, which is a sub-optimum location, but it could help meet needs within the Core Area.

- It is also owned by the County Council, which is an advantage.

- Ground condition issues were previously identified as a matter which meant that there was significant uncertainty about whether the site would be able to accommodate a new school or whether the cost of provision on site would be prohibitive. However, further investigations for the adjoining former playing field site suggest that this issue is likely to be able to be addressed and would not prevent the site being able to accommodate a new primary school.

- But the main issue is that the site it is not available for use for a new school. The site is subject to development proposals which would fund the provision of new replacement youth and community facilities on site, or off site. If the site was not to be redeveloped, in order to provide a new school, the existing youth and community uses would need to remain on site, and so the site could not accommodate a new school. If the youth and community facilities were to be re-provided on site, in new facilities, or relocation off site, as is currently proposed, this would need to be funded by the redevelopment of the site, so would not happen if the site is not redeveloped, if it were to accommodate a new school. In either scenario the site would not be available for use for a new school.

Greenfield sites within built up area

4.19 There are two potential greenfield primary school sites within the built up area, both located within the Wider Search Area. The main conclusions for these sites are, in summary:

WE6 Land west of Foxcroft

- The site is of sufficient size to be able to accommodate a new primary school and could accommodate a larger school site based on the area for an unconstrained site in a non-urban area (ie 1.99ha), although this would require most of the site, which is a public open space, with sports pitch and children's ground.

- The site is a greenfield site within the built up area.

- The main constraint / consideration is likely to be the loss of the existing public open space (including sports pitch), although apart from this the site is relatively unconstrained in terms of planning and environmental constraints. It is a Green Space (open space) which Local Plan policies seek to protect. If proposals for a school are to be progressed it is likely to be necessary to understand any existing open space assessments to establish whether there is adequate open space / sports pitch provision in the locality and the implications of the loss of at least part of the open space. Discussion would need to take place with the District Council and with Sport England to establish in principle views on the proposals and whether replacement open space / playing pitch would need to be provided elsewhere, and if so can it be provided.

- The high level transportation and accessibility appraisal advises that it would be possible to achieve a school on the site but it would be likely to have a substantial impact on local residents in terms of the highway works required, including road widening, new footway and crossing, possible one way arrangement and parking restrictions.

- The site is located outside the Core Area, which is the optimum location for a new school to meet primary educational needs, being located in the Wider Search Area, which is a sub-optimum location, but it could help meet needs within the Core Area, although linkages with the Core Area are limited due to a number of intervening barriers – main railway line, and the Alban Way footpath / cycleway (former railway line), with few crossing points.

- It is owned by the District Council.

- However, the main issue is the loss of part, if not most, of the public open space and the playing pitch and whether this would be acceptable in order to accommodate a new school.

- A further issue would be the impact of the proposals on views from nearby residential properties and the impact of the alterations to

the highway which would be necessary in order to be able to accommodate a new school.

WNW11 Ariston Works (former playing field / or Lower Field)

- The site is of sufficient size to be able to accommodate a new primary school and could accommodate a larger school site based on the area for an unconstrained site in a non-urban area (ie 1.99ha).

- The site is a greenfield site within the built up area.

- One of the main constraints / considerations is that although the site is not a public open space it is used by the public as open space, and it is a designated Asset of Community Value. It is a Green Space which Local Plan policies seek to protect.

- Other important constraints / considerations, include:

    - The possibility that the site may be needed to allow the expansion of Heathlands School, or provide a playing pitch for the proposed youth and community building on the adjoining main Ariston Works site, or for another school.

    - The site may be one of the last open areas of the site of the Second Battle of St. Albans, although this is not a formally designated battlefield site.

    - The adjoining Bernard's Heath (County Wildlife Site / Registered Common Land / Access Land / mature trees)

- Access to the site would need to be taken via the adjoining main part of the Ariston site (WNW10 Ariston Works) and would be likely to be dependent on that site being redeveloped to provide a suitable satisfactory access.

- The high level transportation and accessibility appraisal initially advised that the existing Harpenden Road / Heathlands Drive junction would be unlikely to be able to accommodate proposed residential development, new youth and community facilities, Heathlands School, and a new primary school. However, the subsequent technical note which looked in more detail at the suitability of the junction to serve these uses found that it should just about be able to cope with the predicted traffic, based on a number of assumptions, including the majority of pupils would walk to the school, and all school related traffic is from the south.

- It is located outside the Core Area, which is the optimum location for a new school to meet primary educational needs, being located

in the Wider Search Area, which is a sub-optimum location, but it could help meet needs within the Core Area.

- It is also owned by the County Council, which is an advantage.

- The March 2016 version of this report found that the main issue affecting the site was significant ground stability issues, which may mean that the site is not suitable for use for a new primary school, or that the cost for remediation may prove to be prohibitive. It advised that until further investigations had been concluded it was uncertain whether the site would be able to accommodate a new primary school. A report commissioned by HCC (Opus - August 2016) indicates that the site is developable and could accommodate a primary school. Although there will be abnormal costs they are within the normal range of costs.

- Ground condition and access issues were previously identified as matters which, taken together, meant that there was significant uncertainty about whether the site would be able to accommodate a new school. However, these further technical investigations indicate that these issues can be addressed and would not prevent the site being able to accommodate a new primary school.

- The site is therefore potentially suitable for a new primary school and merits further consideration.

Greenfield sites outside the urban area

4.20 There are four potential greenfield primary school sites located outside the built up area, all of which are located on greenfield sites in the Green Belt. Two of these sites are located in the Wider Search area and two are located outside the Wider Search area.

4.21 The main conclusions for each of the sites are, in summary:

<u>WSE13 Land North of Verulam GC</u>

- The site is of sufficient size to be able to accommodate a new primary school based on the minimum area for a constrained site in an urban area (ie 0.7ha), but would not be able to accommodate a larger school site based on the area for an unconstrained site in a non-urban location (ie 1.99ha). It may also be necessary to provide a detached playing field, a location for which would need to be identified.

- The site is a greenfield site located in the Green Belt. Unless allocated within the Local Plan, very special circumstances would be needed to justify a school on this site, including the need to demonstrate that there are no alternative non-green belt sites

available which could accommodate the school. This is likely to be the main issue.

- The site is relatively well located relative to the Core Search Area, which is the optimum location for a new school, although it is just outside the Core Area, in the Wider Area. It is located to the east of the centre which is the area of greatest need.

- The site is likely to be in single ownership, and is slightly detached from nearby houses, which would help to reduce the impact on residential amenities, which are advantages.

- The site is located Location in a Zone of Visibility across which there are views of the St Albans City Centre skyline and so a new school would need to be designed to minimise the impact on views, as well as minimising the impact on the Green Belt.

- The Transport Assessment prepared by Pell Frischmann indicated that there may be significant difficulties providing a suitable access to the site and that a school may have an unacceptable impact on the highway network. However, the more recent Stage 1 Road Safety Audit indicates that a satisfactory access may be able to provided, subject to resolving a number of detailed design issues. However, one of the issues identified in the safety audit assumed that full staff parking and dropping off /picking up facilities would be provided on site, but this might not be possible due to the size of the site and what can physically be accommodated on the site.

- In order to help establish whether or not full car parking and dropping off / picking up facilities can be provided on site and also establish whether a detached playing field is required it suggests that a feasibility layout plan be prepared for the proposed school. If a detached playing field is required an exercise should be undertaken to identify a suitable location, which might involve shared use of an existing public open space or playing field.

- The report also suggests that discussions take place with the highway authority to establish whether access and highway issues are fundamental to the potential use of the site for a new primary school and whether they would preclude use of the site for a school.

<u>WSE 4 Old Oak / Marlborough Recreation area</u>

- The site is of sufficient size to be able to accommodate a new primary school and could accommodate a larger school site based on the area for an unconstrained site in a non-urban area (ie 1.99ha), although this would require most of the site, which is a public open space, with sports pitch, all-weather playing pitch and community centre.

- The site is a greenfield site located in the Green Belt. Unless allocated within the Local Plan, very special circumstances would be needed to justify a school on this site, including the need to demonstrate that there are no alternative non-green belt sites available which could accommodate the school. This is likely to be the main issue.

- The main constraint / consideration, other than Green Belt, is likely to be the loss of the existing public open space (including sports pitches and community centre). It is a Green Space (open space) which Local Plan policies seek to protect. If proposals for a school are to be progressed it is likely to be necessary to undertaken an assessment to establish whether there is adequate open space / sports pitch provision in the locality and the implications of the loss of at least part of the open space. Discussions would need to take place with the District Council and with Sport England to establish whether they would object in principle to the proposals and whether replacement open space / playing pitch would need to be provided elsewhere, and if so can it be provided.

- The high level transportation and accessibility appraisal advises that the site presents a number of challenges to providing suitable access for a 2FE school and that the existing access is unlikely to be suitable. A new access road is suggested to the south of the site, which would cross third party land. However, this would be close to a number of listed buildings and a conservation area.

- The site is likely to be in single ownership, which is an advantage, but is relatively remote from the Core Area, which is the optimum location for a new primary school, being the area of greatest need, and so it may not help to meet needs in that area.

- The site is located outside the Core Area, which is the optimum location for a new school to meet primary educational needs. It is located in the Wider Search Area, which is a sub-optimum location, and so in theory could help meet needs within the Core Area. However, it is relatively remote from the Core Area and so may not help meet these needs.

- It is owned by the District Council.

- The loss of the whole recreation ground to a school use would result in the loss of one of the identified viewpoints from which there are important views of the City Centre Skyline, in particular the cathedral, which could be a significant issue. The loss of the community centre would also be a significant issue, unless the school were to include a replacement facility (possibly shared with the school).

- In conclusion, the use of the site as a school has a number of difficulties including Green Belt location, loss of public open space, sports facilities and community centre, and difficult access. It is also relatively remote from the area of need.

O14 Birklands detached playing field, London Road

- The site is owned by the County Council and was originally purchased for use for educational purposes, and has previously been promoted for use for a new primary school by the County Council.

- It is of sufficient size to be able to accommodate a new primary school and could accommodate a larger school site based on the area for an unconstrained site in a non-urban area (ie 1.99ha), although this would require most of the site, which is used informally as open space by the public and is a designated Asset of Community Value.

- However, although it is located just outside the Wider Search Area, it is relatively remote from the Core Search Area, which is the area of greatest need, and so is not well located to serve these needs, which is the purpose of this site search study, although it is well located to serve needs in the south eastern part of St Albans

- The site is a greenfield site located in the Green Belt. Unless allocated within the Local Plan, very special circumstances would be needed to justify a school on this site, including the need to demonstrate that there are no alternative non-green belt sites available which could accommodate the school. This is likely to be the main issue.

- Apart from Green Belt other important constraints and considerations which would affect the potential use of the site for a new primary school are the woodland and mature trees on the site, including a number covered by a TPO, and its designation as an Asset of Community Value, and its use (informally) by the public as open space

- The high level transportation and accessibility appraisal advises that overall the site is suitable for a 2FE primary school, if the suggested measures are implemented. It recommends that it is sufficiently suitable in transport terms to warrant further more detailed investigation for such a use.

- The overall conclusion is that the site is of more than sufficient size to accommodate a new primary school and is owned by the County Council and has been previously identified for this purpose. However, it is relatively remote from the Core Search Area, which is the area of greatest need, and so a new school in

this location may not meet needs arising from the area of greatest need.

- The main issue is likely to be the green belt location and the need for very special circumstances to justify a school, including the need to demonstrate that there are no alternative non-green belt sites available which could accommodate the school. A secondary issue is likely to be the perceived loss of what is seen by the public as an open space and its designation as an Asset of Community Value.

O22 Land west of Batchwood Drive

- The site is of sufficient size to be able to accommodate a new primary school and could accommodate a larger school site based on the area for an unconstrained site in a non-urban area (ie 1.99ha), with room for further expansion, if necessary. It is also likely to be in single ownership, which is an advantage.

- The site is a greenfield site located in the Green Belt, beyond a strong and clearly defined boundary. Unless allocated within the Local Plan, very special circumstances would be needed to justify a school on this site, including the need to demonstrate that there are no alternative non-green belt sites available which could accommodate the school. This is likely to be the main issue.

- The site is relatively well located relative to the Core Area, which is the optimum location for a new school, although it is just outside the Core Area (and outside the Wider Area, which does not extend to the west of the Core Area), although it is located to the west of the centre, rather than the east - which is the area of greater need.

- A new school would need to be designed to minimise the impact on views of the City Centre Skyline, in particular the cathedral. Investigations would also need to be undertaken to establish whether there are any archaeological features on the site and whether these would constrain development.

- The high level transportation and accessibility appraisal advises that overall, there appears to be reasonable potential for this site to be able to accommodate a school (subject to mitigation measures), although there may be an issue about the preferably point of access from a highway point of view and the need to retain existing trees on the frontage and so minimise the impact on the Green Belt.

- The overall conclusion is that the site is of more than sufficient size to accommodate a new primary school and is likely to be in single ownership, which is an advantage. Although it is outside the Core Area it is only just outside the boundary and so is relatively well

located relative to the area of greatest need. It is also slightly detached from nearby houses which would help to reduce the impact on residential amenities, which is an advantage.

- The main issue, as set out above, is likely to be the Green Belt location, outside a strong and clearly defined boundary, and the need for very special circumstances to justify a school, including the need to demonstrate that there are no alternative non-green belt sites available which could accommodate the school.

4.22 For further details see the Planning Appraisal Reports which are contained in the next section.

5.0 SHORT LIST SITES – PLANNING APPRAISAL REPORTS

5.1 The planning appraisal reports (including related drawings and high level transport and access appraisals) for the following sites follow:

- WE6 Land west of Foxcroft
- WSE13 Land North of Verulam GC
- WSE 4 Old Oak / Marlborough Recreation area
- O14 Birklands detached playing field, London Road
- O22 Land west of Batchwood Drive
- WNW10 Ariston Works (main site)
- WNW11 Ariston Works (former playing field)

5.2 The planning appraisal reports for WSE13 Land North of Verulam GC, WNW10 Ariston Works (main site), and WNW11 Ariston Works (former playing field) have been updated to reflect more recent investigations.

5.3 See drawing 5115/004 for the location of the short listed sites, including their locations relative to the Core Search Area and the Wider Search Area.

ST ALBANS PRIMARY SCHOOL SITE SEARCH

PLANNING APPRAISAL REPORT FOR SHORT LISTED POTENTIAL NEW PRIMARY SCHOOL SITES

SITE 1: O22 – LAND TO THE WEST OF BATCHWOOD DRIVE, ST ALBANS

1.0 INTRODUCTION

1.1 This planning appraisal is for the following site which was short listed following a review of potential sites for a new primary school at St Albans:

- Land to the west of Batchwood Drive, St Albans

1.2 The site is located on the western side of St Albans immediately adjacent to the Core Search Area.

1.3 A site visit was carried out on 2nd February 2016.

1.4 The site has an area of approximately 5.69ha. This appraisal assesses whether there is potential for the site to accommodate a 2fe primary school.

1.5 The following drawings accompany this report:

- Site Location Plan (drawing 5115/100)
- Site Identification Plan (drawing 5115/101)
- Aerial Photograph (drawing 5115/102)
- Site Appraisal (drawing 5115/103)
- Development Principles (drawing 5115/104)

1.6 The following report also accompanies this report (see Appendix):

- High Level Accessibility Appraisal (including drawing ST-2479-01) prepared by Stomor Civil Engineering Consultants.

2.0 SITE DESCRIPTION

2.1 The site is located on the western side of Batchwood Drive immediately to the west of the built up area of the town and comprises the larger part of a large arable field lying between Batchwood Hall Golf Course and Batchwood Drive.

2.2 It is located immediately to the west of the Core Area of Search approximately 1.2km from the centre of the town (taken to be St Peter's Street).

2.3 It is enclosed by hedgerows with mature trees on the western, northern and eastern boundaries. The southern boundary is open and undefined (although a field boundary is shown on OS maps).

2.4 Immediately to the north and west is Batchwood Golf Course, which is a municipal golf course, with Batchwood Hall Country Club, and Batchwood Sports and Leisure Centre further to the north. Beyond this is more open countryside.

2.5 Immediately to the south is the remainder of the arable field with a driveway (one way) leading from Batchwood Hall, and a further arable field beyond.

2.6 The site fronts Batchwood Drive to the east with a residential area beyond (known as Batchwood), which comprises an area of mainly two storey semi-detached and terraced houses built in the 1950's as a Local Authority housing estate.

2.7 **Access/Highways** – the site has a frontage to Batchwood Drive. It doesn't have an existing vehicular access and is accessed via the remainder of the field to the south.

2.8 Stomor Civil Engineering Consultants have undertaken a high level transportation and accessibility appraisal for the site, which makes the following conclusions:

The site is located on the north western edge of St Albans and it is likely that the majority of the pupils will approach the site from the south and east. Existing levels of traffic in the vicinity of the site are generally high and modelling would be required to simulate the impact of school traffic on the local network.

One option for vehicular access to the site is provision of a new four-armed roundabout on Batchwood Drive, connecting the new site access to Links View. A simple T-junction into the site from Batchwood Drive is the second option, with a central ghost island on Batchwood Drive for vehicles turning right into the site or, as a slight variation on this, as a 'left-in/left-out only' arrangement, with existing roundabouts assessed for additional U-turning traffic. An alternative site access could be used to the north if these other options are unsuitable. However, this option is likely to require major earthworks to overcome the level difference between Batchwood Drive and the site at the north eastern boundary.

It is unlikely that the Highway Authority will accept the principle of parents dropping off/picking up pupils on Batchwood Drive and the surrounding highway. Therefore, on site parking for parents as well as staff will be required.

It is likely that the majority of pedestrians will need to cross Batchwood Drive. A signal controlled pedestrian crossing will be required. A new footway would be required along the northern side of Batchwood Drive in the vicinity of the pedestrian access.

There are no specific facilities for cycling adjacent to the site, though the new St Albans Green Ring walking and cycling route passes close by. There may be scope to widen the south eastern footway to provide a foot/cycleway. The local public transport provision in the area is reasonable, so offers options for staff as well as accompanied pupils to use this sustainable travel mode.

Overall, there appears to be reasonable potential for this site to be able to accommodate a school once the mitigation measures set out above are undertaken.

[Note: the access options, particularly the northern option and the roundabout option would be likely to result in a significant loss of trees on the road frontage (which would help to screen the site). The southern access option would have less impact on trees or existing screening.

2.9 A copy of the report, and the accompanying drawing which illustrates the main conclusions, is attached at the Appendix.

2.10 **Pedestrian / cycle access** – none at present. There is currently no footway on the western side of Batchwood Drive.

2.11 **Public transport** – a bus stop is located on the frontage of the site. The stop is served by route 301 which runs from Hemel Hempstead to Stevenage (approximately 4 buses per hour).

2.12 **Green Belt** – the site is located in the Green Belt, which has a very clear, strong and well defined boundary in the vicinity of the site, which corresponds to Batchwood Drive.

2.13 **Land ownership** – not known. However, it is likely to be in single ownership – possibly in the same ownership as Gorhambury Estate, or the Crown Estate, who own extensive areas of land to the south and south west. St Albans Council's website indicates that it does not form part of their estate, but that they own the adjoining Batchwood Golf Course.

2.14 **Flooding** – The Environment Agency website indicates that the site is not within an area at risk of flooding.

2.15 **Topography** – The slopes down from north west to south east, with the north western boundary being a gentle ridge, and the northern corner being the highest point.

2.16 **Listed buildings/conservation area** – there are no listed buildings on the site or in the vicinity of the site and the site is not within a conservation area. However, Batchwood Hall (unlisted - surprisingly) is a substantial country house located approximately 350 to the north of the site. The site is located approximately 400m from the St Albans Conservation Area which covers the older parts of St Albans and Verulamium.

2.17 **Archaeology** – the site is located in an extensive Area of Archaeological Significance: Sites where planning permission may be subject to a recording condition. Immediately to the south of the site is an Area of Archaeological Significance: Sites for Local Preservation. Approximately 550m to the south of the site is an extensive Scheduled Ancient Monument which covers the site of the Roman city of Verulamium. The site therefore has high archaeological potential. [See Section 3.0 – Relevant Local Planning Policies for more details]

2.18 **Ecology** – there are no designated areas of nature conservation importance in the vicinity of the site. Due to the arable nature of the site it is unlikely to have any interest, which is likely to be confined to the perimeter hedgerows and trees.

2.19 **Trees** – There are a number of mature trees on the north western, north eastern and south eastern boundaries of the site.

2.20 **Tree Preservation Order** – the status of the trees has not been investigated at this stage but it is likely that there are trees on the site which would be worthy of a TPO. A tree survey will be required.

2.21 **Agricultural land quality** – Grade 3.

2.22 **Public Right of Way** – a public Bridleway (St Albans 75) runs alongside the western boundary of the site and a further bridleway (also St Albans 75) runs along a driveway to the south of the remainder of the field.

2.23 **Public access / Community Use** – the site is not identified as an area of Registered Common Land or Open Access Land or designated as an Asset of Community Value. However the adjoining golf course is a public course with public access.

2.24 **Noise sources** – there are unlikely to be any significant noise issues.

2.25 **Size / shape** – the site comprises a large rectangular field which is more than the minimum 0.7ha size required by this study to accommodate a new primary school (excluding playing field) on a constrained urban site. It is also larger than the minimum 1.99ha site required by BB103 for a new 2FE primary school (including 60 place nursery and playing field) on an unrestrained school site in a non-urban area.

2.26 **Other Matters** – none.

3.0 SUMMARY OF RELEVANT LOCAL PLANNING POLICIES

3.1 The St Albans District Local Plan was adopted in November 1994 and covers the period 1981 to 2001. A number of policies have been 'saved'.

3.2 The Local Plan Proposals Map indicates the following 'saved' designations/policies affecting the site:

Policy 1 Green Belt – the usual presumption against inappropriate development applies.

Policy 111 Archaeological Sites where Planning Permission may be subject to a Recording Condition – the site is located in AS.R.23 (Area around Verulamium) within which planning permission may be subject to a recording condition.

Policy 114 (St. Albans City Centre, Building Height, Roofscape and Skyline) – site is located in a Zone of Visibility. The bridleway immediately to the west of the site and a location near Batchwood Hall to the north are identified as public viewpoints from which there are views of the City Centre skyline. The policy advises, amongst other matters, that proposals shall not obscure or detract from views of the historic roofscape of the Building Height Control Area.

3.3 The Local Plan Proposals Map indicates the following 'saved' designations/policies adjoining the site:

Policy 109 Scheduled Ancient Monument - an extensive Scheduled Ancient Monument (AM.7 Site of Verulamium) lies to the south of the site. The policy resists proposals within the scheduled areas which would detract from their character.

Policy 110 Archaeological Sites for Local Preservation – the site is located adjacent to AS.LP.7 (Roman Occupation Area, North of Verulamium) within which planning permission will not be given to proposals which adversely affect remains or the character of the site.

3.4 The Local Plan also contains the following 'saved' policy which are also relevant:

Policy 65 Education Facilities is particularly relevant to the current proposals, particularly part B (iii) which relates to proposals for new schools in the Green Belt, stating that *'New schools will be permitted only if very special circumstances can be demonstrated. It must be shown that no suitable location is available in areas excluded from the Green Belt and that there is an overriding need for the proposal to cater primarily for children living within the District'.*

Policy 69 General Design and Layout – seeks to ensure developments are to a high standard.

Policy 74 Landscaping and Tree Preservation – seeks to retain existing landscaping and provide new landscaping in developments

Policy 102 Loss of Agricultural Land – advises that development that would result in the loss of agricultural land will be assessed against a number of criteria – land quality, and farm economics and management.

Policy 39 Parking Standards, General Requirements sets out the Council's car parking standards.

4.0 PLANNING HISTORY

4.1 As far as we have been able to establish from St Albans DC's on-line planning records there have been no planning applications for the site.

5.0 ASSESSMENT OF POTENTIAL FOR NEW PRIMARY SCHOOL

Site

5.1 The site has an area of 5.69ha, which is significantly more than the minimum 0.7ha size sought for a new 2fE primary school by this study to identify potential new primary school sites (excluding playing field). It would also be significantly larger than the minimum 1.99ha site required by BB103 for a new 2FE primary school (including nursery) on an unrestrained site in a non-urban area.

5.2 The site slopes down relatively steeply (approx. 15m) from west to east and so would be likely to need to be terraced to create level areas for buildings, car parking, hard play and playing fields. There are mature trees on the frontage of the site and so an access would need to be positioned to avoid or minimise their loss.

5.3 The site is located in the green belt, on the outside of a very strong and clear boundary, and a new school would be contrary to green belt policy. In order to justify a new school in this location, very special circumstances would need to be justified to override the green belt designation, in particular it would need to be demonstrated that there are no alternative non-green belt sites available which could accommodate the school. It would also be necessary to demonstrate that the impact on the green belt has been minimised.

5.4 An access would preferably need to be positioned to avoid or minimise the loss of trees on the frontage of the site, to avoid opening up the site to views and increasing the impact of the school on the Green Belt, which would reduce the prospects for obtaining permission. Three access options are identified in the transportation and accessibility appraisal, two of which would result in the loss of trees and the opening up of the site to views, which would harm the prospects. From a planning point of view the southern option is preferable but this may not coincide with the preferable access from a highways point of view and would extend the site in a southerly direction.

5.5 The site is also located in a Local Plan designated Zone of Visibility across which there are views from a number of public viewpoints of the St Albans City Centre skyline. The policy advises, amongst other matters, that proposals shall not obscure or detract from views of the historic roofscape of the Building Height Control Area. This policy mainly relates to developments in the Building Height Control Area itself but we would expect it to be an important consideration in any proposals for a new school on the site. A particularly important view is likely to be the view between Batchwood Hall and St Albans Cathedral. Subject to more detailed investigations to assess the visual impact on views we would expect a new school building to be located as close to Batchwood Drive as possible (subject to retaining trees), where the site is lower, and the height of any buildings to be limited to singe storey. A location at the norther end of the site would avoid views of the more important parts of the skyline. Proposals should also be accompanied by generous landscaping proposals, which the site would be large enough to accommodate.

5.6 The site is also located in an area of potential archaeological interest around Verulamium within which planning permission may be subject to a recording condition. It is therefore suggested that an archaeological assessment be undertaken at the earliest possible opportunity to establish whether archaeology is likely to be a significant constraint on development.

Acquisition of additional land

5.7 There is open land to the south, currently part of the same field, which could potentially enable the site to be enlarged, but this should not be necessary.

Maximum height of development

5.8 Bearing in mind the green belt location and the location in a Zone of Visibility any buildings should be kept as low as possible and limited to single storey in height, in order to minimise the impact on the green belt and views.

5.9 In this location a green roof could possibly assist with minimising the impact on views as viewpoints are at a higher level.

Location relative to area of need

5.10 The site is located immediately adjacent to the Core Area which is the optimum location for a new primary school. It is located approximately 1.2km to the west of the centre of St Albans, taken to be St Peter's Street.

5.11 Although the site is outside the Core Area it is only just and so is therefore relatively well located relative to the need, although it would mainly serve the western half of the area.

5.12 However, it is located on the outside of Batchwood Drive which is a busy road forming part of the unofficial ring road to St Albans and would be a barrier for pedestrians and cyclists and so would be likely to require a pedestrian / cycle crossing to provide a safe crossing point.

Development principles

5.13 The Development Principles drawing illustrates how a 2FE primary school could be accommodated on the site. This is based on a new primary school (including nursery) on an unrestrained site (1.99ha) in a non-urban area, and would be a single storey building (to reduce its impact on the Green Belt), rather than a two storey school on a constrained urban site (0.7ha), with a detached playing field, as this is considered to be more appropriate for the site bearing in mind its size and location.

5.14 The drawing includes two of the three access options (roundabout and southern options) identified in the high level transportation and accessibility appraisal. The northern access option is not included due to the location of the proposed building, the greater difference in level between the site and Batchwood Drive and the greater impact on trees.

6.0 SUMMARY AND CONCLUSIONS

6.1 The main planning and environmental constraints and considerations which would affect the potential use of the site for a new primary school are:

- Green belt designation
- Location in a Zone of Visibility across which there are views of the St Albans City Centre skyline
- Location in an area of archaeological interest

6.2 The site is of more than sufficient size to accommodate a new primary school, even to the higher BB103 based standards, and is well located relative to the Core Area, which is the optimum location for a new school, although it is just outside the identified area. The site is likely to be in single ownership.

6.3 The site is currently located in the green belt, beyond a strong and clearly defined boundary, and so very special circumstances would need to be given to justify development. It would also need to be demonstrated that there are no alternative non-green belt sites available which could accommodate the school. However, if the site were to be taken out of the Green Belt and allocate for a new school in the Local Plan these would not need to be demonstrated.

6.4 A new school would also need to be designed to minimise the impact on views of the City Centre Skyline, in particular the cathedral.

6.5 Investigations would also need to be undertaken to establish whether there are any archaeological features on the site and whether these would constrain development.

6.6 The main physical and site constraints and considerations which would affect the potential use of the site for a new primary school are:

- Topography - sloping nature of the site

- Trees on the frontage of the site

6.7 The topography means that the site is likely to need to be terraced (which would affect any archaeology)

6.8 The high level transportation and accessibility appraisal advises that overall, there appears to be reasonable potential for this site to be able to accommodate a school once the mitigation measures set out in the appraisal are undertaken. However, there may be an issue about the preferably point of access from a highway point of view and the need to retain existing trees on the frontage and so minimise the impact on the Green Belt.

6.9 If proposals for a school are to be progressed the following studies and technical investigations are likely to be required:

- Topographical survey
- Landscape and visual impact assessment – in particular an assessment of the implications on Zone of Visibility and views
- Archaeological desk based assessment, followed up by a geophysical survey
- Tree survey
- Transport assessment (including access drawing(s))
- Preliminary planning report

6.10 In due course the following studies and technical investigations are also likely to be required:

- Flood Risk Assessment and drainage strategy
- Ecological assessment
- Alternative site assessment (based on this study)
- Geophysical / Geotechnical investigations
- Utilities report

6.11 The following may also be required:

- Archaeological evaluation (including excavations) – depending on results of geophysical survey

6.12 The overall conclusion is that the site is of more than sufficient size to accommodate a new primary school and is likely to be in single ownership, which is an advantage. Although it is outside the Core Area it is only just outside the boundary and so is relatively well located relative to the area of greatest need. It is also slightly detached from nearby houses which would help to reduce the impact on residential amenities, which is an advantage.

6.13 The main issue, as set out above, is likely to be the Green Belt location, outside a strong and clearly defined boundary, and the need for very special circumstances to justify a school, including the need to demonstrate that there are no alternative non-green belt sites available which could accommodate the school.

APPENDIX

St Albans Primary School Site Search

High Level Accessibility Appraisal for Site North West of Batchwood Drive

This high level access appraisal is to consider the suitability of access for a new 2 Form of Entry (2FE) primary school to the north west of Batchwood Drive in St Albans. It is to be read in conjunction with Drawing ST-2479-01, attached to the end of this document and refers to site reference O22.

1. Site Background

1.1 Location

The site is situated on existing farmland on the north western edge of St Albans, bounded by Batchwood Golf Course to the north and west, a small area of farmland to the south west and Batchwood Drive to the south east. The site is noticeably higher than Batchwood Drive with an approximate level difference of 2m at the north eastern corner dropping to approximately 1m to the south east. It is likely that the majority of pupils will arrive from the Batchwood and Townsend residential areas to the south and east; using Batchwood Drive, Waverley Road and/or other smaller local residential roads.

1.2 Local Road Network

Batchwood Drive is an approximately 7.3m wide 30mph Local Distributor Road which connects the A1081 Harpenden Road with the A5183 Redbourn Road. The A1081 meets Batchwood Drive at a traffic signal controlled crossroads junction approximately 1km to the north east of the site. The A5183 meets Batchwood Drive and the A4147 Hemel Hempstead Road at a four arm roundabout approximately 400m to the south west of the site.

Waverley Road is a 30mph Local Distributor Road which connects Batchwood Drive with the surrounding residential areas, via a three-arm mini roundabout.

Links View is an unclassified Local Access Road which joins Batchwood Drive opposite the site via a simple T-junction and runs about 225m south east to White Hedge Drive. It is a residential road of about 5.5m width.

1.3 Existing Access

There is no existing pedestrian or vehicular access onto the site, with farm traffic accessing the site directly from the west.

1.4 Existing Conditions

Observations of transport conditions in the vicinity of the site were made in the AM peak period of 19th January 2016 between 8am and 9am. The weather was cold and generally dry. Heavy traffic flows were observed along Batchwood Drive throughout the peak period. Traffic was heavy at the roundabout to the south west of the site, particularly on the A5183 Redbourn Road arm, where queueing was observed.

There are several existing laybys along the south east side of Batchwood Drive which were seen to be partially used at the time of the site visit.

1.5 Existing Pedestrian/Cycle Provision

There is no pedestrian footway along the north western side of Batchwood Drive in the vicinity of the site, apart from a small section which allows access to the northbound bus stop. There is a continuous, approximately 1.8m wide footway on the south eastern side of Batchwood Drive, separated from the carriageway by a grass verge.

There are two pedestrian refuge islands on Batchwood Drive, which are associated with the northbound bus stops. The nearest of these is adjacent to the north-east corner of the site. It is likely that the majority of pedestrians travelling to/from the site on foot/bicycle will be required to cross Batchwood Drive.

There is no provision for pedestrians to cross at the roundabout between Batchwood Drive and the A5183 to the south west. There are pedestrian facilities at the signal controlled junction between the A1081 and Batchwood Drive to the north east. There are footways on both sides of Waverley Road and on at least one side of Links View.

There are several public bridleways to the north of the site which pass through the surrounding countryside and golf course. However, these routes are unlikely to be used by pupils due to their rural location.

The new St Albans Green Ring walking and cycling route passes along Ladies Grove to the east of the site before joining Batchwood Drive 400m to the north east. National Cycle Route 6 passes 800m to the east of the site, crossing Batchwood Drive east of Townsend Drive, connecting Harpenden with St Albans.

1.6 Public Transport

There are existing bus stops adjacent to the site, on both sides of Batchwood Drive. Route 301, operated by Arriva, which connects Stevenage and Hemel Hempstead via Welwyn Garden City, Hatfield and St Albans City Station, passes the site every half hour. Bus stops at the north western end of Waverley Road also serve route 653, operated by Uno Bus, which connects St Albans with Welwyn Garden City, via Hatfield, with approximately three services per hour.

The nearest railway station is St Albans Abbey, an unmanned stop approximately 1.9 kilometres to the south of the site, which has services approximately every 45 minutes to Watford Junction. The nearest major railway station is St Albans City, approximately 2 kilometres to the south east of the site, which has regular connections with Harpenden, Luton, London and further afield.

2. Access Considerations

2.1 Network Capacity

Batchwood Drive was observed to experience heavy traffic flow in the AM peak period and appears to be a major route for vehicles entering and exiting the northern part of St Albans. As a result, the impact of any of the proposed highway and access works will need to be modelled.

The existing laybys on the south side of Batchwood Drive would not be sufficient for parking associated with the new school site. Batchwood Drive would not be an appropriate road for on street parental parking due to the current traffic volumes. Therefore, on site parent parking would be required.

2.2 General Improvements

Thick vegetation, including some mature trees, is present along the edge of the north eastbound carriageway of Batchwood Drive and would need to be cut back to achieve a proposed access arrangement and allow visibility for vehicles leaving the site.

The proposed site would require a new footway or foot/cycleway to be installed along the northern edge of Batchwood Drive, along pedestrian/cyclist desire lines into the school. Existing vegetation would need to be cut back to achieve this. Additionally, the existing pedestrian crossing refuge island would be insufficient to cater for the number of pedestrians expected and the relatively high traffic flows on Batchwood Drive. Therefore, a signal controlled crossing will be required.

There may be scope to widen the south eastern footpath of Batchwood Drive to provide a foot/cycleway.

2.3 Proposed Access

The topography of the area means that the southern section of the site is best suited to a vehicular access. Access from Batchwood Drive will have to consider the impact on the junction with Links View, which is opposite the site.

Pedestrian access to the site would be from the north western side of Batchwood Drive, with its position dependent upon desire lines into the site.

The following arrangements may be suitable:

Option 1: Four-armed roundabout with Links Road

There may be potential for a new four-arm roundabout to be installed on Batchwood Drive, connecting Links View and the site access. It is likely that the roundabout footprint would extend into the site and require earthworks due to the level difference between the site and Batchwood Drive. Modelling would be required to ensure that a roundabout does not have an unacceptable impact on the wider road network.

Option 2: T-junction with Batchwood Drive to south east

Another potential access point is approximately 120 metres to the south west of the junction with Links View. The separation between the site access and Links View would be greater than the Highway Authority standards of a minimum 30m distance between opposite junctions on a Local Distributor Road. However, it is advised that further study is undertaken to ensure that traffic utilising the access does not interfere with the Links View junction, due to its 'left/right' stagger arrangement.

Due to the high volume of traffic on Batchwood Drive, it is considered likely that a central ghost island will be required to permit southbound right turning traffic to wait, without affecting through traffic. Localised road widening will be needed to facilitate this. Alternatively, the vehicular access could be installed as a 'left in/left out only' arrangement, with traffic turning at the nearby roundabouts. These roundabouts would need to be modelled to establish if they are currently suitable or would require upgrade works, to accommodate more U-turning traffic.

Option 3: T-junction with Batchwood Drive to north east

If a new junction to the south east of the site is shown to have an unacceptable impact on Links Road and the roundabout is not viable, an alternative access position may be provided approximately 100 metres to the north east of the junction with Links Road. This would require an existing bus stop to be relocated and the access road would need to be constructed at a relatively steep gradient to overcome a level difference of approximately 2.5m. It is likely that the bank would have a major impact on visibility for drivers emerging from the junction, so it would be necessary to undertake further earthworks to improve this to an acceptable level.

3. Conclusions

The site is located on the north western edge of St Albans and it is likely that the majority of the pupils will approach the site from the south and east. Existing levels of traffic in the vicinity of the site are generally high and modelling would be required to simulate the impact of school traffic on the local network.

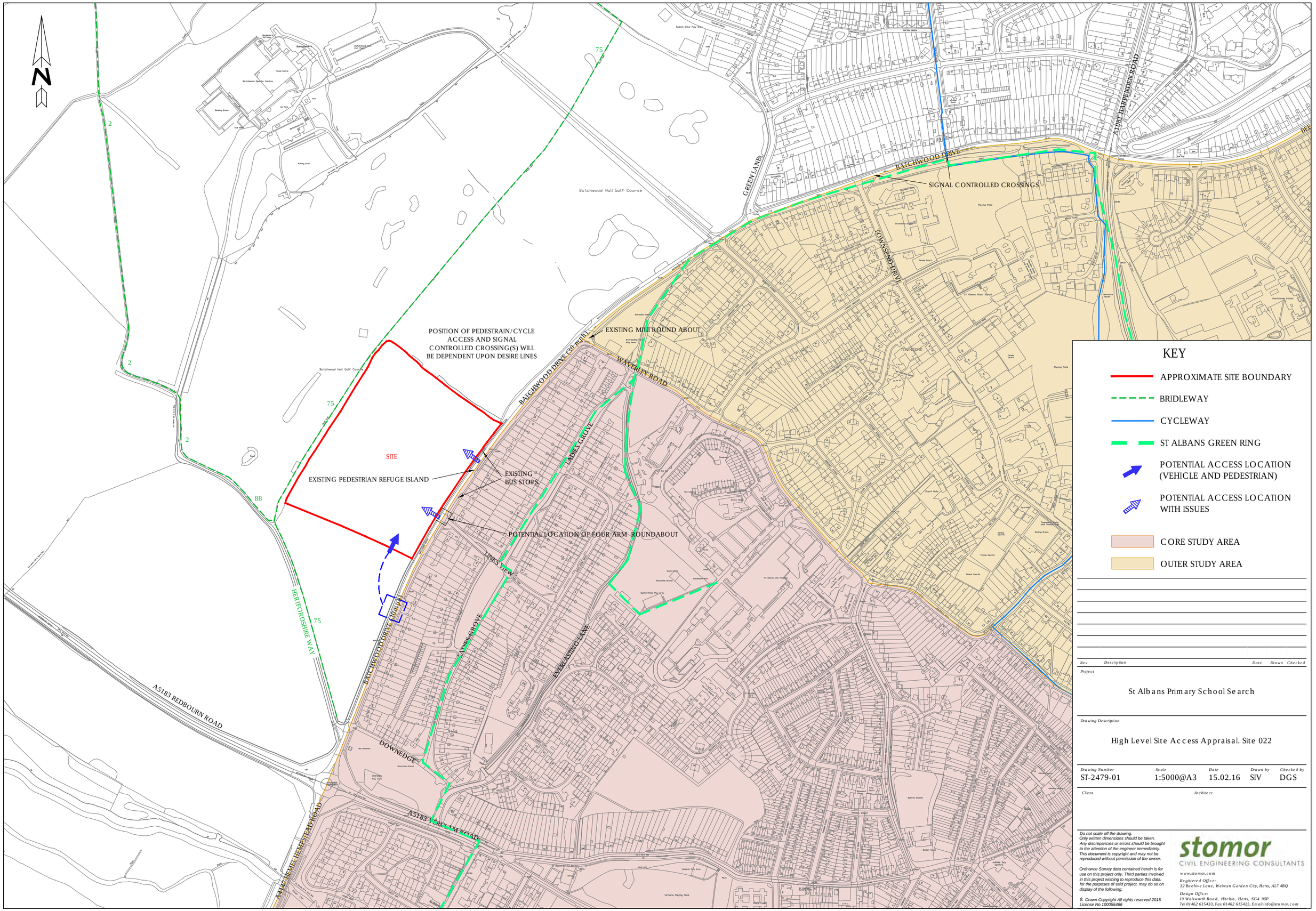
One option for vehicular access to the site is provision of a new four-armed roundabout on Batchwood Drive, connecting the new site access to Links View. A simple T-junction into the site from Batchwood Drive is the second option, with a central ghost island on Batchwood Drive for vehicles turning right into the site or, as a slight variation on this, as a 'left-in/left-out only' arrangement, with existing roundabouts assessed for additional U-turning traffic. An alternative site access could be used to the north if these other options are unsuitable. However, this option is likely to require major earthworks to overcome the level difference between Batchwood Drive and the site at the north eastern boundary.

It is unlikely that the Highway Authority will accept the principle of parents dropping off/picking up pupils on Batchwood Drive and the surrounding highway. Therefore, on site parking for parents as well as staff will be required.

It is likely that the majority of pedestrians will need to cross Batchwood Drive. A signal controlled pedestrian crossing will be required. A new footway would be required along the northern side of Batchwood Drive in the vicinity of the pedestrian access.

There are no specific facilities for cycling adjacent to the site, though the new St Albans Green Ring walking and cycling route passes close by. There may be scope to widen the south eastern footway to provide a foot/cycleway. The local public transport provision in the area is reasonable, so offers options for staff as well as accompanied pupils to use this sustainable travel mode.

Overall, there appears to be reasonable potential for this site to be able to accommodate a school once the mitigation measures set out above are undertaken.



KEY

- APPROXIMATE SITE BOUNDARY
- BRIDLEWAY
- CYCLEWAY
- ST ALBANS GREEN RING
- POTENTIAL ACCESS LOCATION (VEHICLE AND PEDESTRIAN)
- POTENTIAL ACCESS LOCATION WITH ISSUES
- CORE STUDY AREA
- OUTER STUDY AREA

Rev	Description	Date	Drawn	Checked

Project

St Albans Primary School Search

Drawing Description

High Level Site Access Appraisal. Site 022

Drawing Number	Scale	Date	Drawn by	Checked by
ST-2479-01	1:5000@A3	15.02.16	SIV	DGS

Client

Architect

stomor
CIVIL ENGINEERING CONSULTANTS
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DRAWINGS

THE SITE

OTHER SITES UNDER CONSIDERATION

CORE SEARCH AREA

WIDER SEARCH AREA

SITE 2: ARISTON WORKS

SITE 3: ARISTON WORKS PLAYING FIELDS

ST ALBANS

New Greens

Townsend

Bernard's Heath

Gorhambury

Batchwood Hall Golf Course

Ladies Grove Wood

Batch Wood

Whitehedge Spring

Batchwood Roundabout

River Ver

0 500 metres

PROJECT TITLE

St Albans Primary School
Site search

DRAWING TITLE

Site 1: O22 - Land to the west of Batchwood Drive, St Albans
Site location

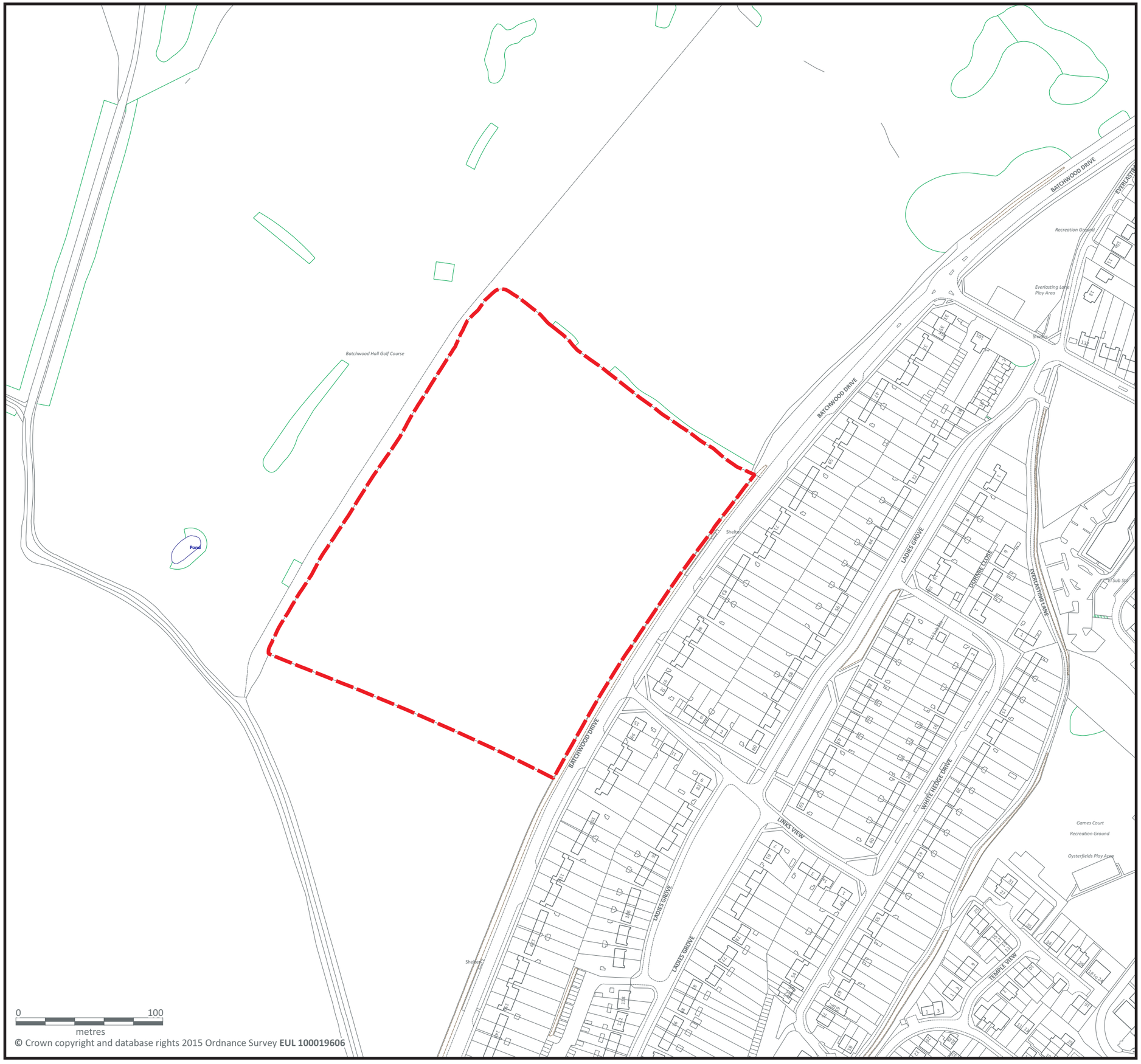
SCALE	DATE	CHECKED
1:10000	JANUARY 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

100

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035



SITE BOUNDARY
5.69ha 14.06ac

PROJECT TITLE
St Albans Primary School
Site search

DRAWING TITLE
Site 1: O22 - Land to the west of Batchwood Drive, St Albans
Site identification

SCALE	DATE	CHECKED
1:2500	JANUARY 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

101

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

SITE BOUNDARY
5.69ha 14.06ac

PROJECT TITLE
St Albans Primary School
Site search

DRAWING TITLE
Site 1: O22 - Land to the west of Batchwood Drive, St Albans
Aerial photograph

SCALE	DATE	CHECKED
1:2500	JANUARY 2016	
	DRAWN HNA	DATE
PROJECT No. 5115	N	102

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

SITE BOUNDARY
5.69ha 14.06ac

BATCHWOOD HALL GOLF COURSE

DRIVEWAY: ONE WAY

DOWNWARD SLOPE

DOWNWARD SLOPE

DOWNWARD SLOPE

DOWNWARD SLOPE

DOWNWARD SLOPE

DOWNWARD SLOPE

OCCASIONAL GLIMPSES THROUGH TREES

Batchwood Hall Golf Course

Pond

ARABLE FARMLAND

DRIVEWAY: ONE WAY

PEDESTRIAN REFUGE

BUS STOP

BUS STOP

OPEN SPACE

BATCHWOOD DRIVE

BUS STOP

PEDESTRIAN REFUGE

BUS STOP

FORMER LOCAL AUTHORITY ESTATE
MIXTURE OF TWO STOREY 1950's
SEMI-DETATCHED AND TERRACE HOUSES

OPEN SPACE

BUS STOP

PEDESTRIAN REFUGE

LADIES GROVE

DORNEY CLOSE

EVERLASTING CLOSE

WHITE HEDGE DRIVE

LINKS VIEW

TEMPLE VIEW

Games Court

Recreation Ground

Oysterfields Play Area

0 100
metres

PROJECT TITLE
St Albans Primary School
Site search

DRAWING TITLE
Site 1: O22 - Land to the west of Batchwood Drive, St Albans
Site appraisal

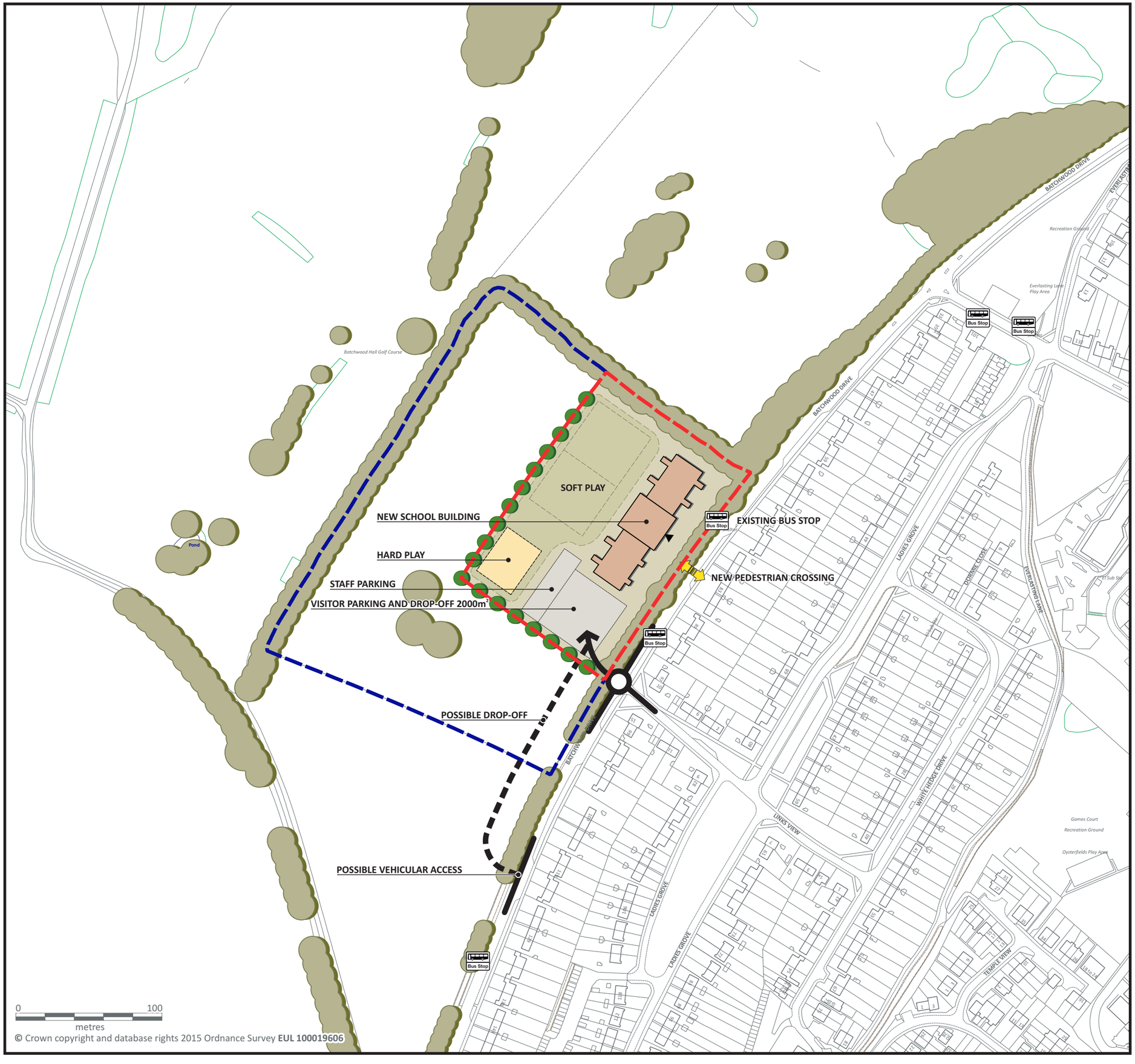
SCALE	DATE	CHECKED
1:2500	JANUARY 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

103

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035



SCHOOL SITE BOUNDARY
2.00ha 4.94ac

REMAINDER OF SITE

NOTE:
This drawing is based on accommodating a 1.99ha site

PROJECT TITLE
St Albans Primary School
Site search

DRAWING TITLE
Site 1: O22 - Land to the west of Batchwood Drive, St Albans
Development principles

SCALE	DATE	CHECKED
1:2500	MARCH 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

104

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

ST ALBANS PRIMARY SCHOOL SITE SEARCH

PLANNING APPRAISAL REPORT FOR SHORT LISTED POTENTIAL NEW PRIMARY SCHOOL SITES

SITE 2: WNW10 – LAND AT ARISTON WORKS (MAIN SITE), HARPENDEN ROAD, ST ALBANS (REVISED JANUARY 2017)

1.0 INTRODUCTION

1.1 This planning appraisal is for the following site which was short listed following a review of potential sites for a new primary school at St Albans:

- Land at Ariston Works (main site), Harpenden Road, St Albans

1.2 The report was originally prepared in March 2016 and has been updated to take account of a Technical Note on the Heathlands Drive / Harpenden Road junction prepared by Stomor and a report on Geotechnical Hazards prepared by Opus. (See below for further details).

1.3 The site is located on the northern side of St Albans, within the Wider Search Area, approximately 400m north of the Core Search Area.

1.4 The site has been visited on a number of occasions, the most recent being on 2nd February 2016.

1.5 The site has an area of approximately 2.63ha. This appraisal assesses whether there is potential for the site to accommodate a 2fe primary school.

1.6 The following drawings accompany this report:

- Site Location Plan (drawing 5115/150)
- Site Identification Plan (drawing 5115/151)
- Aerial Photograph (drawing 5115/152)
- Site Appraisal (drawing 5115/153)
- Development Principles (drawing 5115/154)

1.7 The following drawing also accompanies this report:

- Site appraisal (drawing 4208/355B)

1.8 This is a more detailed site appraisal drawing, incorporating topographical survey information, which has been prepared for the whole of the Ariston Works site (Sites WNW10 and WNW11) for the purposes of a planning application which is to be submitted to St Albans City and District Council.

1.9 The County Council has been progressing proposals for a mixed use development on the site, and the adjoining former playing field (Site WNW11), for a number of years. The development proposals include residential development, open space, and a replacement youth and community building. As part of these proposals a number of technical studies and investigations have been undertaken. The following paragraphs incorporate the main findings of these investigations.

1.10 The following report also accompanies this report (see Appendix):

- High Level Accessibility Appraisal (including drawing ST-2479-05) prepared by Stomor Civil Engineering Consultants.

2.0 SITE DESCRIPTION

2.1 The site is located in the northern part of St. Albans approximately 700m north of the City Centre. It lies to the east of Bernard's Heath which is an area of common land on either side of Harpenden Road, from which the site has access across the common.

2.2 The site is partly used and partly unused and includes the site of the former St Albans Adolescent Resources Centre, a number of buildings – St Albans Judo Club, The Pioneer Club, the former St Albans fire station (now closed and replaced elsewhere), and also a former ambulance station (now closed). It is largely hidden from view by existing woodland, trees and vegetation on the heath. The main body of the site is connected to Harpenden Road by a narrow corridor of land partly comprising Heathlands Drive and partly the access road serving the former fire station and the ambulance station.

2.3 The existing access is shared with Heathlands School, which lies immediately to the north east of the site. Heathlands School is a special school for the hearing impaired, currently offering nursery, primary, and secondary provision

2.4 To the east of the site is an area of former playing fields (referred to as the Lower Field (or Lower Heath)).

2.5 Immediately to the west and south of the site and to the south of the former playing fields is an area of common land known as Bernard's Heath, which is used as public open space.

2.6 The area of the common to the west and south west of the site mostly comprises mature woodland, with a number of deep depressions and significant changes in level. That part to the south of the former playing field, beyond a hedgerow and trees, is a more formal recreation ground.

2.7 To the north and east of the site and former playing field is a residential area comprising mainly two storey semi-detached and detached houses. Immediately to the south of the site is a cluster of recent two storey detached houses. A short distance further to the south, beyond an area of common, is a residential area of mainly two storey semi-detached and detached houses.

2.8 **Access/Highways** – the site has vehicular access from the un-adopted Heathlands Drive, which crosses Bernard's Heath, and joins Harpenden Road to the west at a priority junction. Heathlands Drive serves the site and Heathlands School, with the former Fire Station and the Ambulance Station, having a separate access off the Drive.

2.9 Harpenden Road (A1081) is the main route leading to and through St. Albans city centre to the south and Harpenden to the north.

2.10 Stomor Civil Engineering Consultants have undertaken a high level transportation and accessibility appraisal for the site (and the adjoining Site 3 WNW11), based on a review of work previously undertaken by other

consultants (Wormald Burrows Partnership), which makes the following conclusions (for both sites):

The former Ariston site is well located in a residential area to serve a wide catchment. It is expected that most pupils will travel from the main area of need to the south. Existing levels of traffic in the vicinity of the site were observed to be reasonably low, so the access should be able to cater for the levels of traffic expected with a 2FE primary school, in addition to traffic already on Heathlands Drive from Heathlands School and the existing community use of a Judo Club and Youth Centre. However, modelling would be required to simulate the impact of school traffic on the local network and confirm this.

It is considered that fairly minimal works are likely to be required if the western site (WNW10) is redeveloped with the eastern site (WNW11) left as open space. Works are likely to include remediation of the concrete access road and installation of a new foot/cycleway to the north of the access. Additionally, there are likely to be some waiting restrictions required on the main access routes and, possibly also installation of new street lights on Heathlands Drive.

Development of the eastern site is likely to require more extensive works as a result of sharing the access with a new residential development on the western site. It is considered that the junction from the A1081 is unlikely to be able to cope with school on the east site and the other development on the west site. Detailed analysis would be required to confirm junction capacity. The land adjacent to the A1081 Harpenden Road is understood to be Common Land. This is likely to prohibit any widening in the vicinity of the site, and therefore, it is unlikely the junction can be improved.

The local public transport provision and cycle network are reasonable, providing options for staff as well as accompanied pupils to use these sustainable travel modes.

Given the very limited opportunities for parking around the site, on site provision for parents as well as staff vehicles will be required. There is potential for a park and stride scheme with the Ancient Briton public house to be used if the necessary agreement is obtained.

Overall, the western site offers a fairly straight forward opportunity to locate a 2FE primary school with reasonably good accessibility to the north of St Albans City Centre. On the basis of the existing traffic flows on the A1081 and the low expected level of school vehicular traffic, given the site's central location, it appears that the access should be able to adequately deal with this possible use. Further analysis will be needed to confirm this and test the local network, but it is considered that the site is sufficiently suitable to warrant this further study.

2.11 A copy of the report, and the accompanying drawing which illustrates the main conclusions, is attached at the Appendix.

2.12 Stomor Civil Engineering Consultants subsequently prepared a short Technical Note on Heathlands Drive / A1081 Harpenden Road Junction Modelling (7th September 2016), which considered the suitability of Heathlands Drive and its junction with the A1081 Harpenden Road to serve a development consisting of a new 2FE primary school located on the adjoining former playing field (Site WNW11), a residential development of 48 dwellings, a replacement youth and community building and the existing Heathlands Special School for Deaf Children. (See below for information on development proposals). The note makes the following conclusion:

Based on the assumptions above, the J9 modelling indicates that the junction should be able to just cope with the predicated traffic associated with:-

- *A new 2FE primary school,*
- *48 residential units*
- *A replacement youth and community building*

- *Maintaining access to Heathlands – A Special School for Deaf Children.*

Most of the school generated traffic is expected to be concentrated over a short period of time at either ends of the school day, so this is when the junction is likely to experience the most delay. However modelling suggests that this should not be too significant. The operation of the junction becomes more sensitive to additional traffic the closer it is to its capacity, so a fairly modest increase in traffic may cause a noticeable change in the junctions operation. The assumptions above consider that the majority of pupils would walk to school, so measures would need to be implemented to encourage this. The assumptions also consider that all pupils originate from the south as advised by HCC; if more were expected to come from the north, the modelling may indicate a different result.

2.13 A copy of the note is also attached at the Appendix.

2.14 **Pedestrian / cycle access** – there are several points of access to the site from Bernard's Heath and the former playing field. The St Albans Green Ring, which is a strategic cycle route (partly off road and partly on quiet roads) running around St Albans, runs along the western side of Harpenden Road, with a Toucan crossing point to the south of Heathlands Drive. A further cycle route, which forms part of the Sustrans National Cycle Network, runs along the western edge of Bernard's Heath.

2.15 **Public transport** – Harpenden Road is the main route into the city centre from the north west and is a public transport corridor with Arriva bus service 321 providing a half-hourly link to the retail, service and community facilities in St. Albans city centre as well as to facilities in Luton and Watford. Harpenden Road is also served by routes 84A, 361 and 714, but these services are less frequent. There is a bus stop close to the site.

2.16 **Green Belt** – the site is not located in the Green Belt.

2.17 **Land ownership** – the land is owned by Hertfordshire CC.

2.18 **Flooding** – the Environment Agency website indicates that the site is not within an area at risk of flooding. A Flood Risk Assessment (including drainage strategy) has been prepared by Wormald Burrows Partnership which concludes that the site is not at risk from the sources of flooding considered, as suitable sustainable engineering measures can be implemented to mitigate and manage flood risk.

2.19 **Topography** – The majority of the site is level but the northern part slopes down in a series of steps.

2.20 **Listed buildings/conservation area** – there are no listed buildings on the site or in the vicinity of the site and the site is not within a conservation area. The nearest conservation area lies approximately 300m to the east of the site.

2.21 **Archaeology** – the site does not contain any Scheduled Ancient Monuments and does not lie within an Area of Archaeological Significance. A Heritage Desk Based Assessment prepared by CgMs Consulting (September 2013) has established that the majority of the site has been disturbed by former industrial uses, consequently, there is no archaeological potential within the southern part of the site. The remaining area has low/no archaeological potential. In these circumstances, it is concluded that the proposed residential development proposals do not require any further archaeological investigations or mitigation works.

2.22 **Other Heritage Assets** – The site is located within the general locality of the Second Battle of St. Albans. However, the battlefield is not included on the English Heritage Register of Battlefields since "the battlefield no longer survives sufficiently to warrant conservation measures ..." The Battlefields Trust confirmed that it had no objection to the development of the area shown for development in the Planning Brief (see Planning Policy Context) (ie the current site) and supported keeping the former playing field free from development as it forms part of the remaining open area of the original battlefield.

2.23 **Ecology** – the site has no designations for its nature conservation importance or interest, and there are no Sites of Special Scientific Interest or Local Nature reserves within 2km of the site. There are a number of non-statutory County Wildlife Sites (CWSs) within 2km of the site, the nearest being Bernard's Heath which is adjacent to the site.

2.24 A number of ecological appraisals and species surveys have been undertaken for the site. These found that the site contains a number of habitats which are all common and under no conservation threat and have a lack of general ecological value. They also did not find any bat roosts or reptiles and that it is unlikely to support important species of amphibians. However, surveys did find some bird nesting habitat, bat feeding / foraging habitat, and potential hedgehog habitat. The report made a number of recommendations for mitigation measures for nesting birds, bats and hedgehogs.

2.25 **Trees** – There are a large number of mature trees on the site and immediately adjoining the site, notably on the site boundaries and on the northern part of the site. A tree survey has been carried out and a root protection plan prepared.

2.26 **Tree Preservation Order** – the status of the trees has not been investigated at this stage but it is likely that there are trees on the site which would be worthy of a TPO.

2.27 **Agricultural land quality** – not applicable.

2.28 **Public Right of Way** – There are no definitive public rights of way (i.e. footpaths or bridleways etc) crossing the site. However, there are a number of public footways adjoining Harpenden Road and a number of points around the boundary of the site where pedestrian access is gained to the site on an informal basis from the adjoining open space and common land, including the former playing field.

2.29 **Public access / Community Use** – Bernard's Heath to the west and south of the site comprises registered Common Land, which is also an area of Access Land over which there is public access.

2.30 In 2000 an application was made by the Bernard's Heath Village Green Preservation Society to register the former playing field as a town or village green. However, the application was rejected following a Public Inquiry in June 2002. In April 2014 St Albans City and District Council gave notice that the former playing field (referred to as the Lower Field) had been added to the Council's list of Assets of Community Value.

2.31 **Noise sources** – there are unlikely to be any significant noise issues.

2.32 **Size / shape** – the site comprises a large rectangular area of land which is more than the minimum 0.7ha required by this study to accommodate a new primary school (excluding playing field) on a constrained urban site. It is also larger than the 1.99ha site required by BB103 for a new 2FE primary school (including 60 place nursery and playing field) on an unrestrained site in a non-urban area.

2.33 **Ground Conditions** – a number of geotechnical and geo-environmental investigations have been carried out for the site and the adjoining former playing field (Site WNW11) in connection with development proposals for the site (see Planning History section below) as they have a history of former industrial activities and brickearth excavations and lime workings. Further investigations have been undertaken following the opening up of a large sink hole in the residential area to the east of the former playing field in October 2015. These investigations are ongoing and include the site.

2.34 A Geotechnical Hazards Summary Report (August 2016) has been prepared by Opus on behalf of the County Council for the adjoining former playing filed site which provides a summary of the assessments of potential geotechnical hazards which might be encountered across that site and the bearing they may have on the potential location of a school on the site.

2.35 The Executive Summary advises that:

There are potential development constraints associated with the presence of past clay extraction and the likely presence of variable depth of unreliable materials (Made Ground) at shallow and moderate depths. This rules out the use of traditional shallow footings for much of the proposed building footprint.

There will also be abnormal costs associated with the required precautions associated with external areas (roads, parking, hard landscaped areas etc.) and provision of service installations (in particular drains, sewers and water supply).

The proposed mitigation works are within the "normal" range of site specific "extra-over" costs associated with poor near surface ground conditions. The site is therefore considered developable.

2.36 At this stage it is assumed that similar advice might also apply to the main Ariston site.

3.0 SUMMARY OF RELEVANT LOCAL PLANNING POLICIES

3.1 The St Albans District Local Plan was adopted in November 1994 and covers the period 1981 to 2001. A number of policies have been 'saved'.

3.2 The Local Plan Proposals Map does not indicate any designations or allocations affecting the site or the immediately adjoining land apart from including them in the built up area of St Albans, which is one of two towns in the district which area excluded from the Green Belt.

Policy 2 Settlement Strategy advises that development will generally be concentrated in the towns, but proposals should not detract from their essential character, particularly in respect of a number of considerations, including green spaces within settlements (Policy 75).

3.3 The Local Plan contains the following 'saved' policies which are of relevance:

Policy 65 Education Facilities is particularly relevant to the current proposals, particularly part A which relates to proposals for new schools, extensions to existing schools and changes of use to schools within towns and specified settlements. It advises that proposals for new schools (and extensions or changes of use) will be assessed against the following criteria:

(i) Where a loss of dwellings is proposed, Policy 10 (iv) shall be complied with;

(ii) The impact on the amenity of the surrounding area in terms of visual impact, design, noise and disturbance, road access and traffic generation;

(iii) Sufficient on-site parking and servicing shall be provided;

(iv) Provision shall be made for the setting down and picking up of pupils, by car or public transport, in a safe and acceptable manner.

Policy 10 Loss of residential accommodation opposes the loss of residential accommodation unless one of a number exceptions are met. One of these permits this for educational uses where suitable non-residential properties or sites for new buildings are not available.

Policy 67 Public Meeting Rooms and facilities, advises that before granting permission for a change of use or redevelopment of buildings used for community purposes, the Council will need to be satisfied that a need for them no longer exists.

Policy 69 General Design and Layout – seeks to ensure developments are to a high standard.

Policy 75 Green Space Within Settlements seeks to protect green space or re-provide it elsewhere if its loss would result in a deficiency of open space in the area. The policy would not permit development if it would destroy the character of any remaining green space. The policy identifies a number of considerations which will be taken into account in determining planning applications for the development of green space within towns. The accompanying explanatory text advises that urban green spaces consist of all open land, irrespective of ownership, which supports trees and other plants in built–up areas, including parks, playing fields, allotments, verges , waste land about public utilities and gardens.

Policy 74 Landscaping and Tree Preservation – seeks to retain existing landscaping and provide new landscaping in developments

Policy 39 Parking Standards, General Requirements sets out the Council's car parking standards.

Planning brief

3.4 In October 2001 the District Council approved a Planning Brief for the site (including the former playing field – Site WNW11), and the adjoining Heathlands School, following public consultations, including an exhibition. The aim of the brief was to provide a planning framework for the redevelopment of the site, consistent with planning policies. The brief proposed the following:

- Residential development of the northern part of the site, except the woodland (i.e. Pioneer Centre, Judo Club, IT Centre, and the sites of the former depot and houses).
- Community use of the site of the fire and ambulance stations.
- Retention of the playing field (now former playing field) as open space.
- Retention of Heathlands School
- Retention of existing trees and new planting.
- Improvement to junction of Heathlands Drive / new access with Harpenden Road.

3.5 The brief indicates a residential area of 1.55ha, comprising three areas, and indicated suggested densities and number of storeys for development as follows:

- Northern area – 10 to 20 dpha and 2 storey maximum
- Central area – 20 to 30 dpha and 2.5 storey maximum
- Southern area – over 30 dpha, may include flats up to 3 storeys.

3.6 The brief includes a section on implementation which identifies a number of matters which may be covered by a Section 106 Agreement.

4.0 PLANNING HISTORY

4.1 In August 2002 St Albans City and District Council resolved to grant planning permission (ref: 5/02/0852) for the comprehensive redevelopment of the site, subject to the completion of a S106 agreement. The application was for residential, community and open space purposes, including approximately 50 dwellings. The proposals included the relocation of St Albans Judo Club and Pioneer Club, with ancillary parking. The former playing fields were shown to be retained as playing fields.

4.2 The Legal Agreement, which reached an advanced stage, was not concluded and so a planning permission was not issued. Technically the 2002 application is therefore still 'live'.

4.3 Since 2012 the County Council has been progressing proposals for a new planning application which are effectively a renewal (or refresh) of the 2002 planning application. This has involved commissioning updated technical investigations, discussions with St Albans Council, and holding two public exhibitions. However, submission of the application has been delayed pending the resolution of highways / access issues, negotiations over the content of the related S106 agreement, and more recently by issues relating to the sink hole which opening up near the site, including the need for further technical investigations.

5.0 ASSESSMENT OF POTENTIAL FOR NEW PRIMARY SCHOOL

Site

5.1 The site has an area of 2.63ha, which is significantly more than the minimum 0.7ha size sought for a new 2fE primary school by this study to identify potential new primary school sites (excluding playing field). It would also be significantly larger than the minimum 1.99ha site required by BB103 for a new 2FE primary school (including 60 place nursery and playing field) on an

unrestrained site in a non-urban area. However, the area available is likely to be reduced by about 25 to 30% as much of the site contains mature trees which are likely to need to be retained and it is crossed by Heathlands Drive which provides access to the adjoining Heathlands School, which would also need to be retained.

5.2 The northern part of the site slopes down in a number of steps and may need to be re-terraced to create a level area for a playing field.

5.3 Whilst the site is large enough to accommodate a BB103 2FE primary school on an unrestrained site in a non-urban area the presence of the mature trees and Heathlands Drive are likely to make it difficult to lay out a school on the site and it is likely that it will be necessary to adopt the minimum 0.7ha approach for a constrained site, although it may be able to accommodate a playing field rather than requiring a detached playing field.

Acquisition of additional land

5.4 The site is adjoined by the former playing field to the east (Site WNW11), which is also owned by the County Council, which could potentially enable the site to be enlarged, but this may not be necessary.

Maximum height of development

5.5 Bearing in mind the location a single or two storey building would be appropriate. There may even be scope for a three storey building if necessary, on the southern part of the site bearing in mind the planning brief, which accepts three storey development on the southern part of the site.

Location relative to area of need

5.6 The site is located in the Wider Search Area approximately 400m north of the Core Search Area which is the optimum location for a new primary school, and so is a sub-optimal location. However, it is located approximately 700m north of the City Centre and so may help meet needs within the Core Search Area.

Other considerations

5.7 The site is currently partly unused, is not located in the Green Belt, and would not result in the loss of an open space and so on face value would seem to be a relatively good site. However, the site has the benefit of a resolution to grant planning permission for its redevelopment and is subject to current development proposals being progressed by the County Council. It is also subject to ongoing site investigations to establish whether there are ground stability issues on the site, which may affect its development.

5.8 The site currently contains a number of youth and community uses, including the Pioneer Club (youth club / youth centre, including indoor and outdoor skate parks), St Albans Judo Club, and Youth Connexions (County Council's services for young people), which have outdated buildings which are in need of replacement. It also contains St Albans Ambulance Station.

5.9 The re-development proposals being progressed by the County Council are required to fund the provision of new premises and facilities for the youth and community uses and to relocate the ambulance station (as well as provide

'replacement' funding for the fire station which was relocated a number of years ago). If the site were to be used for a new school the development could not take place and so the funding would not be available to fund the provision of new facilities for the youth and community uses and so the existing facilities would need to remain and so the site would not be available for a new school.

Development principles

5.10 The Development Principles drawing illustrates how a 2FE primary school could be accommodated on the site. This is based on a new primary school (including nursery) on an unrestrained site (1.99ha) in a non-urban area, and would be a single storey building, rather than a two storey school on a constrained urban site (0.7ha), with a detached playing field, as this would be likely to be able to be accommodated on site.

5.11 The plan retains the existing access to Heathlands School, although this would split the school site into two halves, which isn't ideal – the southern half where the school could be located, and the northern part, which may be able to accommodate a 'detached' playing field (subject to detailed design, in particular relationship to trees, and levels). The southern part of the site would also be unlikely to have sufficient room for a hard play area unless the school building were to be a two storey building or the car parking were to be provided on the northern part of the site. Alternatively the playing field and hard play area could possibly be located on the former playing field (Site 3 WNW11).

6.0 SUMMARY AND CONCLUSIONS

6.1 The main planning and environmental constraints and considerations which would affect the potential use of the site for a new primary school are:

- Existing youth and community uses on the site and the current proposals to provide replacement facilities by redeveloping the site (Note: these uses would either need to be retained or re-provided on site)
- Relationship to Bernard's Heath (County Wildlife Site / Registered Common / Access Land / Mature trees)
- Existing trees on the site, which are likely to need to be retained
- Potential ground stability issues (subject to ongoing site investigations)

6.2 The site is of sufficient size to accommodate a new primary school based on either the minimum for a constrained site (0.7ha) or for an unconstrained site (1.99ha), although it will be likely to be more difficult to accommodate a school based on an unconstrained site due to the existing trees and the road (Heathlands Drive) which crosses the site.

6.3 It is located outside the optimum location for a new school, but may help to meet needs within the Core Area, being located in the Wider Search Area. It is also owned by the County Council, which is an advantage.

6.4 In addition to the constraints and considerations above there are a number of other physical and site constraints and considerations which would affect the potential use of the site for a new primary school:

- Need to retain access to Heathlands School

- Topography – sloping nature of part of the site

6.5 The topography means that the northern part of the site may need to be re-terraced to create a level area suitable for a playing field / playing surface.

6.6 Proposals for a new school would need to avoid the existing trees, which would need to be retained, and retain the existing access to Heathlands School.

6.7 The high level transportation and accessibility appraisal advises that overall, the site offers a fairly straight forward opportunity to locate a 2FE primary school with reasonably good accessibility to the north of St Albans City Centre. On the basis of the existing traffic flows on the A1081 and the low expected level of school vehicular traffic, given the site's central location, the existing access should be able to adequately deal with this possible use. Further analysis will be needed to confirm this and test the local network, but it is considered that the site is sufficiently suitable to warrant this further study.

6.8 A subsequent technical note looked in more detail at the suitability of the Heathlands Drive / Harpenden Road junction and found that it should be able to cope with the predicted traffic, based on a number of assumptions.

6.9 Most of the necessary studies and technical investigations have already been undertaken for the site in connection with the current redevelopment proposals but they may need to be modified to reflect proposals for a school rather than residential / youth and community use / open space, were they to be progressed for this site, in particular the following:

- Transport assessment and a site access arrangements
- Geophysical / geotechnical studies
- Utilities assessment

6.10 The overall conclusion is that although the site is relatively unconstrained, it is owned by the County Council, and could help meet needs in the Core Area, it is in a sub-optimum location. But the main issue is that the site it is not available for use for a new school. The existing youth and community uses would either need to be retained on site, if the site is not to be redeveloped, or they would need to be re-provided on site, or relocation off site, which would need to be funded by the redevelopment of the site. In either case the site would not be available for use for a new school.

6.11 Also, further geophysical / geotechnical studies are currently investigating ground conditions to see whether there are ground stability issues which would need to be addressed by development proposals for the site and may affect the disposition of development on the site.

6.12 Ground condition issues were previously identified as a matter which meant that there was significant uncertainty about whether the site would be able to accommodate a new school or whether the cost of provision on site would be prohibitive. However, further investigations for the adjoining former playing field site suggest that this issue is likely to be able to be addressed and would not prevent the site being able to accommodate a new primary school.

APPENDIX

St Albans Primary School Site Search

High Level Accessibility Appraisal for Sites at Former Ariston Works

This high level access appraisal is to consider the suitability of access for a new 2 Form of Entry (2FE) primary school on the location of the former Ariston Works site in St Albans. It is to be read in conjunction with Drawing ST-2479-05, attached to the end of this document and refers to site references WNW10 and WNW11.

There are two sites to be considered, WNW10 the former fire station and existing community use buildings on the west of Heathlands School (herein referred to as the west site) and WNW11 the playing field to the south of Heathlands School (herein referred to as the east site). The Client has advised that both sites would take their access from Heathlands Drive to the west, so therefore will be considered in one access appraisal and generally as one site, except where the potential sites have significantly different requirements.

The west site was subject to an assessment of access suitability for residential use in 2015 by Wormald Burrows Partnership Limited (WBPL). This study considered serving the site through Heathlands Drive onto the A1081 Harpenden Road, with access maintained through the site to Heathlands School for Deaf Children. The Transport Statement (TS) considered the redevelopment of the former fire station to 48 residential units, along with the replacement of the youth and community facilities on site. This TS concluded that the site could be suitably served from the A1081 Harpenden Road with some minor improvements to visibility splays.

Two options have been considered at this stage for the purposes of this high level transport assessment:

1. A new primary school on west site replacing all existing development, with the east site left as open space.

2. A new primary school on the east site with the residential and community use development on the west site, as considered by the WBPL TS and summarised above.

Access would be maintained to Heathlands School with both options.

1. Site Background

1.1 Location

The site is situated in the northern part of St Albans, adjacent to the Heathlands School. It is surrounded by residential areas to the north and east and woodland to the west and south. The site is currently served by Heathlands Drive, which connects the A1081 at its western end with Heathlands School to the east.

1.2 Local Road Network

Heathlands Drive is an approximately 5.5m wide access road which connects to the A1081 Harpenden Road by a simple T-junction. The A1081 is a Main Distributor Road which connects the

north of St Albans with the A414 North Orbital Road at the London Colney Roundabout, passing through St Albans City Centre. In the vicinity of the site the A1081 is approximately 7.3m wide.

The playing field site is also adjacent to Bridle Close, an approximately 5.5m wide residential road to the east. Bridle Close is accessed from Fontmell Close, another residential access which is also about 5.5m wide.

All the roads in the vicinity of the site are within a 30mph speed limit zone.

1.3 Existing Access

Vehicular and pedestrian access to the site is currently via Heathlands Drive to the west of the site, which serves the existing St Albans Ambulance Station, Heathlands School and a Judo Club.

1.4 Existing Conditions

Observations of transport conditions in the vicinity of the site were made in the AM peak period of 19th January 2016 between 8am and 9am. The weather was cold and generally dry. Traffic was seen to be generally light in the vicinity of the site, with the only congestion observed at the signal controlled junction with Batchwood Drive 400m to the north.

No parking was observed on the western part of Heathlands Drive nor on the A1081 at the time of the site visit. Some parking was observed within the site itself, in connection with its existing school and community uses.

1.5 Existing Pedestrian/Cycle Provision

Heathlands Drive has an approximately 2m wide footway on its southern side with concrete bollards and a 1.8m wide footway on the northern side. The western and eastern footways on the A1081 Harpenden Road are approximately 2.5m and 1.8m wide respectively. A relatively new traffic signal controlled pedestrian crossing is located approximately 100m south of Heathlands Drive.

Bridle Close and Fontmell Close have approximately 1.8m wide footways on either side.

National Cycle Route 6 passes about 100m to the west of the junction of Heathlands Drive and the A1081 Harpenden Road. This provides a north south route from the north of England to Uxbridge through St Albans and provides connections to Harpenden to the north and Watford and the Route 61, The Albans Way, to Hatfield to the south; passing through the centre of St Albans.

The new St Albans Green Ring walking and cycling route passes along the A1081 Harpenden Road adjacent to the site before continuing to Batchwood Drive to the north west and crossing Sandridge Road to the south east.

1.6 Public Transport

There are bus stops along the A1081 Harpenden Road on either side, approximately 160m to the south. Route 321, operated by Arriva, connects Luton and Watford via Harpenden and St Albans, passing the site three times per hour. Route 714 connects New Barnet with Luton, via St Albans and

Harpenden, passing the site between every one or two hours. Routes 84A and 361 also provide a limited number of school services past the site connecting to Sandridge, Tyttenhanger and the Garston area of Watford.

The nearest major railway station is St Albans City, approximately 1.4 kilometres to the south east of the site, which has regular connections with Harpenden, Luton, London and further afield. St Albans Abbey, an unmanned stop approximately 2.0 kilometres to the south west of the site, has connections with Watford Junction approximately every 45 minutes.

2. Access Considerations

2.1 Network Capacity

Traffic in the vicinity of the site appeared to be moderately light for a Main Distributor Road. Modelling would be required to ensure that the surrounding network has sufficient capacity for the additional vehicles associated with a new school. However, it is considered that the junction from the A1081 is unlikely to be able to cope with school on the east site and the other development on the west site. Detailed analysis will be required to confirm the capacity of the junction. The land adjacent to the A1081 Harpenden Road is understood to be Common Land. This is likely to prohibit any widening in the vicinity of the site, and therefore, it is unlikely the junction can be improved.

Parking restrictions may be required to prevent congestion caused by drop offs/pick ups on the A1081 Harpenden Road in the vicinity of the junction with Heathlands Drive.

2.2 General Improvements

Vehicular access to the site would use the existing concrete access road to the former fire station and Heathlands School. It is recommended that the improvements identified by WBPL for Heathlands Drive in terms of improving the visibility splays onto the A1081 for potential residential development are implemented in advance of construction of a new primary school.

Heathlands Drive was observed to be in poor condition in places when visiting the site. It is recommended that this be rectified as part of the access improvement works.

Considering that Heathlands Drive runs through an area of woodland in the vicinity of the site, it is possible that additional street lights would be required to encourage pupils to walk to the school. There is also a need to provide suitable crossing facilities over Heathlands Drive itself.

WBPL proposed the introduction of a new foot/cycleway to the north of Heathlands Drive. It is recommended that this is also incorporated into the improvements to access, but given the use as a primary school, a wider shared use foot/cycleway, protected from the access by guard railing may be more appropriate than the segregated shared use facility WBPL identified for possible residential development.

2.3 Proposed Access

There is likely to be only one suitable vehicular access option, particularly to the west site and this is to provide access through Heathlands Drive onto the A1081 Harpenden Road as happens at present. Pupils could travel from all directions, but will all reach the school site from the A1081. As the site lies north of the expected catchment, it is likely the majority of pupils will come from the south.

Pedestrians would travel to the Heathlands Drive entrance to the school along the A1081 Harpenden Road. The existing controlled pedestrian crossing south of Heathlands Drive would appear to be the most appropriate place for pupils to cross the A1081.

Access to the eastern site will be taken through the western site, with vehicles and pedestrians arriving from the A1081 Harpenden Road and Heathlands Drive.

If Bridle Close was to be used as a vehicular access it would require extensive parking restrictions to keep it clear for two way school traffic. This is something which would adversely affect local residents. As there is a potential access that does not have this problem and already serves the site, the Bridle Close option has not been taken forward for further consideration.

Analysis by others currently suggests that the majority of pupils will arrive at the site from the south. However, if a change in catchment means that a significant proportion of pupils will arrive from the east, it would be worth considering a new pedestrian access from Bridle Close. If this is taken forwards, some localised parking restrictions may be required to discourage parents from using this area for drop offs and pick ups.

2.4 Park and Stride

The Ancient Briton Harvester public house is located 200m to the north of the site with a large car park within walking distance of the site. Depending upon the origin of pupils, and vehicle desire lines, this could provide a suitable location for a park and stride facility, subject to agreement with the landowners.

3. Conclusion

The former Ariston site is well located in a residential area to serve a wide catchment. It is expected that most pupils will travel from the main area of need to the south. Existing levels of traffic in the vicinity of the site were observed to be reasonably low, so the access should be able to cater for the levels of traffic expected with a 2FE primary school, in addition to traffic already on Heathlands Drive from Heathlands School and the existing community use of a Judo Club and Youth Centre. However, modelling would be required to simulate the impact of school traffic on the local network and confirm this.

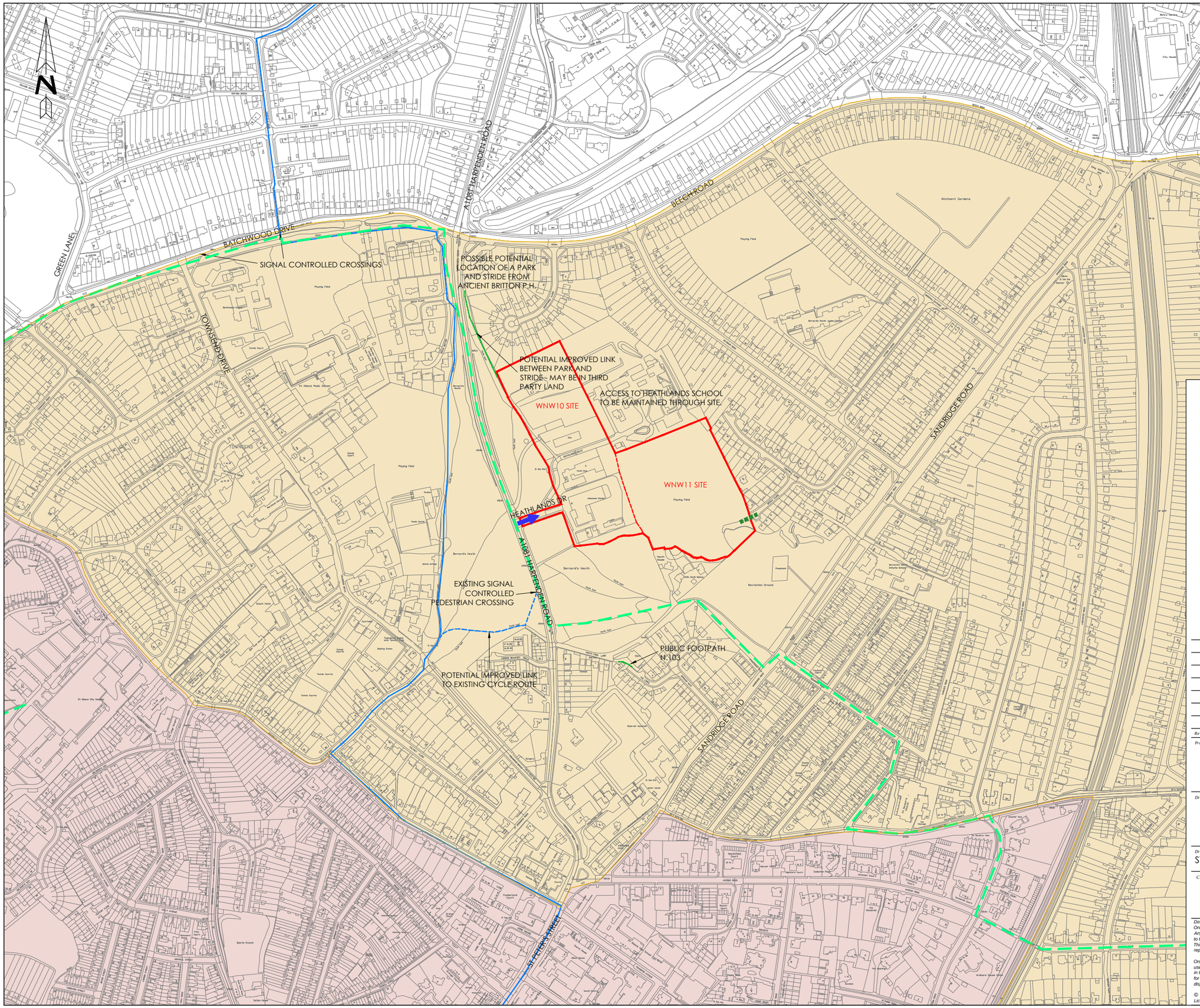
It is considered that fairly minimal works are likely to be required if the western site (WNW10) is redeveloped with the eastern site (WNW11) left as open space. Works are likely to include remediation of the concrete access road and installation of a new foot/cycleway to the north of the access. Additionally, there are likely to be some waiting restrictions required on the main access routes and, possibly also installation of new street lights on Heathlands Drive.

Development of the eastern site is likely to require more extensive works as a result of sharing the access with a new residential development on the western site. It is considered that the junction from the A1081 is unlikely to be able to cope with school on the east site and the other development on the west site. Detailed analysis would be required to confirm junction capacity. The land adjacent to the A1081 Harpenden Road is understood to be Common Land. This is likely to prohibit any widening in the vicinity of the site, and therefore, it is unlikely the junction can be improved.

The local public transport provision and cycle network are reasonable, providing options for staff as well as accompanied pupils to use these sustainable travel modes.

Given the very limited opportunities for parking around the site, on site provision for parents as well as staff vehicles will be required. There is potential for a park and stride scheme with the Ancient Briton public house to be used if the necessary agreement is obtained.

Overall, the western site offers a fairly straight forward opportunity to locate a 2FE primary school with reasonably good accessibility to the north of St Albans City Centre. On the basis of the existing traffic flows on the A1081 and the low expected level of school vehicular traffic, given the site's central location, it appears that the access should be able to adequately deal with this possible use. Further analysis will be needed to confirm this and test the local network, but it is considered that the site is sufficiently suitable to warrant this further study.



KEY

- SITE BOUNDARY
- FOOTPATH
- CYCLEWAY
- ST ALBANS GREEN RING
- POTENTIAL ACCESS LOCATION (VEHICLE AND PEDESTRIAN)
- POTENTIAL PEDESTRIAN ONLY ACCESS
- CORE STUDY AREA
- OUTER STUDY AREA

Rev	Description	Date	Drawn	Checked

Project

St Albans Primary School Search

Drawing Description

High Level Site Access Appraisal. Site WNW10-11

Drawing Number	Scale	Date	Drawn by	Checked by
ST-2479-05	1:5000@A3	15.02.16	SIV	NJM

Client

Architect

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St Albans Primary School Site Search

Technical Note on Heathlands Drive / A1081 Harpenden Road Junction Modelling

Prepared 7th September 2016

Scope

Stomor has been commissioned by Vincent and Gorbing on behalf of Hertfordshire County Council (HCC) to prepare a short technical note to consider the suitability of Heathlands Drive and its junction with the A1081 Harpenden Road to serve a development consisting of:-

- A new 2FE primary school
- 48 new residential units
- A replacement youth and community building
- Maintaining access to Heathlands – A Special School for Deaf Children

Using data from the Wormald Burrows Partnership Ltd (WBPL) Transport Statement report reference E3053-pc-hla-tsreport0912-rev 1 dated August 2015, Stomor have added a 2FE primary school to the junction arrangement set out in this report and shown on WBPL Drawing E3053/21/H. This WBPL plan is provided in **Appendix A**.

The land adjacent to the A1081 Harpenden Road is understood to be Common Land. This is likely to prohibit any widening in the vicinity of the site, and therefore, it is unlikely the junction can be improved beyond that proposed in WBPL Drawing E3053/21/H.

Junctions 9 (J9) software was used to analyse the operation of the junction in the future assessment year of 2025 when it is assumed that the school will be operating with pupils in each year group.

Assumptions:

Geometry

- Geometry of junction modelled, obtained from WBPL Drawing E3053/21/H:
    - A1081 Harpenden Road
        - 6.3m wide
        - 90m forward visibility
        - no right turn lane, so blocking would occur
    - Heathlands Drive,
        - 3.55m wide approach on average
        - 10m back
            - 26m vision to left
            - 21m vision to right

Traffic Counts

- Traffic count data was taken from the WBPL report – counts undertaken on Tuesday 10th July 2012 *(traffic may be lighter due to some older school children being on exam leave)*
    - The raw traffic count data provided in **Appendix B**.
- Existing traffic used to consider Heathlands and community uses of site
- Traffic projected from 2012 to 2025 using TEMPro 7 for car drivers using the Origin-Destination average rates for St Albans Area 010
    - AM Peak Growth 3.575%
    - Interpeak (for School PM) Growth 4.025%
    - PM Peak Growth 2.085%
- Residential TRICS rates from WBPL report used in AM and PM evening peaks, with School PM peak assumed based on Foster Street, Harlow rates, scaled up to be proportional to WBPL peak rates

	Arrivals	**Departures**	**Total**
AM	0.203	0.543	0.746
School PM	0.360	0.240	0.600
PM	0.510	0.314	0.824

- Number of Pupils:
    - 2FE - 7 classes of 60 pupils = 420 Pupils
    - Plus two nursery classes = 60 pupils
    - 480 Pupils overall
- 30% of Pupils will come by car = 144 pupils by car, based on other HCC Schools
- Share rate of cars is 1.4 = 103 cars overall, based on other HCC Schools
- For modelling purposes, assume a start time of 08:45 hours and a departure time of 15:15 hours
- Distribution of Pupils:
    - AM Peak: 100% of cars arrive from the south, as advised by HCC Client
    - AM Peak: 75% of these cars depart south, 25% of these cars depart north
    - Sch PM Peak: 75% of parents arrive from the south, 25% of parents arrive from the north
    - Sch PM Peak: 100% depart to the south, as advised by HCC Client
    - See Vincent and Gorbing Plan 5115-001 in **Appendix C** showing 'Core Search Area' where pupils are expected to originate.
- Assume that pupils will arrive/depart in the AM Peak in the same profile (shown in italics) as at observed previously at the Giles Schools in Stevenage:

	Arriving	No.	**Departing**	No.	North	South
Pre 0800	*4%*	4	-	-	-	-
0800-0815	*9%*	9	-	-	-	-
0815-0830	*33%*	34	*18%*	19	5	14
0830-0845	*51%*	53	*38%*	39	10	29
0845-0900	*3%*	3	*35%*	36	9	27
Post 0900	-	-	*9%*	9	2	7
Totals	**100**	103	**100**	103	26	77

- Assume the following distribution of pupils in school PM peak, based upon previous observations at the Giles Schools in Stevenage:

	Arriving	No.	North	South	**Departing**	No.
Pre 1500	*55%*	57	14	43	-	-
1500-1515	*41%*	42	10	32	-	-
1515-1530	-	-	-	-	*96%*	98
1530-1545	*4%*	5	1	4	-	-
1545-1600	-	-	-	-	*4%*	5
Post 1600	-	-	-	-	-	-
Totals	**100**	103	25	79	**100**	103

- Number of Staff:
  - 14 classes plus a 60 place nursery and head teacher gives 17 spaces for full-time members of staff
  - 1 space for every 100 pupils gives 5 more spaces
  - 1 space per 20 pupils gives 24 more spaces
  - Overall 46 car spaces
  - Assume all members of staff drive
- Assume that staff arrive and leave at different times:
  - 70% arrive between 8-9 AM, giving 32 arrivals; no departures
  - 40% depart between 3-4 PM, giving 18 departures; no arrivals
  - 25% depart between 5-6 PM, giving 12 departures; no arrivals
- Distribution of Staff:
  - AM: 75% arrive from the south, 25% from the north
  - PM: 75% depart south, 25% depart north
- Assume no community use of school, and community use of other facilities is equal to or less than existing
  - The traffic count data provided in **Appendix D**.
- Assume the pedestrian/cycle crossing to the south of the junction of A1081 Harpenden Road / Heathlands Drive does not influence traffic flows significantly enough to affect the operation of the junction

Results

AM Peak Year 2025 Traffic with Predicted Development plus Predicted School Traffic

	Queue (Veh)	Delay (s)	RFC
Heathlands Drive	0.9	16.44	0.49
A1081 Northbound	1.2	15.50	0.55

The junction appears to operate within its capacity in the AM peak period, with a maximum queue of about one vehicle expected on the northbound arm of the A1081. Both Ratios of Flow to Capacity (RFC) are under the 0.85 value usually used as the highest level a new junction should be designed to operate to.

School PM Peak Year 2025 Traffic with Predicted Development plus Predicted School Traffic

	Queue (Veh)	Delay (s)	RFC
Heathlands Drive	4.0	29.55	0.83
A1081 Northbound	1.5	17.32	0.61

The junction appears to operate within its capacity in the School PM peak period, with a maximum queue of approximately four vehicles expected on Heathlands Drive. Both RFCs are under the 0.85 value, but the Heathlands Drive arm is close to it.

School PM Peak Sensitivity Test

Given how close the operation is to an RFC of 0.85 in the school PM peak hour, a sensitivity test was undertaken to see the effect on the junction of 5% of parent traffic turning right, north, out of Heathlands Drive rather than all 100% turning to the left to the south. This would reflect a small number of parents (5 in this case) linking trips and visiting other destinations accessed by the A1081 north, before returning home. The results are as follows:

	Queue (Veh)	Delay (s)	RFC
Heathlands Drive	4.5	32.41	0.85
A1081 Northbound	1.5	17.32	0.61

The junction appears to operate just within its capacity in the School PM peak period, with a maximum queue of approximately five vehicles expected on Heathlands Drive. The RFC on Heathlands Drive is at the 0.85 value, so it is considered the junction would be operating at or around the maximum desirable capacity at the time parents leave the school.

Evening PM Peak Year 2025 Traffic with Predicted Development plus Predicted School Traffic

	Queue (Veh)	Delay (s)	RFC
Heathlands Drive	0.1	8.79	0.12
A1081 Northbound	0.1	7.19	0.06

The junction appears to operate well within its capacity in the evening PM peak period, with no real queuing expected. Both RFCs are well under the assessment 0.85 value.

Junction modelling results are provided in **Appendix E**.

Discussion

Based on the assumptions above, the J9 modelling indicates that the junction should be able to just cope with the predicted traffic associated with:-

- A new 2FE primary school
- 48 new residential units
- A replacement youth and community building
- Maintaining access to Heathlands – A Special School for Deaf Children

Most of the school generated traffic is expected to be concentrated over a short period of time at either ends of the school day, so this is when the junction is likely to experience the most delay. However modelling suggests that this should not be too significant. The operation of the junction becomes more sensitive to additional traffic the closer it is to its capacity, so a fairly modest increase in traffic may cause a noticeable change in the junction's operation. The assumptions above consider that the majority of pupils would walk to school, so measures would need to be implemented to encourage this. The assumptions also consider that all pupils originate from the south as advised by HCC; if more were expected to come from the north, the modelling may indicate a different result.

EXISTING SIGN DIAGRAM 562 AND DIAGRAM 563.1: 'Fire Station STOP when lights show' SIGN TO BE REPLACED WITH:

PROPOSED SIGN DIAGRAM 506.1 ILLUMINATED

PRUNE TREES ONLY WHERE NECESSARY AT LOWER LEVELS TO PROVIDE SUFFICIENT LIGHT TO THE CARRIAGEWAY TO ENSURE VISIBILITY SPLAYS

ST ALBANS DISTRICT COUNCIL ARE ABLE TO ARRANGE ON-GOING MAINTENANCE OF THE TREES

ROAD CENTRELINE RE-ALIGNED TO THE WEST BY 0.78 METERS, WITH CARRIAGEWAY REDUCED TO 6.3 METERS AT THE JUNCTION AND FOOTWAY WIDTH REDUCED TO 2 METERS ONLY AT THE JUNCTION, TO ACHIEVE FULL 4.5m x 43m VISIBILITY SPLAYS FROM HEATHLANDS DRIVE.

LAMP COLUMN TO BE RELOCATED AS A PART OF THE STREET LIGHTING DESIGN TO PROVIDE A FOOTWAY WIDTH OF NO LESS THAN 2 METERS AT ANY POINT

Coordinate Table

Station	Desc.	Eastings	Northings	Height
A	HILTI	500.000	1000.000	118.794
B	HILTI	548.734	1010.614	119.186
STN2	NAIL	582.433	1026.660	119.461
STN3	HILTI	656.788	1022.128	120.447
STN4	NAIL	560.075	973.873	119.560
STN5	HILTI	653.104	965.053	119.866
STN7	NAIL	618.907	973.414	119.459
STN8	NAIL	594.856	966.073	120.136

Key

- Existing carriageway
- Grass/Verge
- Footway
- Cycleway

NOTE:

THE ROAD SIGNS AND MARKINGS SHOWN ARE INDICATIVE AND NOT NECESSARILY COMPLETE. THEY WILL BE REVIEWED AS NECESSARY AT THE DETAILED DESIGN TO CONSTRUCTION STAGE.

Rev	Description	Date	Drawn By	Checked By
H	Existing bus stop on Harpenden Road included.	17.03.15	ACC	ACC
G	Channel markings added after Opus Review	24.11.14	AJR	ACC
F	Amendments after second Stage 1 Road Safety Audit comments.	23.10.14	DTK	ACC
E	Layout amended for revised visibility splay.	19.08.14	DTK	ACC
D	Notes added.	09.07.14	DTK	ACC
C	Footway and cycleway added to Heathland Drive	07.07.14	DTK	ACC
B	Amended to address further Stage 1 Road Safety Audit comments.	12:06:14	DTK	ACC
A	Amended to address Stage 1 Road Safety Audit comments.	22:05:14	DTK	ACC

Written dimensions to be taken

Any discrepancies, written or scaled, should be brought to the attention of the engineer immediately

This drawing is to be read in conjunction with the relevant Bills of Quantities and the Local Authority Specification.

All relevant information identifying the unavoidable risks has been passed to the planning supervisor for inclusion in the Health and Safety plan

Wormald Burrows Partnership Limited
Civil Engineering Consultants
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Web: www.wormburp.com
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Project:
Former Ariston Works Site
Harpenden Road, St Albans

Drawing Description:
Means of Access
Priority Junction

Client:
Hertfordshire County Council
Hertfordshire Property

Drawing Number:
E3053/21/H

Scale: 1:500 @ A1

Drawn By: DTK
Date: 08.04.2014

Checked By: ACC
Date: 08.04.2014

afaq ISO 9001 Quality — UKAS MANAGEMENT SYSTEMS 022 — Certified by Afnor UK

0 10m 20m 30m 40m

Scale 1:500

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	LEFT TO HEATHLANDS DR							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	0	0	0	0	0	0	0	0
0705 - 0710	0	0	1	0	0	0	0	1
0710 - 0715	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0715 - 0720	0	0	1	0	0	0	0	1
0720 - 0725	0	0	0	0	0	0	0	0
0725 - 0730	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
0730 - 0735	0	0	1	0	0	0	0	1
0735 - 0740	0	0	1	0	0	0	0	1
0740 - 0745	0	0	0	1	0	0	0	1
15-MINS	0	0	2	1	0	0	0	3
0745 - 0750	0	0	0	0	0	0	0	0
0750 - 0755	0	0	2	0	0	0	0	2
0755 - 0800	0	0	2	0	0	0	0	2
15-MINS	0	0	4	0	0	0	0	4
Hourly Total	0	0	9	1	0	0	0	10

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	0	0	0	0	0	0	0	0
0805 - 0810	0	0	2	0	0	0	0	2
0810 - 0815	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
0815 - 0820	0	0	3	0	0	0	0	3
0820 - 0825	0	0	1	0	0	0	0	1
0825 - 0830	0	0	0	0	0	0	0	0
15-MINS	0	0	4	0	0	0	0	4
0830 - 0835	0	0	2	0	0	0	0	2
0835 - 0840	0	0	1	0	0	0	0	1
0840 - 0845	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
0845 - 0850	0	0	0	0	0	0	0	0
0850 - 0855	0	0	1	0	0	0	0	1
0855 - 0900	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	12	0	0	0	0	12

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	0	0	0	0	0	0	0	0
0905 - 0910	0	0	0	0	0	0	0	0
0910 - 0915	0	0	0	1	0	0	0	1
15-MINS	0	0	0	1	0	0	0	1
0915 - 0920	0	0	2	0	0	0	0	2
0920 - 0925	0	0	0	0	0	0	0	0
0925 - 0930	0	0	1	0	0	0	0	1
15-MINS	0	0	3	0	0	0	0	3
0930 - 0935	0	0	1	0	0	0	0	1
0935 - 0940	0	0	0	0	0	0	0	0
0940 - 0945	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0945 - 0950	0	0	0	0	0	0	0	0
0950 - 0955	0	0	0	0	0	0	0	0
0955 - 1000	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
Hourly Total	0	0	4	1	0	0	0	5

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	0	0	1	0	0	0	0	1
1005 - 1010	0	0	0	0	0	0	0	0
1010 - 1015	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
1015 - 1020	0	0	1	0	0	0	0	1
1020 - 1025	0	0	1	0	0	0	0	1
1025 - 1030	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1030 - 1035	0	0	0	0	0	0	0	0
1035 - 1040	0	0	0	0	0	0	0	0
1040 - 1045	0	0	0	0	0	0	1	1
15-MINS	0	0	0	0	0	0	1	1
1045 - 1050	0	0	0	0	0	0	0	0
1050 - 1055	0	0	1	0	0	0	0	1
1055 - 1100	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
Hourly Total	0	0	5	0	0	0	1	6

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	0	0	0	0	0	0	0	0
1105 - 1110	0	0	0	0	0	0	0	0
1110 - 1115	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1115 - 1120	0	0	0	0	0	0	0	0
1120 - 1125	0	0	0	0	0	0	0	0
1125 - 1130	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1130 - 1135	0	0	0	1	0	0	0	1
1135 - 1140	0	0	0	0	0	0	0	0
1140 - 1145	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
1145 - 1150	0	0	0	0	0	0	0	0
1150 - 1155	0	0	1	0	0	0	0	1
1155 - 1200	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
Hourly Total	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	0	0	0	1	0	0	0	1
1205 - 1210	0	0	0	0	0	0	0	0
1210 - 1215	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
1215 - 1220	0	0	0	0	0	0	0	0
1220 - 1225	0	0	0	1	0	0	0	1
1225 - 1230	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
1230 - 1235	0	0	0	0	0	0	0	0
1235 - 1240	0	0	1	0	0	0	0	1
1240 - 1245	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1245 - 1250	0	1	0	0	0	0	0	1
1250 - 1255	0	0	1	0	0	0	0	1
1255 - 1300	0	0	0	0	0	0	0	0
15-MINS	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**
Hourly Total	**0**	**1**	**2**	**2**	**0**	**0**	**0**	**5**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	0	1	0	0	0	0	1
1305 - 1310	0	0	0	0	0	0	0	0
1310 - 1315	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1315 - 1320	0	0	1	0	0	0	0	1
1320 - 1325	0	0	0	0	0	0	0	0
1325 - 1330	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1330 - 1335	0	0	0	0	0	0	0	0
1335 - 1340	0	0	0	0	0	0	0	0
1340 - 1345	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1345 - 1350	0	0	0	0	0	0	0	0
1350 - 1355	0	0	1	0	0	0	0	1
1355 - 1400	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
Hourly Total	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**4**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	0	0	0	0	0	0
1405 - 1410	0	0	0	0	0	0	0	0
1410 - 1415	0	0	0	0	0	0	1	1
15-MINS	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
1415 - 1420	0	0	0	0	0	0	0	0
1420 - 1425	0	0	0	0	0	0	0	0
1425 - 1430	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1430 - 1435	0	0	0	0	0	0	0	0
1435 - 1440	0	0	0	1	0	0	0	1
1440 - 1445	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
1445 - 1450	0	0	0	0	0	0	0	0
1450 - 1455	0	0	0	0	0	0	0	0
1455 - 1500	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hourly Total	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**3**

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	0	0	0	0	0	0	0	0
1505 - 1510	0	0	2	0	0	0	0	2
1510 - 1515	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1515 - 1520	0	0	1	0	0	0	0	1
1520 - 1525	0	0	2	0	0	0	0	2
1525 - 1530	0	0	1	1	0	0	0	2
15-MINS	0	0	4	1	0	0	0	5
1530 - 1535	0	0	0	0	0	0	0	0
1535 - 1540	0	0	0	0	0	0	0	0
1540 - 1545	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1545 - 1550	0	0	2	0	0	0	0	2
1550 - 1555	0	0	0	0	0	0	0	0
1555 - 1600	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	8	1	0	0	0	9

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	0	0	0	0	0	0	0	0
1605 - 1610	0	0	1	0	0	0	0	1
1610 - 1615	0	0	1	1	0	0	0	2
15-MINS	0	0	2	1	0	0	0	3
1615 - 1620	0	0	1	0	0	0	0	1
1620 - 1625	0	0	0	0	0	0	0	0
1625 - 1630	0	0	2	0	0	0	0	2
15-MINS	0	0	3	0	0	0	0	3
1630 - 1635	0	0	2	0	0	0	0	2
1635 - 1640	0	0	0	0	0	0	0	0
1640 - 1645	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1645 - 1650	0	0	1	0	0	0	0	1
1650 - 1655	0	0	1	0	0	0	0	1
1655 - 1700	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	9	1	0	0	0	10

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	0	0	0	0	0	0	0
1705 - 1710	0	0	1	0	0	0	0	1
1710 - 1715	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1715 - 1720	0	0	0	0	0	0	0	0
1720 - 1725	0	0	2	0	0	0	0	2
1725 - 1730	0	0	1	0	0	0	0	1
15-MINS	0	0	3	0	0	0	0	3
1730 - 1735	0	0	1	0	0	0	0	1
1735 - 1740	0	0	2	0	0	0	0	2
1740 - 1745	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
1745 - 1750	0	0	1	0	0	0	0	1
1750 - 1755	0	0	0	0	0	0	0	0
1755 - 1800	0	0	3	0	0	0	0	3
15-MINS	0	0	4	0	0	0	0	4
Hourly Total	0	0	12	0	0	0	0	12

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	2	0	0	0	0	2
1805 - 1810	0	0	0	0	0	0	0	0
1810 - 1815	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1815 - 1820	0	0	1	0	0	0	0	1
1820 - 1825	0	0	3	0	0	0	0	3
1825 - 1830	0	0	4	0	0	0	0	4
15-MINS	0	0	8	0	0	0	0	8
1830 - 1835	0	0	2	0	0	0	0	2
1835 - 1840	0	0	4	0	0	0	0	4
1840 - 1845	0	0	1	0	0	0	0	1
15-MINS	0	0	7	0	0	0	0	7
1845 - 1850	0	0	2	0	0	0	0	2
1850 - 1855	0	0	0	0	0	0	0	0
1855 - 1900	0	0	2	0	0	0	0	2
15-MINS	0	0	4	0	0	0	0	4
Hourly Total	0	0	21	0	0	0	0	21
Session Total	0	1	88	8	0	0	2	99

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	AHEAD TO HARPENDEN RD SOUTH							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	2	0	17	6	0	1	0	26
0705 - 0710	1	0	22	6	0	0	1	30
0710 - 0715	0	0	15	4	1	0	0	20
15-MINS	3	0	54	16	1	1	1	76
0715 - 0720	1	0	29	6	0	0	0	36
0720 - 0725	1	0	26	5	0	0	0	32
0725 - 0730	0	0	35	7	0	0	0	42
15-MINS	2	0	90	18	0	0	0	110
0730 - 0735	1	0	29	4	0	0	0	34
0735 - 0740	1	0	40	5	0	0	1	47
0740 - 0745	2	0	36	0	0	0	0	38
15-MINS	4	0	105	9	0	0	1	119
0745 - 0750	2	0	38	2	0	0	0	42
0750 - 0755	5	0	46	3	0	0	0	54
0755 - 0800	2	2	25	5	0	0	1	35
15-MINS	9	2	109	10	0	0	1	131
Hourly Total	18	2	358	53	1	1	3	436

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	2	0	40	5	0	0	0	47
0805 - 0810	1	0	32	1	1	0	0	35
0810 - 0815	3	0	38	3	1	0	1	46
15-MINS	6	0	110	9	2	0	1	128
0815 - 0820	0	0	30	3	1	0	3	37
0820 - 0825	2	0	24	3	0	0	2	31
0825 - 0830	2	1	42	5	0	0	0	50
15-MINS	4	1	96	11	1	0	5	118
0830 - 0835	0	0	27	3	0	0	1	31
0835 - 0840	2	0	39	5	0	0	2	48
0840 - 0845	0	0	19	4	0	0	0	23
15-MINS	2	0	85	12	0	0	3	102
0845 - 0850	0	0	29	2	1	0	1	33
0850 - 0855	0	0	31	3	1	0	1	36
0855 - 0900	3	0	25	3	0	0	0	31
15-MINS	3	0	85	8	2	0	2	100
Hourly Total	15	1	376	40	5	0	11	448

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	1	0	39	3	0	0	0	43
0905 - 0910	2	0	18	2	0	0	0	22
0910 - 0915	0	0	48	3	0	0	1	52
15-MINS	3	0	105	8	0	0	1	117
0915 - 0920	0	0	17	1	0	0	0	18
0920 - 0925	2	0	16	1	0	0	0	19
0925 - 0930	0	0	24	7	1	0	0	32
15-MINS	2	0	57	9	1	0	0	69
0930 - 0935	0	1	16	4	0	0	0	21
0935 - 0940	0	1	31	2	0	0	0	34
0940 - 0945	1	0	24	1	0	0	0	26
15-MINS	1	2	71	7	0	0	0	81
0945 - 0950	1	0	26	0	0	0	0	27
0950 - 0955	2	1	33	1	2	0	0	39
0955 - 1000	0	0	28	4	0	0	0	32
15-MINS	3	1	87	5	2	0	0	98
Hourly Total	9	3	320	29	3	0	1	365

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	0	0	18	2	0	0	0	20
1005 - 1010	0	0	19	3	0	0	1	23
1010 - 1015	1	0	24	3	0	0	0	28
15-MINS	1	0	61	8	0	0	1	71
1015 - 1020	0	0	26	2	0	0	0	28
1020 - 1025	1	0	24	2	0	0	0	27
1025 - 1030	0	0	15	3	0	0	0	18
15-MINS	1	0	65	7	0	0	0	73
1030 - 1035	0	0	19	1	0	0	0	20
1035 - 1040	0	1	20	2	1	0	0	24
1040 - 1045	1	0	16	2	0	2	1	22
15-MINS	1	1	55	5	1	2	1	66
1045 - 1050	1	0	14	3	0	0	0	18
1050 - 1055	0	0	18	4	0	0	0	22
1055 - 1100	1	0	16	5	0	0	0	22
15-MINS	2	0	48	12	0	0	0	62
Hourly Total	5	1	229	32	1	2	2	272

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	1	0	15	1	0	0	0	17
1105 - 1110	1	0	15	2	0	0	0	18
1110 - 1115	0	0	22	3	1	0	1	27
15-MINS	**2**	**0**	**52**	**6**	**1**	**0**	**1**	**62**
1115 - 1120	1	0	25	6	1	0	0	33
1120 - 1125	0	0	20	9	0	0	0	29
1125 - 1130	1	0	29	5	0	0	0	35
15-MINS	**2**	**0**	**74**	**20**	**1**	**0**	**0**	**97**
1130 - 1135	0	0	20	2	0	0	0	22
1135 - 1140	0	0	16	3	0	0	0	19
1140 - 1145	0	0	23	1	1	0	2	27
15-MINS	**0**	**0**	**59**	**6**	**1**	**0**	**2**	**68**
1145 - 1150	0	0	23	1	1	0	0	25
1150 - 1155	0	0	20	3	2	0	0	25
1155 - 1200	0	0	27	1	1	0	0	29
15-MINS	**0**	**0**	**70**	**5**	**4**	**0**	**0**	**79**
Hourly Total	**4**	**0**	**255**	**37**	**7**	**0**	**3**	**306**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	0	0	11	2	0	1	0	14
1205 - 1210	0	1	13	3	0	0	0	17
1210 - 1215	0	0	26	4	0	0	1	31
15-MINS	**0**	**1**	**50**	**9**	**0**	**1**	**1**	**62**
1215 - 1220	0	0	26	3	2	0	0	31
1220 - 1225	0	0	20	1	0	0	0	21
1225 - 1230	0	0	15	2	0	0	0	17
15-MINS	**0**	**0**	**61**	**6**	**2**	**0**	**0**	**69**
1230 - 1235	0	0	29	3	0	0	0	32
1235 - 1240	0	0	25	1	0	0	1	27
1240 - 1245	1	0	20	1	0	0	1	23
15-MINS	**1**	**0**	**74**	**5**	**0**	**0**	**2**	**82**
1245 - 1250	0	0	24	4	1	0	0	29
1250 - 1255	0	0	18	0	1	0	0	19
1255 - 1300	0	0	22	3	0	0	0	25
15-MINS	**0**	**0**	**64**	**7**	**2**	**0**	**0**	**73**
Hourly Total	**1**	**1**	**249**	**27**	**4**	**1**	**3**	**286**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	0	23	1	1	0	0	25
1305 - 1310	0	0	21	2	2	0	1	26
1310 - 1315	1	0	22	1	0	0	0	24
15-MINS	**1**	**0**	**66**	**4**	**3**	**0**	**1**	**75**
1315 - 1320	0	0	30	5	0	0	0	35
1320 - 1325	0	0	16	0	0	0	0	16
1325 - 1330	0	0	23	4	0	0	0	27
15-MINS	**0**	**0**	**69**	**9**	**0**	**0**	**0**	**78**
1330 - 1335	0	0	16	2	0	0	0	18
1335 - 1340	1	0	15	2	1	0	1	20
1340 - 1345	0	0	18	3	1	0	0	22
15-MINS	**1**	**0**	**49**	**7**	**2**	**0**	**1**	**60**
1345 - 1350	0	0	22	2	1	0	0	25
1350 - 1355	0	0	17	1	0	0	0	18
1355 - 1400	0	0	22	2	0	0	0	24
15-MINS	**0**	**0**	**61**	**5**	**1**	**0**	**0**	**67**
Hourly Total	**2**	**0**	**245**	**25**	**6**	**0**	**2**	**280**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	21	0	0	0	0	21
1405 - 1410	0	0	13	2	1	0	1	17
1410 - 1415	0	1	31	4	0	0	0	36
15-MINS	**0**	**1**	**65**	**6**	**1**	**0**	**1**	**74**
1415 - 1420	0	1	24	5	0	0	1	31
1420 - 1425	0	0	21	6	0	0	0	27
1425 - 1430	0	0	25	2	0	0	0	27
15-MINS	**0**	**1**	**70**	**13**	**0**	**0**	**1**	**85**
1430 - 1435	0	0	26	5	0	0	0	31
1435 - 1440	0	0	20	3	1	0	0	24
1440 - 1445	0	0	24	6	0	0	0	30
15-MINS	**0**	**0**	**70**	**14**	**1**	**0**	**0**	**85**
1445 - 1450	0	0	18	3	0	0	0	21
1450 - 1455	0	0	21	1	0	1	0	23
1455 - 1500	0	0	24	1	1	0	0	26
15-MINS	**0**	**0**	**63**	**5**	**1**	**1**	**0**	**70**
Hourly Total	**0**	**2**	**268**	**38**	**3**	**1**	**2**	**314**

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	0	0	21	0	1	0	0	22
1505 - 1510	0	0	27	3	1	0	0	31
1510 - 1515	0	0	27	6	1	0	0	34
15-MINS	0	0	75	9	3	0	0	87
1515 - 1520	0	1	23	4	1	0	1	30
1520 - 1525	0	0	23	2	0	0	0	25
1525 - 1530	2	1	28	0	0	0	0	31
15-MINS	2	2	74	6	1	0	1	86
1530 - 1535	1	0	26	1	0	0	1	29
1535 - 1540	1	0	28	2	0	0	1	32
1540 - 1545	1	0	13	6	0	0	1	21
15-MINS	3	0	67	9	0	0	3	82
1545 - 1550	1	0	23	2	0	0	4	30
1550 - 1555	0	0	42	3	1	0	2	48
1555 - 1600	0	0	26	0	0	0	0	26
15-MINS	1	0	91	5	1	0	6	104
Hourly Total	6	2	307	29	5	0	10	359

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	0	0	29	4	0	0	0	33
1605 - 1610	0	0	21	1	0	0	0	22
1610 - 1615	0	0	28	4	0	0	0	32
15-MINS	0	0	78	9	0	0	0	87
1615 - 1620	0	0	36	1	0	0	0	37
1620 - 1625	0	0	22	5	0	0	0	27
1625 - 1630	1	0	21	1	0	0	0	23
15-MINS	1	0	79	7	0	0	0	87
1630 - 1635	0	0	19	0	0	0	0	19
1635 - 1640	0	0	20	0	1	0	0	21
1640 - 1645	0	0	16	2	0	0	0	18
15-MINS	0	0	55	2	1	0	0	58
1645 - 1650	0	0	11	1	0	0	0	12
1650 - 1655	0	0	26	2	0	0	1	29
1655 - 1700	0	0	27	3	0	0	0	30
15-MINS	0	0	64	6	0	0	1	71
Hourly Total	1	0	276	24	1	0	1	303

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	0	20	1	0	0	1	22
1705 - 1710	0	0	21	0	0	0	0	21
1710 - 1715	0	0	23	2	0	0	0	25
15-MINS	0	0	64	3	0	0	1	68
1710 - 1715	0	0	25	1	0	0	0	26
1720 - 1725	1	0	24	4	0	0	1	30
1725 - 1730	0	0	27	2	0	0	0	29
15-MINS	1	0	76	7	0	0	1	85
1725 - 1730	0	2	39	4	0	0	0	45
1735 - 1740	0	0	23	0	0	0	0	23
1740 - 1745	1	0	31	0	0	0	0	32
15-MINS	1	2	93	4	0	0	0	100
1740 - 1745	0	0	30	1	0	0	0	31
1750 - 1755	0	0	27	1	0	0	1	29
1755 - 1800	1	0	21	0	0	0	1	23
15-MINS	1	0	78	2	0	0	2	83
Hourly Total	3	2	311	16	0	0	4	336

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	34	2	0	0	0	36
1805 - 1810	0	1	20	1	0	0	0	22
1810 - 1815	0	2	31	2	0	0	0	35
15-MINS	0	3	85	5	0	0	0	93
1815 - 1820	0	0	21	1	0	0	0	22
1820 - 1825	0	0	19	1	0	0	1	21
1825 - 1830	1	0	22	3	0	0	1	27
15-MINS	1	0	62	5	0	0	2	70
1830 - 1835	0	0	36	1	0	0	0	37
1835 - 1840	1	0	26	1	0	0	0	28
1840 - 1845	1	0	33	0	0	0	0	34
15-MINS	2	0	95	2	0	0	0	99
1845 - 1850	0	0	33	0	0	0	0	33
1850 - 1855	2	0	25	2	0	0	0	29
1855 - 1900	0	0	23	0	0	0	0	23
15-MINS	2	0	81	2	0	0	0	85
Hourly Total	5	3	323	14	0	0	2	347
Session Total	69	17	3517	364	36	5	44	4052

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	LEFT TO HARPENDEN RD SOUTH							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	0	0	1	0	0	0	0	1
0705 - 0710	0	0	0	0	0	0	0	0
0710 - 0715	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0715 - 0720	0	0	0	0	0	0	0	0
0720 - 0725	0	0	1	0	0	0	0	1
0725 - 0730	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0730 - 0735	0	0	0	0	0	0	0	0
0735 - 0740	0	0	0	0	0	0	0	0
0740 - 0745	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
0745 - 0750	0	0	0	0	0	0	0	0
0750 - 0755	0	0	0	0	0	0	0	0
0755 - 0800	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
Hourly Total	0	0	4	0	0	0	0	4

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	0	0	0	0	0	0	0	0
0805 - 0810	0	0	0	0	0	0	0	0
0810 - 0815	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
0815 - 0820	0	0	0	2	0	0	0	2
0820 - 0825	0	0	1	0	0	0	0	1
0825 - 0830	0	0	0	0	0	0	0	0
15-MINS	0	0	1	2	0	0	0	3
0830 - 0835	0	0	1	1	0	0	0	2
0835 - 0840	0	0	1	0	0	0	0	1
0840 - 0845	0	0	2	0	0	0	0	2
15-MINS	0	0	4	1	0	0	0	5
0845 - 0850	0	0	2	1	0	0	0	3
0850 - 0855	0	0	2	0	0	0	0	2
0855 - 0900	0	0	0	0	0	0	0	0
15-MINS	0	0	4	1	0	0	0	5
Hourly Total	0	0	9	4	0	0	0	13

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	1	0	1	0	0	0	0	2
0905 - 0910	0	0	0	0	0	0	0	0
0910 - 0915	0	0	1	1	0	0	0	2
15-MINS	1	0	2	1	0	0	0	4
0915 - 0920	0	0	0	0	0	0	0	0
0920 - 0925	0	0	1	0	0	0	0	1
0925 - 0930	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0930 - 0935	0	0	1	0	0	0	0	1
0935 - 0940	0	0	1	0	0	0	0	1
0940 - 0945	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
0945 - 0950	0	0	0	1	0	0	0	1
0950 - 0955	0	0	0	0	0	0	0	0
0955 - 1000	0	0	0	1	0	0	0	1
15-MINS	0	0	0	2	0	0	0	2
Hourly Total	1	0	5	3	0	0	0	9

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	0	0	1	0	0	0	0	1
1005 - 1010	0	0	0	0	0	0	0	0
1010 - 1015	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
1015 - 1020	0	0	0	0	0	0	0	0
1020 - 1025	0	0	1	0	0	0	0	1
1025 - 1030	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1030 - 1035	0	0	0	0	0	0	0	0
1035 - 1040	0	0	1	0	0	0	0	1
1040 - 1045	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1045 - 1050	0	0	2	0	0	0	0	2
1050 - 1055	0	0	1	0	0	0	0	1
1055 - 1100	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
Hourly Total	0	0	8	0	0	0	0	8

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	0	0	0	0	0	0	0	0
1105 - 1110	0	0	0	0	0	0	0	0
1110 - 1115	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1115 - 1120	0	0	0	0	0	0	0	0
1120 - 1125	0	0	1	0	0	0	0	1
1125 - 1130	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1130 - 1135	0	0	1	0	0	0	0	1
1135 - 1140	0	0	1	0	0	0	0	1
1140 - 1145	0	0	2	0	0	0	0	2
15-MINS	0	0	4	0	0	0	0	4
1145 - 1150	0	0	0	0	0	0	0	0
1150 - 1155	0	0	0	0	0	0	0	0
1155 - 1200	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
Hourly Total	0	0	6	0	0	0	0	6

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	0	0	0	0	0	0	0	0
1205 - 1210	0	0	0	0	0	0	0	0
1210 - 1215	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1215 - 1220	0	0	1	0	0	0	0	1
1220 - 1225	0	0	0	0	0	0	0	0
1225 - 1230	0	0	2	0	0	0	0	2
15-MINS	0	0	3	0	0	0	0	3
1230 - 1235	0	0	1	0	0	0	0	1
1235 - 1240	0	0	1	0	0	0	0	1
1240 - 1245	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1245 - 1250	0	0	1	1	0	0	0	2
1250 - 1255	0	0	1	2	0	0	0	3
1255 - 1300	0	0	0	0	0	0	0	0
15-MINS	0	0	2	3	0	0	0	5
Hourly Total	0	0	7	3	0	0	0	10

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	0	1	0	0	0	0	1
1305 - 1310	0	0	0	0	0	0	0	0
1310 - 1315	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1315 - 1320	0	0	0	0	0	0	0	0
1320 - 1325	0	0	1	0	0	0	1	2
1325 - 1330	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	1	3
1330 - 1335	0	0	0	0	0	0	0	0
1335 - 1340	0	0	0	0	0	0	0	0
1340 - 1345	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1345 - 1350	0	0	0	1	0	0	0	1
1350 - 1355	0	0	0	0	0	0	0	0
1355 - 1400	0	0	0	0	0	0	0	0
15-MINS	0	0	0	1	0	0	0	1
Hourly Total	0	0	4	1	0	0	1	6

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	0	0	0	0	0	0
1405 - 1410	0	0	0	0	0	0	0	0
1410 - 1415	0	0	3	0	0	0	0	3
15-MINS	0	0	3	0	0	0	0	3
1415 - 1420	0	0	0	0	0	0	0	0
1420 - 1425	0	0	0	0	0	0	0	0
1425 - 1430	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1430 - 1435	0	0	0	1	0	0	0	1
1435 - 1440	0	0	1	1	0	0	0	2
1440 - 1445	0	0	1	0	0	0	0	1
15-MINS	0	0	2	2	0	0	0	4
1445 - 1450	0	0	1	0	0	0	1	2
1450 - 1455	0	0	0	0	0	0	0	0
1455 - 1500	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	1	2
Hourly Total	0	0	7	2	0	0	1	10

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	0	0	0	0	0	0	0	0
1505 - 1510	0	0	1	0	0	0	0	1
1510 - 1515	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
1515 - 1520	0	0	2	0	0	0	0	2
1520 - 1525	0	0	0	0	0	0	0	0
1525 - 1530	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
1530 - 1535	0	0	2	0	0	0	0	2
1535 - 1540	0	0	8	1	0	0	0	9
1540 - 1545	1	0	5	0	0	0	0	6
15-MINS	**1**	**0**	**15**	**1**	**0**	**0**	**0**	**17**
1545 - 1550	0	0	1	0	0	0	0	1
1550 - 1555	0	0	3	0	0	0	0	3
1555 - 1600	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**
Hourly Total	**1**	**0**	**26**	**1**	**0**	**0**	**0**	**28**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	0	0	2	0	0	0	0	2
1605 - 1610	0	0	2	0	0	0	0	2
1610 - 1615	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**
1615 - 1620	0	0	3	0	0	0	0	3
1620 - 1625	0	0	1	1	0	0	0	2
1625 - 1630	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**6**
1630 - 1635	0	1	0	0	0	0	0	1
1635 - 1640	0	0	0	0	0	0	0	0
1640 - 1645	0	0	1	0	0	0	0	1
15-MINS	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**
1645 - 1650	0	0	1	0	0	0	0	1
1650 - 1655	0	0	0	0	0	0	0	0
1655 - 1700	0	0	0	1	0	0	0	1
15-MINS	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**
Hourly Total	**0**	**1**	**13**	**2**	**0**	**0**	**0**	**16**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	0	1	0	0	0	0	1
1705 - 1710	0	0	0	0	0	0	0	0
1710 - 1715	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1715 - 1720	0	0	0	0	0	0	0	0
1720 - 1725	0	0	2	0	0	0	0	2
1725 - 1730	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
1730 - 1735	0	0	0	0	1	0	0	1
1735 - 1740	0	0	5	0	0	0	0	5
1740 - 1745	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**6**	**0**	**1**	**0**	**0**	**7**
1745 - 1750	1	0	3	0	0	0	0	4
1750 - 1755	0	0	1	0	0	0	0	1
1755 - 1800	0	0	1	0	0	0	0	1
15-MINS	**1**	**0**	**5**	**0**	**0**	**0**	**0**	**6**
Hourly Total	**1**	**0**	**14**	**0**	**1**	**0**	**0**	**16**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	1	0	0	0	0	1
1805 - 1810	0	0	3	0	0	0	0	3
1810 - 1815	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**
1815 - 1820	0	0	0	0	0	0	0	0
1820 - 1825	0	0	0	0	0	0	0	0
1825 - 1830	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
1830 - 1835	0	0	4	0	0	0	0	4
1835 - 1840	0	0	3	0	0	0	0	3
1840 - 1845	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**7**
1845 - 1850	0	0	3	0	0	0	0	3
1850 - 1855	0	0	1	1	0	0	0	2
1855 - 1900	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**6**
Hourly Total	**0**	**0**	**19**	**1**	**0**	**0**	**0**	**20**
Session Total	**3**	**1**	**122**	**17**	**1**	**0**	**2**	**146**

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	RIGHT TO HARPENDEN RD NORTH							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	0	0	0	0	0	0	0	0
0705 - 0710	0	0	1	0	0	0	0	1
0710 - 0715	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0715 - 0720	0	0	1	0	0	0	0	1
0720 - 0725	0	0	0	0	0	0	0	0
0725 - 0730	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0730 - 0735	0	0	1	0	0	0	0	1
0735 - 0740	0	0	0	1	0	0	0	1
0740 - 0745	0	0	1	0	0	0	0	1
15-MINS	0	0	2	1	0	0	0	3
0745 - 0750	0	0	1	0	0	0	0	1
0750 - 0755	0	0	0	0	0	0	0	0
0755 - 0800	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	6	1	0	0	0	7

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	0	0	0	1	0	0	0	1
0805 - 0810	0	0	0	0	0	0	0	0
0810 - 0815	0	0	1	0	0	0	0	1
15-MINS	0	0	1	1	0	0	0	2
0815 - 0820	0	0	1	0	0	0	0	1
0820 - 0825	0	0	0	0	0	0	0	0
0825 - 0830	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0830 - 0835	0	0	0	0	0	0	0	0
0835 - 0840	0	0	1	0	0	0	0	1
0840 - 0845	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0845 - 0850	0	0	2	2	0	0	0	4
0850 - 0855	0	0	1	0	0	0	0	1
0855 - 0900	0	0	4	0	0	0	0	4
15-MINS	0	0	7	2	0	0	0	9
Hourly Total	0	0	10	3	0	0	0	13

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	0	0	0	1	0	0	0	1
0905 - 0910	0	0	1	0	0	0	0	1
0910 - 0915	0	0	0	0	0	0	0	0
15-MINS	0	0	1	1	0	0	0	2
0915 - 0920	0	0	1	0	0	0	0	1
0920 - 0925	0	0	2	0	0	0	0	2
0925 - 0930	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
0930 - 0935	0	0	1	1	0	0	0	2
0935 - 0940	0	0	0	0	0	0	0	0
0940 - 0945	0	0	1	0	0	0	0	1
15-MINS	0	0	2	1	0	0	0	3
0945 - 0950	0	0	1	0	0	0	0	1
0950 - 0955	0	0	0	0	0	0	0	0
0955 - 1000	0	0	0	1	0	0	0	1
15-MINS	0	0	1	1	0	0	0	2
Hourly Total	0	0	8	3	0	0	0	11

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	0	0	0	0	0	0	0	0
1005 - 1010	0	0	0	0	0	0	0	0
1010 - 1015	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1015 - 1020	0	0	0	0	0	0	0	0
1020 - 1025	0	0	0	0	0	0	0	0
1025 - 1030	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1030 - 1035	0	0	2	0	0	0	0	2
1035 - 1040	0	0	0	0	0	0	0	0
1040 - 1045	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1045 - 1050	0	0	0	0	0	0	0	0
1050 - 1055	0	0	1	0	0	0	0	1
1055 - 1100	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
Hourly Total	0	0	3	0	0	0	0	3

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	0	0	0	0	0	0	0	0
1105 - 1110	0	0	0	0	0	0	0	0
1110 - 1115	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1115 - 1120	0	0	0	0	0	0	0	0
1120 - 1125	0	0	0	0	0	0	0	0
1125 - 1130	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1130 - 1135	0	0	1	0	0	0	0	1
1135 - 1140	0	0	0	0	0	0	0	0
1140 - 1145	1	0	1	0	0	0	0	2
15-MINS	1	0	2	0	0	0	0	3
1145 - 1150	0	0	0	0	0	0	0	0
1150 - 1155	0	0	0	0	0	0	0	0
1155 - 1200	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
Hourly Total	1	0	3	0	0	0	0	4

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	0	0	0	0	0	0	0	0
1205 - 1210	0	0	0	0	0	0	0	0
1210 - 1215	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1215 - 1220	0	0	0	0	0	0	0	0
1220 - 1225	0	0	1	0	0	0	0	1
1225 - 1230	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1230 - 1235	0	0	2	0	0	0	0	2
1235 - 1240	0	0	1	0	0	0	0	1
1240 - 1245	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
1245 - 1250	0	1	0	0	0	0	0	1
1250 - 1255	0	0	1	0	0	0	0	1
1255 - 1300	0	0	0	0	0	0	0	0
15-MINS	0	1	1	0	0	0	0	2
Hourly Total	0	1	6	0	0	0	0	7

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	0	0	0	0	0	0	0
1305 - 1310	0	0	0	0	0	0	0	0
1310 - 1315	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1315 - 1320	0	0	0	0	0	0	0	0
1320 - 1325	0	0	1	0	0	0	0	1
1325 - 1330	1	0	0	0	1	0	0	2
15-MINS	1	0	1	0	1	0	0	3
1330 - 1335	0	0	0	0	0	0	0	0
1335 - 1340	0	0	0	0	0	0	0	0
1340 - 1345	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1345 - 1350	0	0	0	0	0	0	0	0
1350 - 1355	0	0	0	0	0	0	0	0
1355 - 1400	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
Hourly Total	1	0	1	0	1	0	0	3

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	2	0	0	0	0	2
1405 - 1410	0	0	0	0	0	0	0	0
1410 - 1415	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1415 - 1420	0	0	0	0	0	0	0	0
1420 - 1425	0	0	0	0	0	0	0	0
1425 - 1430	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1430 - 1435	0	0	0	0	0	0	0	0
1435 - 1440	0	0	0	0	0	0	0	0
1440 - 1445	0	0	0	1	0	0	0	1
15-MINS	0	0	0	1	0	0	0	1
1445 - 1450	0	0	0	0	0	0	0	0
1450 - 1455	0	0	0	0	0	0	0	0
1455 - 1500	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
Hourly Total	0	0	3	1	0	0	0	4

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	0	0	0	0	0	0	0	0
1505 - 1510	0	0	0	0	0	0	0	0
1510 - 1515	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1515 - 1520	0	0	0	0	0	0	0	0
1520 - 1525	0	0	1	0	0	0	0	1
1525 - 1530	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
1530 - 1535	0	0	2	1	0	0	0	3
1535 - 1540	0	0	3	0	0	0	0	3
1540 - 1545	0	0	0	0	0	0	0	0
15-MINS	0	0	5	1	0	0	0	6
1545 - 1550	0	0	1	0	0	0	0	1
1550 - 1555	0	0	1	0	0	0	0	1
1555 - 1600	0	0	1	0	0	0	0	1
15-MINS	0	0	3	0	0	0	0	3
Hourly Total	0	0	10	1	0	0	0	11

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	0	0	2	0	0	0	0	2
1605 - 1610	0	0	0	0	0	0	0	0
1610 - 1615	0	0	1	0	0	0	0	1
15-MINS	0	0	3	0	0	0	0	3
1615 - 1620	0	0	0	0	0	0	0	0
1620 - 1625	0	0	1	0	0	0	0	1
1625 - 1630	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1630 - 1635	0	0	1	0	0	0	0	1
1635 - 1640	0	0	1	0	0	0	0	1
1640 - 1645	0	0	1	1	0	0	0	2
15-MINS	0	0	3	1	0	0	0	4
1645 - 1650	0	0	0	0	0	0	0	0
1650 - 1655	0	0	2	1	0	0	0	3
1655 - 1700	0	0	2	1	0	0	0	3
15-MINS	0	0	4	2	0	0	0	6
Hourly Total	0	0	11	3	0	0	0	14

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	0	1	0	0	0	0	1
1705 - 1710	0	0	0	0	0	0	0	0
1710 - 1715	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1710 - 1715	0	0	0	0	0	0	0	0
1720 - 1725	0	0	0	0	0	0	0	0
1725 - 1730	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1725 - 1730	0	0	1	0	0	0	0	1
1735 - 1740	0	0	1	0	0	0	0	1
1740 - 1745	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1740 - 1745	0	0	1	0	0	0	0	1
1750 - 1755	0	0	0	0	0	0	0	0
1755 - 1800	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
Hourly Total	0	0	5	0	0	0	0	5

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	0	0	0	0	0	0
1805 - 1810	0	0	0	0	0	0	0	0
1810 - 1815	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1815 - 1820	0	0	0	0	0	0	0	0
1820 - 1825	0	0	1	0	0	0	0	1
1825 - 1830	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1830 - 1835	0	0	1	0	0	0	0	1
1835 - 1840	0	0	0	0	0	0	0	0
1840 - 1845	0	0	2	0	0	0	0	2
15-MINS	0	0	3	0	0	0	0	3
1845 - 1850	0	0	0	0	0	0	0	0
1850 - 1855	0	0	3	0	0	0	0	3
1855 - 1900	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
Hourly Total	0	0	9	0	0	0	0	9
Session Total	2	1	75	12	1	0	0	91

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	AHEAD TO HARPENDEN RD NORTH							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	0	0	11	1	1	0	2	15
0705 - 0710	1	0	12	3	1	0	1	18
0710 - 0715	0	1	9	1	0	0	1	12
15-MINS	1	1	32	5	2	0	4	45
0715 - 0720	1	0	18	1	1	0	0	21
0720 - 0725	0	1	7	1	1	0	0	10
0725 - 0730	0	0	9	0	0	0	0	9
15-MINS	1	1	34	2	2	0	0	40
0730 - 0735	0	1	18	4	0	0	0	23
0735 - 0740	0	0	28	2	0	0	0	30
0740 - 0745	0	0	23	2	0	0	1	26
15-MINS	0	1	69	8	0	0	1	79
0745 - 0750	2	0	16	1	0	0	0	19
0750 - 0755	0	0	27	4	0	0	2	33
0755 - 0800	0	0	23	2	0	0	0	25
15-MINS	2	0	66	7	0	0	2	77
Hourly Total	4	3	201	22	4	0	7	241

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	1	1	25	3	0	0	1	31
0805 - 0810	1	0	22	1	1	0	1	26
0810 - 0815	2	0	40	5	0	0	2	49
15-MINS	4	1	87	9	1	0	4	106
0815 - 0820	1	0	28	2	0	0	1	32
0820 - 0825	0	0	25	1	0	0	2	28
0825 - 0830	0	0	15	3	0	1	2	21
15-MINS	1	0	68	6	0	1	5	81
0830 - 0835	1	0	24	3	0	0	0	28
0835 - 0840	1	0	24	3	0	0	1	29
0840 - 0845	0	0	31	3	1	0	1	36
15-MINS	2	0	79	9	1	0	2	93
0845 - 0850	0	0	19	3	1	0	0	23
0850 - 0855	1	0	16	2	0	0	1	20
0855 - 0900	0	0	23	6	0	0	0	29
15-MINS	1	0	58	11	1	0	1	72
Hourly Total	8	1	292	35	3	1	12	352

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	0	0	25	8	0	0	0	33
0905 - 0910	0	0	11	2	1	0	0	14
0910 - 0915	1	0	17	3	0	0	0	21
15-MINS	1	0	53	13	1	0	0	68
0915 - 0920	1	0	16	4	0	0	0	21
0920 - 0925	0	0	10	5	0	0	0	15
0925 - 0930	1	1	16	2	0	0	0	20
15-MINS	2	1	42	11	0	0	0	56
0930 - 0935	0	0	16	3	0	0	0	19
0935 - 0940	0	0	12	1	0	0	0	13
0940 - 0945	0	0	16	1	1	0	0	18
15-MINS	0	0	44	5	1	0	0	50
0945 - 0950	0	0	22	0	0	0	1	23
0950 - 0955	0	0	10	3	0	0	0	13
0955 - 1000	0	0	15	3	0	0	0	18
15-MINS	0	0	47	6	0	0	1	54
Hourly Total	3	1	186	35	2	0	1	228

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	2	0	10	1	0	0	0	13
1005 - 1010	0	0	21	2	2	0	0	25
1010 - 1015	0	0	13	2	0	0	0	15
15-MINS	2	0	44	5	2	0	0	53
1015 - 1020	0	0	26	7	1	0	0	34
1020 - 1025	1	0	18	2	0	0	1	22
1025 - 1030	0	0	12	6	0	0	1	19
15-MINS	1	0	56	15	1	0	2	75
1030 - 1035	0	0	21	7	0	0	0	28
1035 - 1040	0	0	12	0	0	0	0	12
1040 - 1045	0	0	14	5	1	0	0	20
15-MINS	0	0	47	12	1	0	0	60
1045 - 1050	0	0	17	3	0	0	0	20
1050 - 1055	0	1	15	4	0	0	2	22
1055 - 1100	0	0	21	1	1	0	0	23
15-MINS	0	1	53	8	1	0	2	65
Hourly Total	3	1	200	40	5	0	4	253

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	0	0	10	2	0	0	0	12
1105 - 1110	0	0	12	1	0	0	0	13
1110 - 1115	0	0	17	2	0	0	0	19
15-MINS	0	0	39	5	0	0	0	44
1115 - 1120	0	0	17	5	1	0	1	24
1120 - 1125	0	0	12	2	0	0	0	14
1125 - 1130	1	0	13	4	0	0	0	18
15-MINS	1	0	42	11	1	0	1	56
1130 - 1135	0	0	18	2	0	0	0	20
1135 - 1140	1	0	8	2	1	0	0	12
1140 - 1145	0	0	12	1	1	0	0	14
15-MINS	1	0	38	5	2	0	0	46
1145 - 1150	0	1	13	3	0	0	1	18
1150 - 1155	0	0	30	0	0	0	0	30
1155 - 1200	0	0	22	2	0	0	0	24
15-MINS	0	1	65	5	0	0	1	72
Hourly Total	2	1	184	26	3	0	2	218

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	1	0	22	4	0	0	0	27
1205 - 1210	0	0	20	1	0	0	0	21
1210 - 1215	0	0	19	3	0	0	0	22
15-MINS	1	0	61	8	0	0	0	70
1215 - 1220	1	0	27	4	0	0	1	33
1220 - 1225	0	0	21	4	0	0	0	25
1225 - 1230	0	0	22	3	1	0	0	26
15-MINS	1	0	70	11	1	0	1	84
1230 - 1235	0	0	20	2	1	0	0	23
1235 - 1240	0	0	14	3	0	0	0	17
1240 - 1245	0	0	32	2	0	0	0	34
15-MINS	0	0	66	7	1	0	0	74
1245 - 1250	1	0	24	1	0	0	0	26
1250 - 1255	0	0	22	0	0	0	2	24
1255 - 1300	1	0	19	2	1	0	0	23
15-MINS	2	0	65	3	1	0	2	73
Hourly Total	4	0	262	29	3	0	3	301

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	1	20	3	0	0	0	24
1305 - 1310	0	0	20	2	0	0	0	22
1310 - 1315	1	0	16	3	1	0	0	21
15-MINS	1	1	56	8	1	0	0	67
1315 - 1320	0	0	25	2	0	0	0	27
1320 - 1325	0	0	21	3	1	0	0	25
1325 - 1330	0	0	19	0	2	1	1	23
15-MINS	0	0	65	5	3	1	1	75
1330 - 1335	0	0	15	1	0	0	0	16
1335 - 1340	2	0	24	1	1	0	0	28
1340 - 1345	0	0	19	4	0	0	0	23
15-MINS	2	0	58	6	1	0	0	67
1345 - 1350	0	1	15	1	0	0	1	18
1350 - 1355	0	0	19	1	0	0	0	20
1355 - 1400	0	0	22	1	0	1	1	25
15-MINS	0	1	56	3	0	1	2	63
Hourly Total	3	2	235	22	5	2	3	272

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	25	2	0	0	2	29
1405 - 1410	0	0	26	0	0	0	0	26
1410 - 1415	1	0	30	2	1	0	1	35
15-MINS	1	0	81	4	1	0	3	90
1415 - 1420	0	0	15	2	0	0	1	18
1420 - 1425	0	0	17	1	0	0	1	19
1425 - 1430	0	0	14	4	0	0	0	18
15-MINS	0	0	46	7	0	0	2	55
1430 - 1435	0	1	22	5	0	0	0	28
1435 - 1440	0	1	36	4	0	0	0	41
1440 - 1445	0	0	29	1	0	0	0	30
15-MINS	0	2	87	10	0	0	0	99
1445 - 1450	0	1	26	2	0	0	0	29
1450 - 1455	0	0	23	1	0	0	0	24
1455 - 1500	1	0	26	3	0	0	1	31
15-MINS	1	1	75	6	0	0	1	84
Hourly Total	2	3	289	27	1	0	6	328

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	1	0	18	3	0	0	2	24
1505 - 1510	0	0	25	5	0	0	0	30
1510 - 1515	1	1	24	2	0	0	1	29
15-MINS	2	1	67	10	0	0	3	83
1515 - 1520	0	0	20	4	1	0	1	26
1520 - 1525	3	0	31	2	0	0	1	37
1525 - 1530	1	0	38	1	0	0	2	42
15-MINS	4	0	89	7	1	0	4	105
1530 - 1535	0	0	27	2	0	0	1	30
1535 - 1540	0	0	20	2	0	0	2	24
1540 - 1545	1	0	11	4	0	1	1	18
15-MINS	1	0	58	8	0	1	4	72
1545 - 1550	0	0	27	1	0	0	1	29
1550 - 1555	0	0	24	5	0	0	0	29
1555 - 1600	0	0	31	2	0	0	0	33
15-MINS	0	0	82	8	0	0	1	91
Hourly Total	7	1	296	33	1	1	12	351

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	1	0	27	5	0	0	1	34
1605 - 1610	1	0	31	3	1	0	0	36
1610 - 1615	1	0	34	4	1	0	1	41
15-MINS	3	0	92	12	2	0	2	111
1615 - 1620	2	0	40	0	0	0	2	44
1620 - 1625	2	0	37	2	0	0	3	44
1625 - 1630	1	0	23	0	1	0	1	26
15-MINS	5	0	100	2	1	0	6	114
1630 - 1635	0	0	25	2	0	0	0	27
1635 - 1640	0	0	20	7	0	0	2	29
1640 - 1645	1	0	32	2	0	0	0	35
15-MINS	1	0	77	11	0	0	2	91
1645 - 1650	0	1	40	3	0	0	1	45
1650 - 1655	0	0	29	5	0	0	2	36
1655 - 1700	1	0	32	2	0	0	0	35
15-MINS	1	1	101	10	0	0	3	116
Hourly Total	10	1	370	35	3	0	13	432

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	1	39	2	0	0	2	44
1705 - 1710	1	0	26	1	0	1	1	30
1710 - 1715	1	1	30	5	1	0	0	38
15-MINS	2	2	95	8	1	1	3	112
1715 - 1720	0	0	38	0	0	0	1	39
1720 - 1725	1	3	28	1	0	0	0	33
1725 - 1730	0	1	35	1	0	0	0	37
15-MINS	1	4	101	2	0	0	1	109
1730 - 1735	1	1	42	1	0	0	0	45
1735 - 1740	0	0	41	3	0	0	0	44
1740 - 1745	0	1	36	0	0	0	0	37
15-MINS	1	2	119	4	0	0	0	126
1745 - 1750	1	0	39	1	0	0	0	41
1750 - 1755	2	0	30	3	0	0	0	35
1755 - 1800	1	1	35	4	0	0	1	42
15-MINS	4	1	104	8	0	0	1	118
Hourly Total	8	9	419	22	1	1	5	465

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	23	3	0	0	0	26
1805 - 1810	0	0	26	3	1	0	0	30
1810 - 1815	0	0	42	1	0	0	0	43
15-MINS	0	0	91	7	1	0	0	99
1815 - 1820	2	1	28	0	1	0	0	32
1820 - 1825	2	0	27	1	0	0	0	30
1825 - 1830	0	0	21	0	0	0	0	21
15-MINS	4	1	76	1	1	0	0	83
1830 - 1835	2	0	24	0	0	0	0	26
1835 - 1840	2	0	26	0	0	0	0	28
1840 - 1845	0	0	25	1	0	0	0	26
15-MINS	4	0	75	1	0	0	0	80
1845 - 1850	6	2	33	1	0	0	0	42
1850 - 1855	3	0	32	1	0	0	0	36
1855 - 1900	2	0	24	1	0	0	0	27
15-MINS	11	2	89	3	0	0	0	105
Hourly Total	19	3	331	12	2	0	0	367
Session Total	73	26	3265	338	33	5	68	3808

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	RIGHT TO HEATHLANDS DR							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	0	0	1	0	0	0	0	1
0705 - 0710	0	0	0	0	0	0	0	0
0710 - 0715	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
0715 - 0720	0	0	0	0	0	0	0	0
0720 - 0725	0	0	1	0	0	0	0	1
0725 - 0730	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
0730 - 0735	0	0	1	0	0	0	0	1
0735 - 0740	0	0	1	0	0	0	0	1
0740 - 0745	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
0745 - 0750	0	0	1	1	0	0	0	2
0750 - 0755	0	0	1	0	0	0	0	1
0755 - 0800	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**4**
Hourly Total	**0**	**0**	**10**	**1**	**0**	**0**	**0**	**11**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	0	0	1	0	0	0	0	1
0805 - 0810	0	0	1	0	0	0	0	1
0810 - 0815	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**4**
0815 - 0820	0	0	0	1	0	0	1	2
0820 - 0825	0	1	2	0	0	0	0	3
0825 - 0830	0	0	5	0	0	0	0	5
15-MINS	**0**	**1**	**7**	**1**	**0**	**0**	**1**	**10**
0830 - 0835	0	0	2	0	0	0	0	2
0835 - 0840	0	0	2	0	0	0	0	2
0840 - 0845	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**
0845 - 0850	0	0	6	0	0	0	0	6
0850 - 0855	0	0	1	0	0	0	0	1
0855 - 0900	0	0	1	1	0	0	0	2
15-MINS	**0**	**0**	**8**	**1**	**0**	**0**	**0**	**9**
Hourly Total	**0**	**1**	**25**	**2**	**0**	**0**	**1**	**29**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	0	0	2	0	0	0	0	2
0905 - 0910	0	0	0	0	0	0	0	0
0910 - 0915	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
0915 - 0920	0	0	1	0	0	0	0	1
0920 - 0925	0	0	1	0	0	0	0	1
0925 - 0930	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
0930 - 0935	0	0	0	0	0	0	0	0
0935 - 0940	0	0	2	1	0	0	0	3
0940 - 0945	0	0	0	1	0	0	0	1
15-MINS	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**4**
0945 - 0950	0	0	0	0	0	0	0	0
0950 - 0955	0	0	0	1	0	0	0	1
0955 - 1000	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**
Hourly Total	**0**	**0**	**8**	**3**	**0**	**0**	**0**	**11**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	0	0	1	0	0	0	0	1
1005 - 1010	0	0	1	0	0	0	0	1
1010 - 1015	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
1015 - 1020	0	0	0	0	0	0	0	0
1020 - 1025	0	0	0	1	0	0	0	1
1025 - 1030	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
1030 - 1035	0	0	1	0	0	0	0	1
1035 - 1040	0	0	0	0	0	0	0	0
1040 - 1045	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1045 - 1050	0	0	0	0	0	0	0	0
1050 - 1055	0	0	1	0	0	0	0	1
1055 - 1100	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
Hourly Total	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**6**

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	0	0	0	0	0	0	0	0
1105 - 1110	0	0	0	0	0	0	0	0
1110 - 1115	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1115 - 1120	0	0	0	0	0	0	0	0
1120 - 1125	0	0	1	0	0	0	0	1
1125 - 1130	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1130 - 1135	0	0	0	0	0	0	0	0
1135 - 1140	0	0	0	0	0	0	0	0
1140 - 1145	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1145 - 1150	0	0	0	0	0	0	0	0
1150 - 1155	0	0	0	0	0	0	0	0
1155 - 1200	0	0	2	0	0	0	0	2
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	3	0	0	0	0	3

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	0	0	1	0	0	0	0	1
1205 - 1210	0	0	1	1	0	0	0	2
1210 - 1215	0	0	0	0	0	0	0	0
15-MINS	0	0	2	1	0	0	0	3
1215 - 1220	0	0	0	0	0	0	0	0
1220 - 1225	0	0	2	0	0	0	0	2
1225 - 1230	0	0	0	1	0	0	0	1
15-MINS	0	0	2	1	0	0	0	3
1230 - 1235	0	0	0	0	0	0	0	0
1235 - 1240	0	0	0	0	0	0	0	0
1240 - 1245	0	0	0	1	0	0	0	1
15-MINS	0	0	0	1	0	0	0	1
1245 - 1250	0	0	0	0	0	0	0	0
1250 - 1255	0	0	0	0	0	0	0	0
1255 - 1300	0	0	2	0	0	0	0	2
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	6	3	0	0	0	9

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	0	1	0	0	0	0	1
1305 - 1310	0	0	0	0	0	0	0	0
1310 - 1315	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1315 - 1320	0	0	0	0	1	0	0	1
1320 - 1325	1	0	1	0	0	0	1	3
1325 - 1330	0	0	0	1	0	0	0	1
15-MINS	1	0	1	1	1	0	1	5
1330 - 1335	0	0	0	0	0	0	0	0
1335 - 1340	0	0	0	0	0	0	0	0
1340 - 1345	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1345 - 1350	0	0	0	0	0	0	0	0
1350 - 1355	0	0	2	0	0	0	0	2
1355 - 1400	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	1	0	4	1	1	0	1	8

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	0	0	0	0	0	0
1405 - 1410	0	0	0	0	0	0	0	0
1410 - 1415	0	0	2	1	0	0	0	3
15-MINS	0	0	2	1	0	0	0	3
1415 - 1420	0	0	3	0	0	0	0	3
1420 - 1425	0	0	1	0	0	0	0	1
1425 - 1430	0	0	1	0	0	0	0	1
15-MINS	0	0	5	0	0	0	0	5
1430 - 1435	0	0	0	0	0	0	0	0
1435 - 1440	0	0	0	2	0	0	0	2
1440 - 1445	0	0	0	0	0	0	0	0
15-MINS	0	0	0	2	0	0	0	2
1445 - 1450	0	0	0	0	0	0	0	0
1450 - 1455	0	0	2	0	0	0	0	2
1455 - 1500	0	0	0	1	0	0	0	1
15-MINS	0	0	2	1	0	0	0	3
Hourly Total	0	0	9	4	0	0	0	13

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	0	0	1	0	0	0	0	1
1505 - 1510	0	0	1	0	0	0	0	1
1510 - 1515	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
1515 - 1520	0	0	1	0	0	0	0	1
1520 - 1525	0	0	1	0	0	0	0	1
1525 - 1530	0	0	1	2	0	0	0	3
15-MINS	**0**	**0**	**3**	**2**	**0**	**0**	**0**	**5**
1530 - 1535	0	0	1	0	0	0	0	1
1535 - 1540	0	0	4	0	0	0	0	4
1540 - 1545	0	0	5	0	0	0	0	5
15-MINS	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**10**
1545 - 1550	0	0	0	0	0	0	1	1
1550 - 1555	0	0	0	0	0	0	0	0
1555 - 1600	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**
Hourly Total	**0**	**0**	**17**	**2**	**0**	**0**	**1**	**20**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	0	0	0	0	0	0	0	0
1605 - 1610	0	0	1	0	0	0	0	1
1610 - 1615	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1615 - 1620	0	0	4	0	0	0	0	4
1620 - 1625	0	0	2	1	0	0	0	3
1625 - 1630	0	0	4	0	0	0	0	4
15-MINS	**0**	**0**	**10**	**1**	**0**	**0**	**0**	**11**
1630 - 1635	0	0	3	0	0	0	0	3
1635 - 1640	0	0	0	0	0	0	0	0
1640 - 1645	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
1645 - 1650	0	0	1	0	0	0	0	1
1650 - 1655	0	0	0	0	0	0	0	0
1655 - 1700	0	0	0	2	0	0	0	2
15-MINS	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**3**
Hourly Total	**0**	**0**	**15**	**3**	**0**	**0**	**0**	**18**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	0	1	0	0	0	0	1
1705 - 1710	0	0	1	0	0	0	0	1
1710 - 1715	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
1710 - 1715	0	0	0	0	0	0	0	0
1720 - 1725	0	0	1	0	0	0	0	1
1725 - 1730	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1725 - 1730	0	0	2	0	0	0	0	2
1735 - 1740	0	0	1	0	0	0	0	1
1740 - 1745	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
1740 - 1745	0	0	0	0	0	0	0	0
1750 - 1755	0	0	0	0	0	0	0	0
1755 - 1800	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hourly Total	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	0	0	0	0	0	0
1805 - 1810	0	0	0	0	0	0	0	0
1810 - 1815	0	0	1	1	0	0	0	2
15-MINS	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**
1815 - 1820	0	1	0	0	0	0	0	1
1820 - 1825	0	0	2	0	0	0	0	2
1825 - 1830	0	0	9	1	0	0	0	10
15-MINS	**0**	**1**	**11**	**1**	**0**	**0**	**0**	**13**
1830 - 1835	0	0	2	0	0	0	0	2
1835 - 1840	0	0	1	0	0	0	0	1
1840 - 1845	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**
1845 - 1850	0	0	0	0	0	0	0	0
1850 - 1855	0	0	3	0	1	0	0	4
1855 - 1900	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**4**
Hourly Total	**0**	**1**	**20**	**2**	**1**	**0**	**0**	**24**
Session Total	**1**	**2**	**128**	**22**	**2**	**0**	**3**	**158**

CORE SEARCH AREA

WIDER SEARCH AREA

PROJECT TITLE

St Albans Primary School Site Search

DRAWING TITLE

Site search areas

SCALE	DATE	CHECKED
1:25000	OCTOBER 2015	
	DRAWN HP	DATE

PROJECT No. 5115

N

001

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

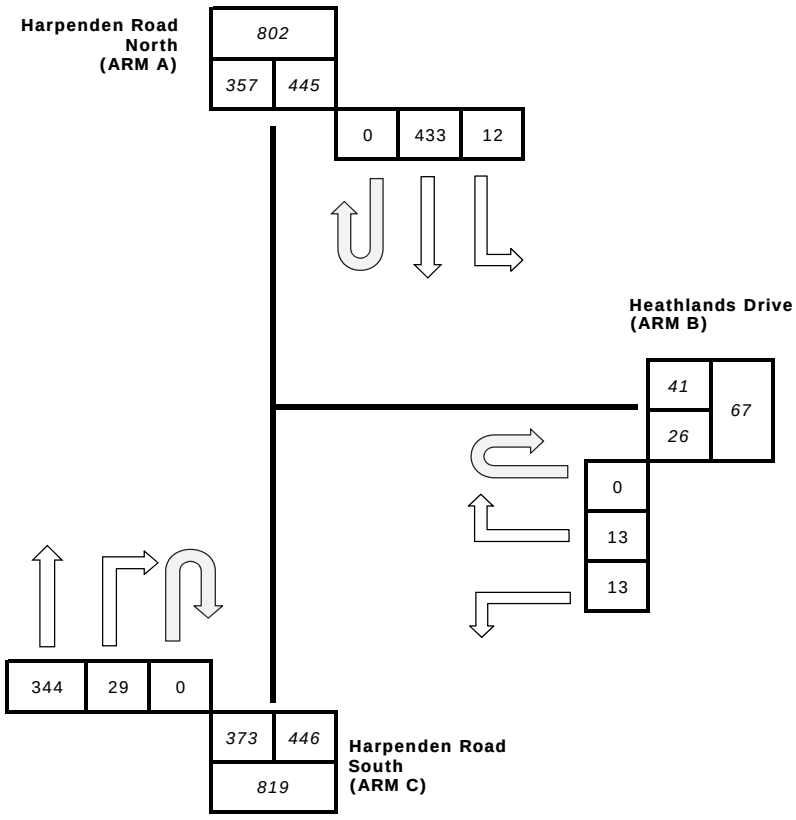
Project No. **2479**

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

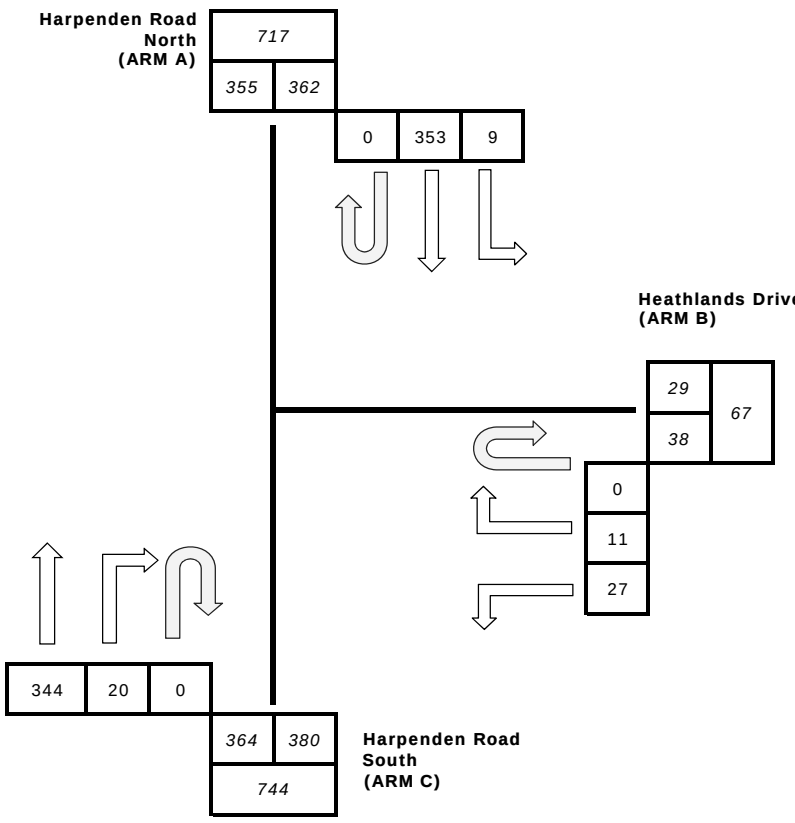
Sheet 1: Traffic Flows - 10th July 2012

Base traffic count data taken from surveys

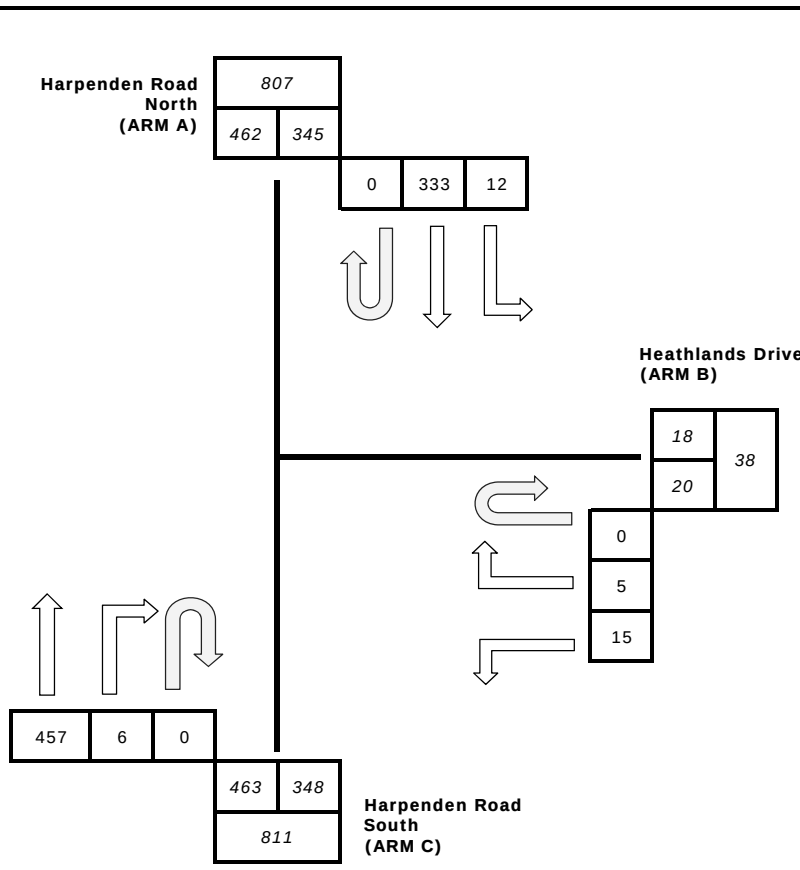
AM Peak Period **8:00**



School PM Peak **15:00**



PM Peak Period **17:00**



Site Reference:	Revision:	Details:

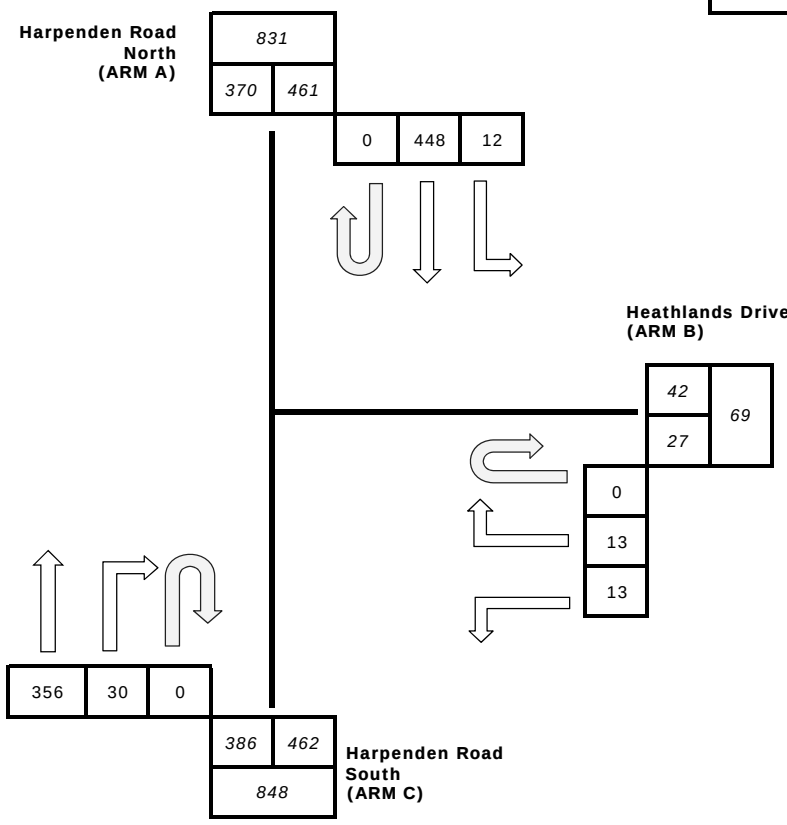
Project No. 2479

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

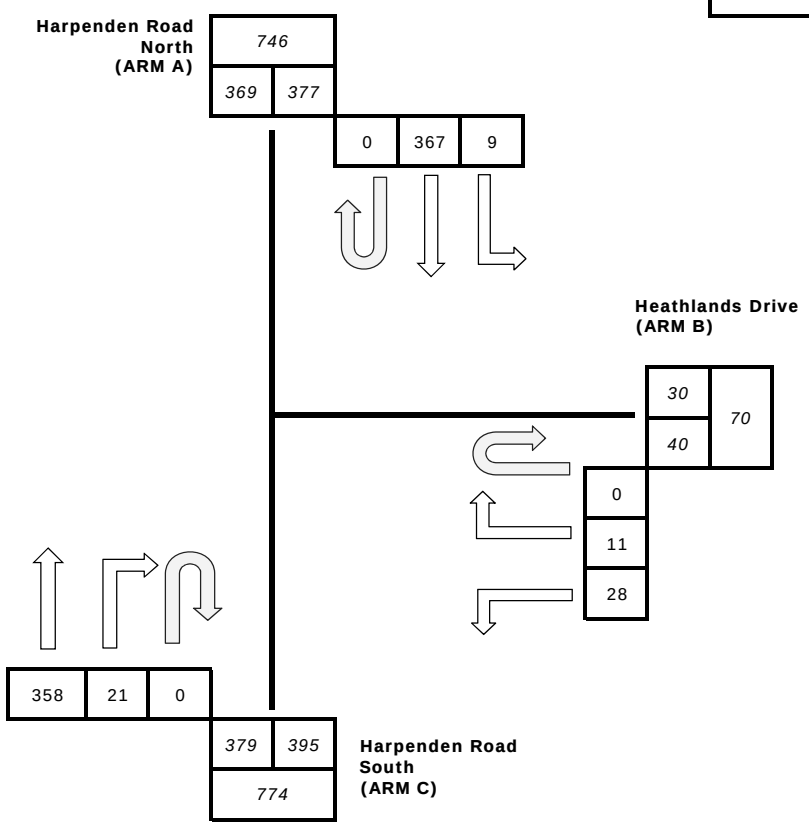
Sheet 2: 2012 Traffic Flows plus Growth to Year 2025

Base flow data muliplied by specified growth factor

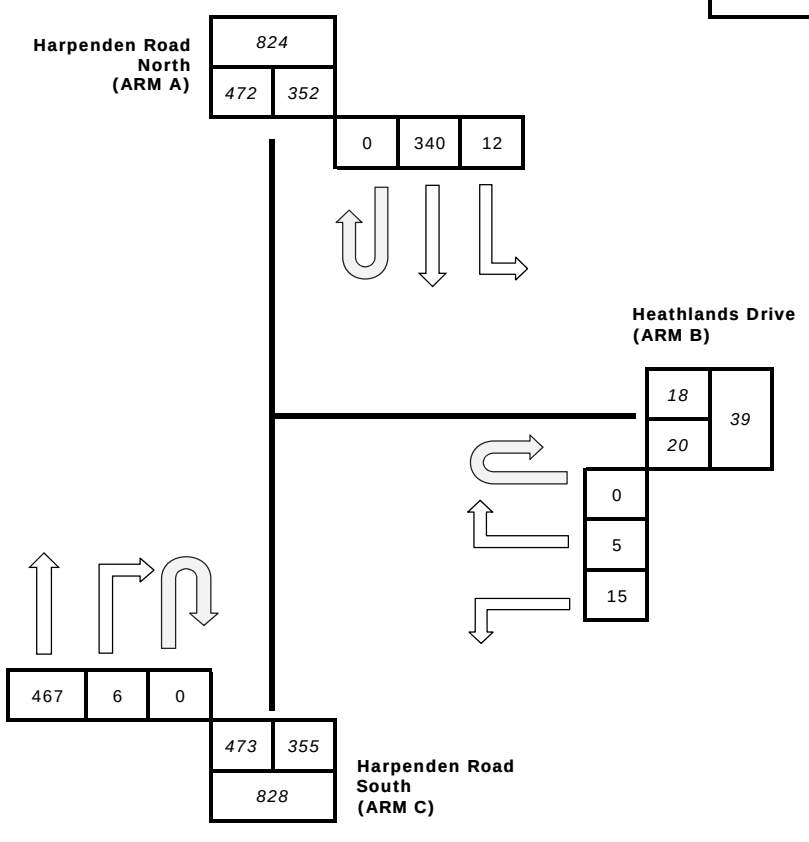
AM Peak Period **8:00** — **Growth Factor:** 1.03575



School PM Peak **15:00** — **Growth Factor:** 1.04025



PM Peak Period **17:00** — **Growth Factor:** 1.02085



Site Reference:	Revision:	Details:

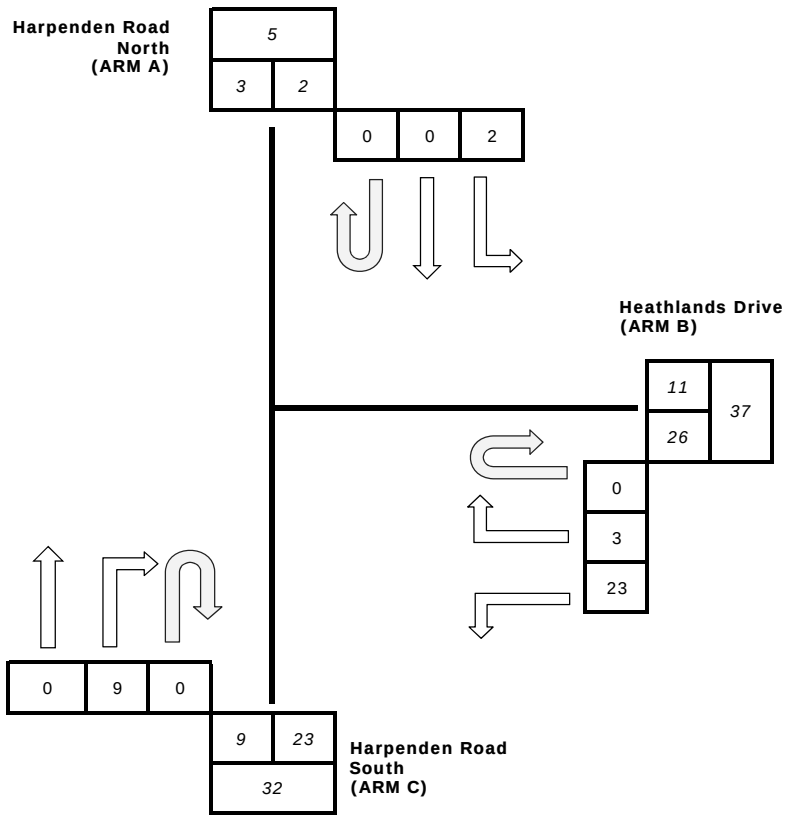
Project No. **2479**

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

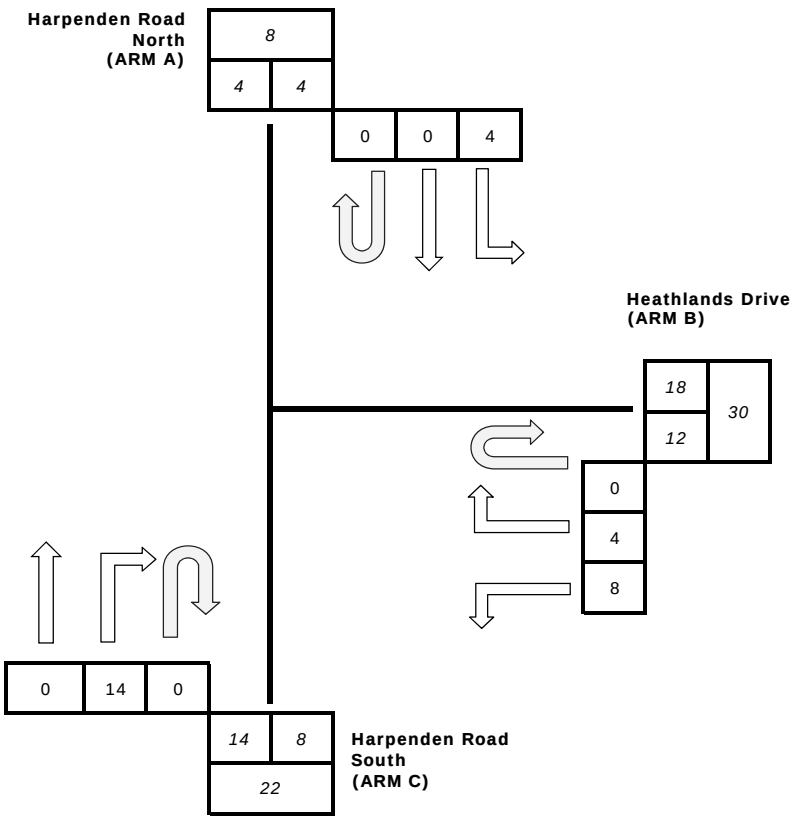
Sheet 3: Expected Housing Development Flows

Predicted flows associated with development studied (user input)

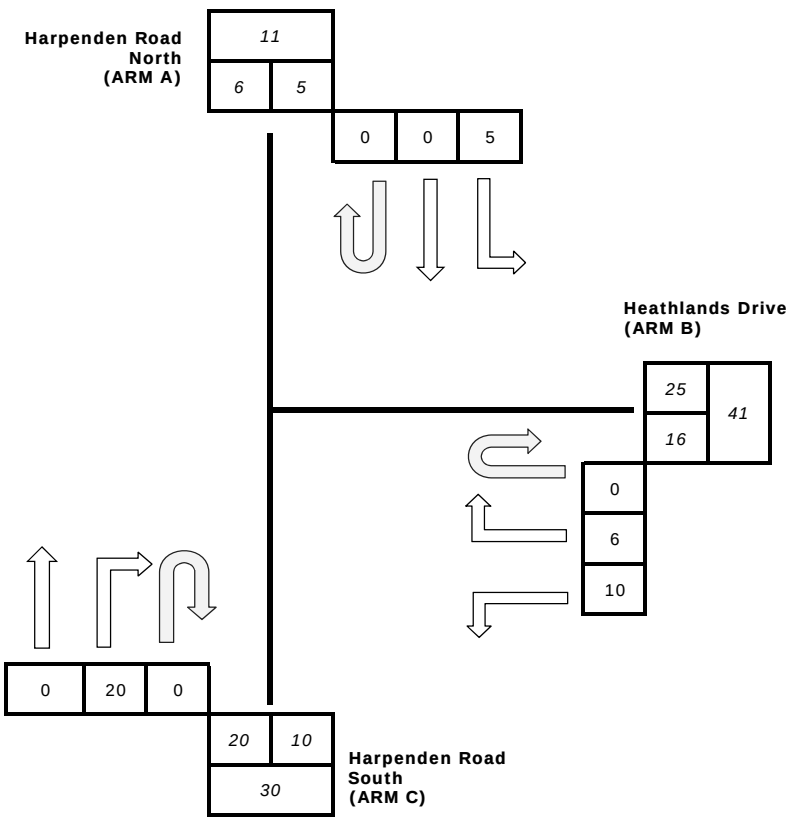
AM Peak Period **8:00**



School PM Peak **15:00**



PM Peak Period **17:00**



Site Reference:	Revision:	Details:

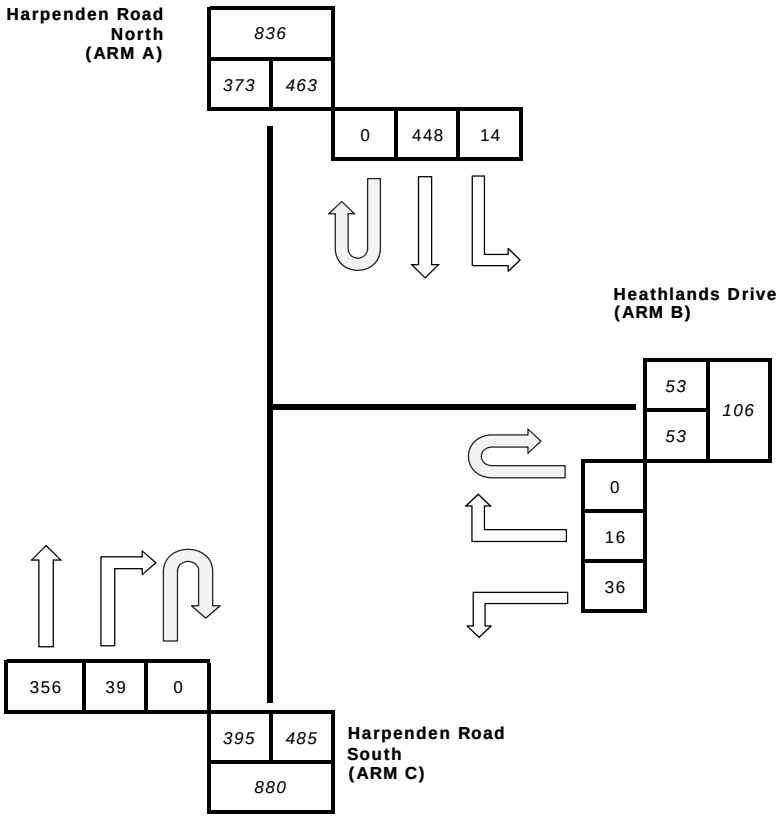
Project No. **2479**

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

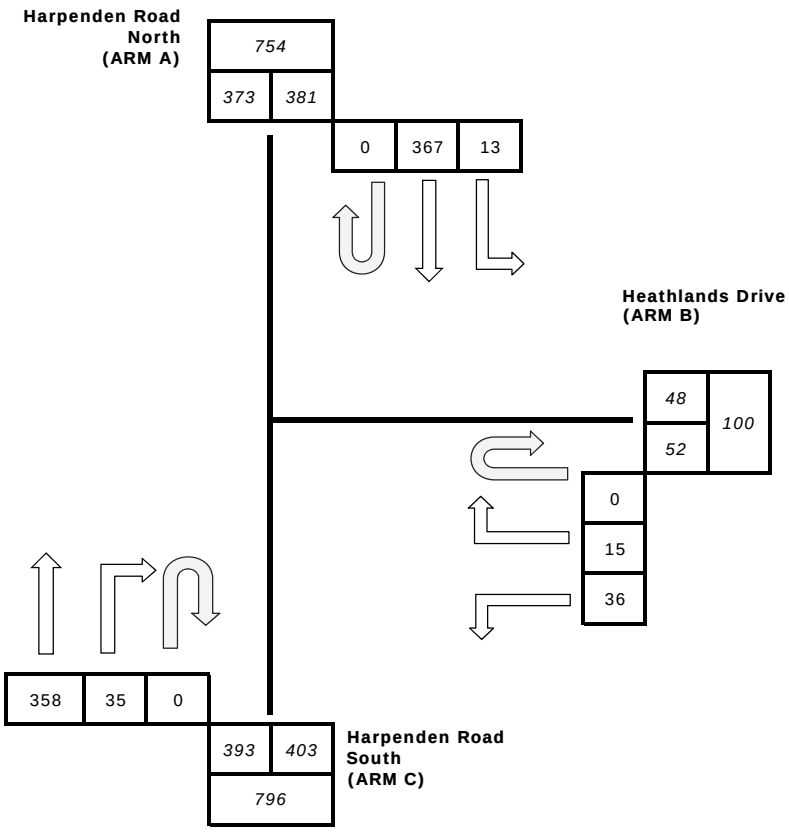
Sheet 4: Year 2025 Traffic Flows plus Residential Development

Growthed flows plus development flows (sheet 2+sheet 3)

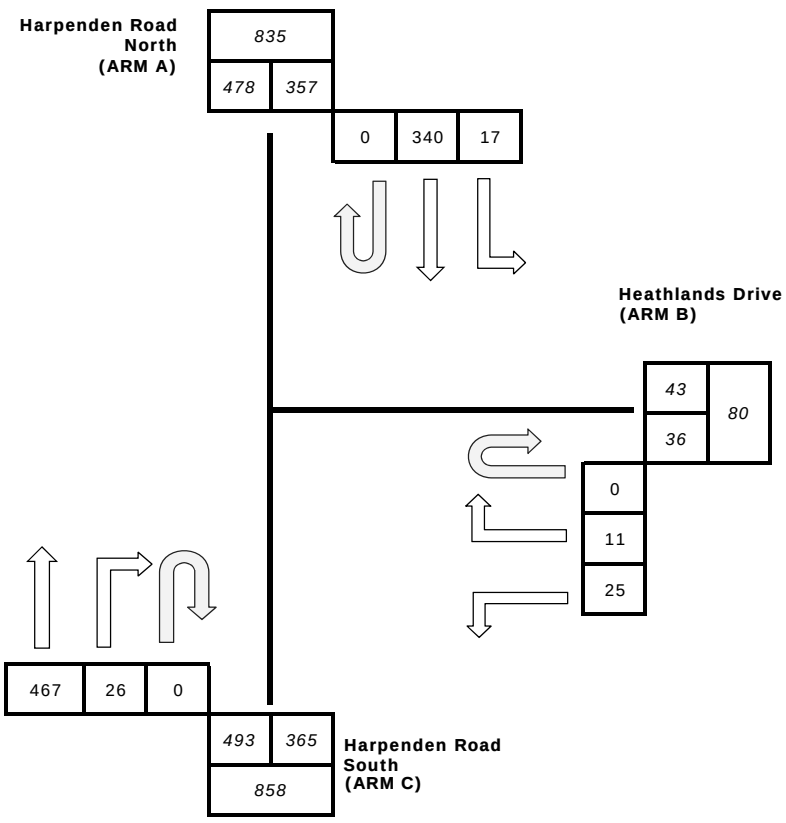
AM Peak Period **8:00**



School PM Peak **15:00**



PM Peak Period **17:00**



Site Reference:	Revision:	Details:

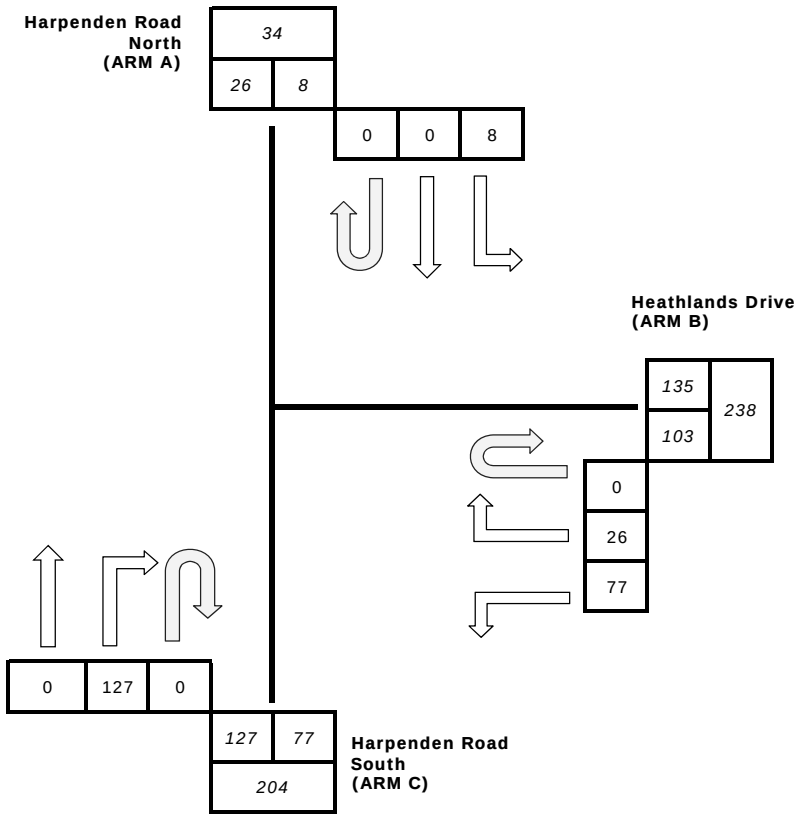
Project No. **2479**

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

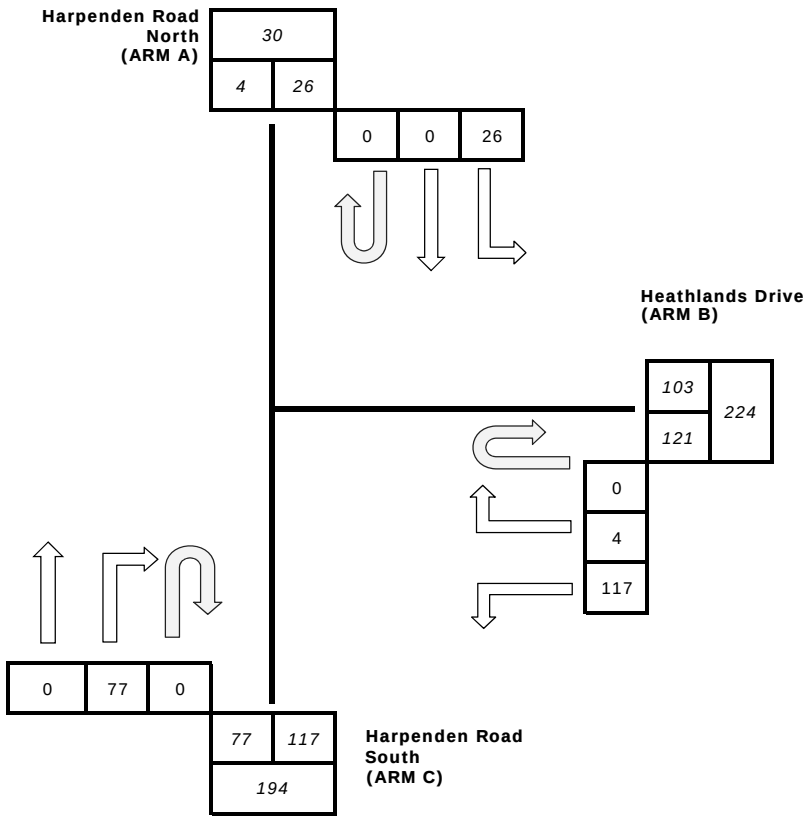
Sheet 5: Predicted School Traffic – 2FE Full – 2025

Predicted school traffic to 2025 (user input)

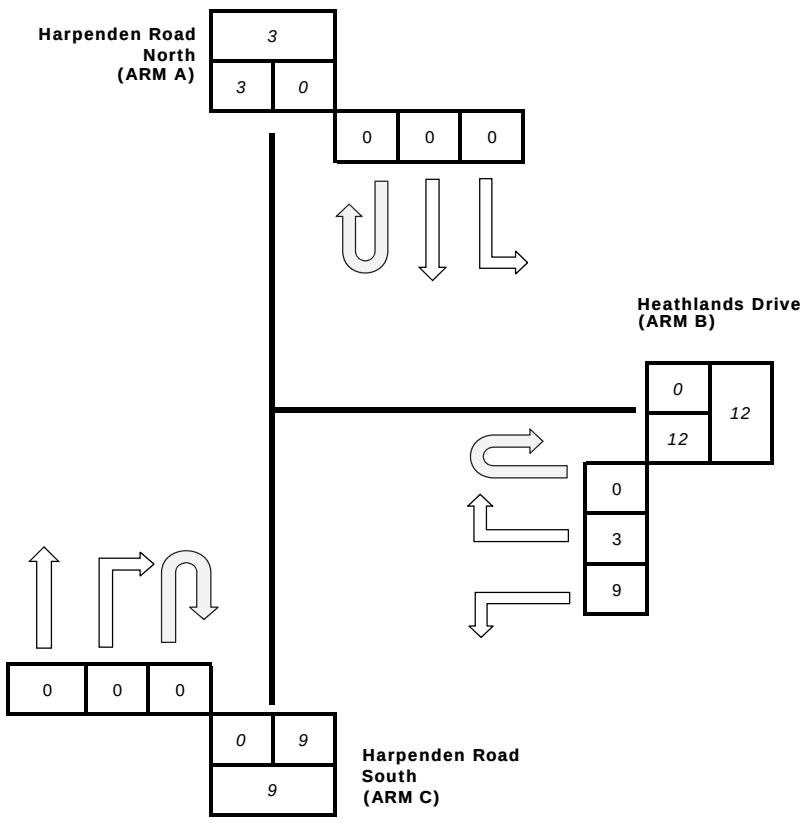
AM Peak Period **8:00**



School PM Peak **15:00**



PM Peak Period **17:00**



Site Reference:	Revision:	Details:

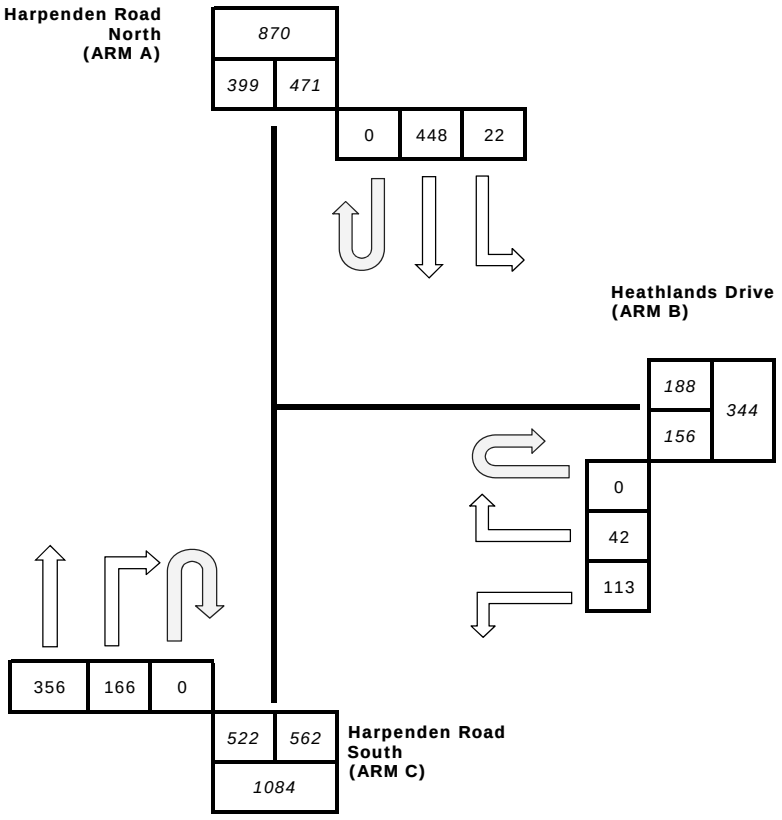
Project No. **2479**

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

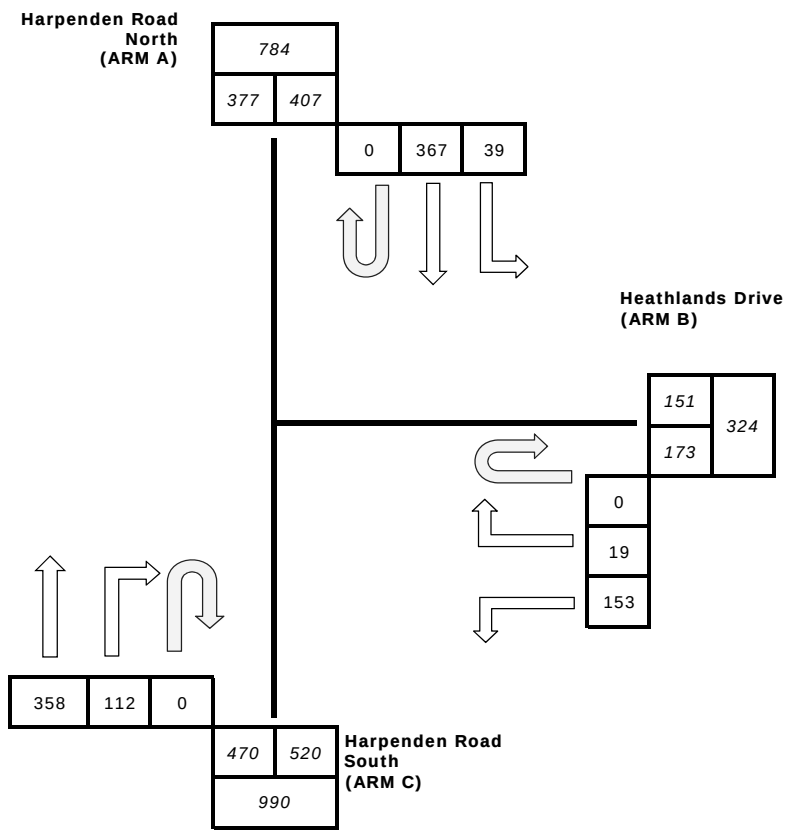
Sheet 6: Year 2025 Traffic with Residential Development plus Predicte

Proposed residential development plus prediction school traffic to Year 2025 (sheet 4+sheet 5)

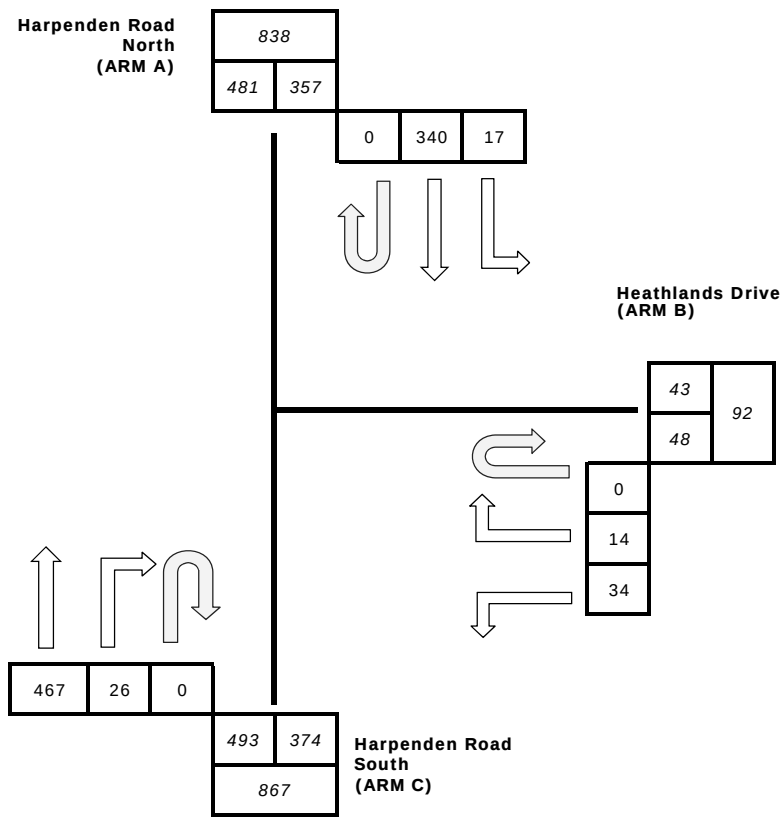
AM Peak Period **8:00**



School PM Peak **15:00**



PM Peak Period **17:00**



Site Reference:	Revision:	Details:

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Ariston Junctions 9.j9
Path: Y:\2400 Projects\2479-St Albans Primary School Search\Junctions 9\Peak Loading
Report generation date: 07/09/2016 14:56:28

Summary of junction performance

	AM Peak Period			
	Queue (Veh)	Delay (s)	RFC	LOS
	Future Traffic with Development			
Stream B-AC	0.9	16.44	0.49	C
Stream C-B	1.2	15.50	0.55	C

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

File summary

File Description

Title	Ariston Access
Location	
Site number	
Date	11/01/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ST-2479
Enumerator	STOMORLTD\paul
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	Future Traffic with Development	AM Peak Period	DIRECT	08:00	09:00	60	15

Future Traffic with Development, AM Peak Period

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	4.23	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Harpenden Road - North		Major
B	Heathlands Drive		Minor
C	Harpenden Road - South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.30			90.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.55	26	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	130.918	0.094	0.238	0.150	0.340
1	B-C	168.060	0.102	0.257	-	-
1	C-B	156.521	0.239	0.239	-	-

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

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

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

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

08:00 - 08:15

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	6.00	112.00
	B	4.00	0.00	9.00
	C	89.00	25.00	0.00

08:15 - 08:30

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	6.00	112.00
	B	9.00	0.00	23.00
	C	89.00	50.00	0.00

08:30 - 08:45

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	6.00	112.00
	B	14.00	0.00	38.00
	C	89.00	69.00	0.00

08:45 - 09:00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	6.00	112.00
	B	13.00	0.00	36.00
	C	89.00	19.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	0
	C	5	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.49	16.44	0.9	C
C-A				
C-B	0.55	15.50	1.2	C
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	13.00	112.76	0.115	12.87	0.1	8.998	A
C-A	89.00			89.00			
C-B	25.00	126.02	0.198	24.76	0.2	8.867	A
A-B	6.00			6.00			
A-C	112.00			112.00			

08:15 - 08:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	32.00	109.21	0.293	31.72	0.4	11.574	B
C-A	89.00			89.00			
C-B	50.00	126.02	0.397	49.60	0.6	11.718	B
A-B	6.00			6.00			
A-C	112.00			112.00			

08:30 - 08:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	52.00	105.68	0.492	51.47	0.9	16.443	C
C-A	89.00			89.00			
C-B	69.00	126.02	0.548	68.48	1.2	15.499	C
A-B	6.00			6.00			
A-C	112.00			112.00			

08:45 - 09:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	49.00	116.53	0.420	49.19	0.7	13.405	B
C-A	89.00			89.00			
C-B	19.00	126.02	0.151	19.99	0.2	8.564	A
A-B	6.00			6.00			
A-C	112.00			112.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Ariston Junctions 9.j9
Path: Y:\2400 Projects\2479-St Albans Primary School Search\Junctions 9\Peak Loading
Report generation date: 07/09/2016 14:57:03

Summary of junction performance

	Sch PM Peak Period			
	Queue (Veh)	Delay (s)	RFC	LOS
	Future Traffic with Development			
Stream B-AC	4.0	29.55	0.83	D
Stream C-B	1.5	17.32	0.61	C

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

File summary

File Description

Title	Ariston Access
Location	
Site number	
Date	11/01/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ST-2479
Enumerator	STOMORLTD\paul
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	Future Traffic with Development	Sch PM Peak Period	DIRECT	14:45	16:15	90	15

Future Traffic with Development, Sch PM Peak Period

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	6.03	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Harpenden Road - North		Major
B	Heathlands Drive		Minor
C	Harpenden Road - South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.30			90.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.55	26	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	130.918	0.094	0.238	0.150	0.340
1	B-C	168.060	0.102	0.257	-	-
1	C-B	156.521	0.239	0.239	-	-

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

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

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

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

14:45 - 15:00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	17.00	92.00
	B	5.00	0.00	13.00
	C	90.00	78.00	0.00

15:00 - 15:15

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	13.00	92.00
	B	5.00	0.00	13.00
	C	90.00	67.00	0.00

15:15 - 15:30

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	5.00	0.00	111.00
	C	90.00	9.00	0.00

15:30 - 15:45

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	4.00	92.00
	B	5.00	0.00	13.00
	C	90.00	13.00	0.00

15:45 - 16:00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	5.00	0.00	18.00
	C	90.00	9.00	0.00

16:00 - 16:15

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	5.00	0.00	13.00
	C	90.00	9.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	0
	C	4	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.83	29.55	4.0	D
C-A				
C-B	0.61	17.32	1.5	C
A-B				
A-C				

Main Results for each time segment

14:45 - 15:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	107.18	0.168	17.80	0.2	10.047	B
C-A	90.00			90.00			
C-B	78.00	127.07	0.614	76.49	1.5	17.322	C
A-B	17.00			17.00			
A-C	92.00			92.00			

15:00 - 15:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	110.00	0.164	18.00	0.2	9.782	A
C-A	90.00			90.00			
C-B	67.00	128.01	0.523	67.38	1.1	14.943	B
A-B	13.00			13.00			
A-C	92.00			92.00			

15:15 - 15:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	116.00	139.68	0.830	112.16	4.0	29.548	D
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	10.06	0.1	7.547	A
A-B	3.00			3.00			
A-C	92.00			92.00			

15:30 - 15:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	125.38	0.144	21.87	0.2	9.016	A
C-A	90.00			90.00			
C-B	13.00	130.12	0.100	12.96	0.1	7.679	A
A-B	4.00			4.00			
A-C	92.00			92.00			

15:45 - 16:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	23.00	127.21	0.181	22.95	0.2	8.629	A
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	9.04	0.1	7.422	A
A-B	3.00			3.00			
A-C	92.00			92.00			

16:00 - 16:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	123.47	0.146	18.05	0.2	8.540	A
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	9.00	0.1	7.418	A
A-B	3.00			3.00			
A-C	92.00			92.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []

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

Filename: Ariston Junctions 9.j9
Path: Y:\2400 Projects\2479-St Albans Primary School Search\Junctions 9\Peak Loading - Sensitivity Testing
Report generation date: 07/09/2016 14:39:08

Summary of junction performance

	Sch PM Peak Period			
	Queue (Veh)	Delay (s)	RFC	LOS
	Future Traffic with Development Sensitivity Test			
Stream B-AC	4.5	32.41	0.85	D
Stream C-B	1.5	17.32	0.61	C

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

File summary

File Description

Title	Ariston Access
Location	
Site number	
Date	11/01/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ST-2479
Enumerator	STOMORLTD\paul
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2a ST	Future Traffic with Development Sensitivity Test	Sch PM Peak Period	DIRECT	14:45	16:15	90	15

Future Traffic with Development Sensitivity Test, Sch PM Peak Period

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	6.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Harpenden Road - North		Major
B	Heathlands Drive		Minor
C	Harpenden Road - South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.30			90.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.55	26	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	130.918	0.094	0.238	0.150	0.340
1	B-C	168.060	0.102	0.257	-	-
1	C-B	156.521	0.239	0.239	-	-

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

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

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

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

14:45 - 15:00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	17.00	92.00
	B	5.00	0.00	13.00
	C	90.00	78.00	0.00

15:00 - 15:15

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	13.00	92.00
	B	5.00	0.00	13.00
	C	90.00	67.00	0.00

15:15 - 15:30

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	10.00	0.00	106.00
	C	90.00	9.00	0.00

15:30 - 15:45

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	4.00	92.00
	B	5.00	0.00	13.00
	C	90.00	13.00	0.00

15:45 - 16:00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	5.00	0.00	18.00
	C	90.00	9.00	0.00

16:00 - 16:15

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	5.00	0.00	13.00
	C	90.00	9.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	0
	C	4	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.85	32.41	4.5	D
C-A				
C-B	0.61	17.32	1.5	C
A-B				
A-C				

Main Results for each time segment

14:45 - 15:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	107.18	0.168	17.80	0.2	10.047	B
C-A	90.00			90.00			
C-B	78.00	127.07	0.614	76.49	1.5	17.322	C
A-B	17.00			17.00			
A-C	92.00			92.00			

15:00 - 15:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	110.00	0.164	18.00	0.2	9.782	A
C-A	90.00			90.00			
C-B	67.00	128.01	0.523	67.38	1.1	14.943	B
A-B	13.00			13.00			
A-C	92.00			92.00			

15:15 - 15:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	116.00	136.34	0.851	111.70	4.5	32.414	D
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	10.06	0.1	7.547	A
A-B	3.00			3.00			
A-C	92.00			92.00			

15:30 - 15:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	125.07	0.144	22.32	0.2	9.125	A
C-A	90.00			90.00			
C-B	13.00	130.12	0.100	12.96	0.1	7.679	A
A-B	4.00			4.00			
A-C	92.00			92.00			

15:45 - 16:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	23.00	127.21	0.181	22.95	0.2	8.629	A
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	9.04	0.1	7.422	A
A-B	3.00			3.00			
A-C	92.00			92.00			

16:00 - 16:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	123.47	0.146	18.05	0.2	8.542	A
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	9.00	0.1	7.418	A
A-B	3.00			3.00			
A-C	92.00			92.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Ariston Junctions 9.j9
Path: Y:\2400 Projects\2479-St Albans Primary School Search\Junctions 9\Peak Loading
Report generation date: 07/09/2016 14:59:59

Summary of junction performance

	Eve PM Peak Period			
	Queue (Veh)	Delay (s)	RFC	LOS
	Future Traffic with Development			
Stream B-AC	0.1	8.79	0.12	A
Stream C-B	0.1	7.19	0.06	A

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

File summary

File Description

Title	Ariston Access
Location	
Site number	
Date	11/01/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ST-2479
Enumerator	STOMORLTD\paul
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Future Traffic with Development	Eve PM Peak Period	ONE HOUR	16:45	18:15	15

Future Traffic with Development, Eve PM Peak Period

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Harpenden Road - North		Major
B	Heathlands Drive		Minor
C	Harpenden Road - South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.30			90.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.55	26	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	130.918	0.094	0.238	0.150	0.340
1	B-C	168.060	0.102	0.257	-	-
1	C-B	156.521	0.239	0.239	-	-

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

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

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

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/TS)	Scaling Factor (%)
A		✓	89.00	100.000
B		✓	13.00	100.000
C		✓	124.00	100.000

Origin-Destination Data

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	4.00	85.00
	B	4.00	0.00	9.00
	C	117.00	7.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	3
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.12	8.79	0.1	A
C-A				
C-B	0.06	7.19	0.1	A
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	9.79	128.30	0.076	9.71	0.1	7.584	A
C-A	88.08			88.08			
C-B	5.27	140.33	0.038	5.23	0.0	6.660	A
A-B	3.01			3.01			
A-C	63.99			63.99			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	11.69	123.52	0.095	11.66	0.1	8.043	A
C-A	105.18			105.18			
C-B	6.29	137.18	0.046	6.28	0.0	6.875	A
A-B	3.60			3.60			
A-C	76.41			76.41			

17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	14.31	116.75	0.123	14.28	0.1	8.780	A
C-A	128.82			128.82			
C-B	7.71	132.84	0.058	7.69	0.1	7.191	A
A-B	4.40			4.40			
A-C	93.59			93.59			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	14.31	116.74	0.123	14.31	0.1	8.786	A
C-A	128.82			128.82			
C-B	7.71	132.84	0.058	7.71	0.1	7.191	A
A-B	4.40			4.40			
A-C	93.59			93.59			

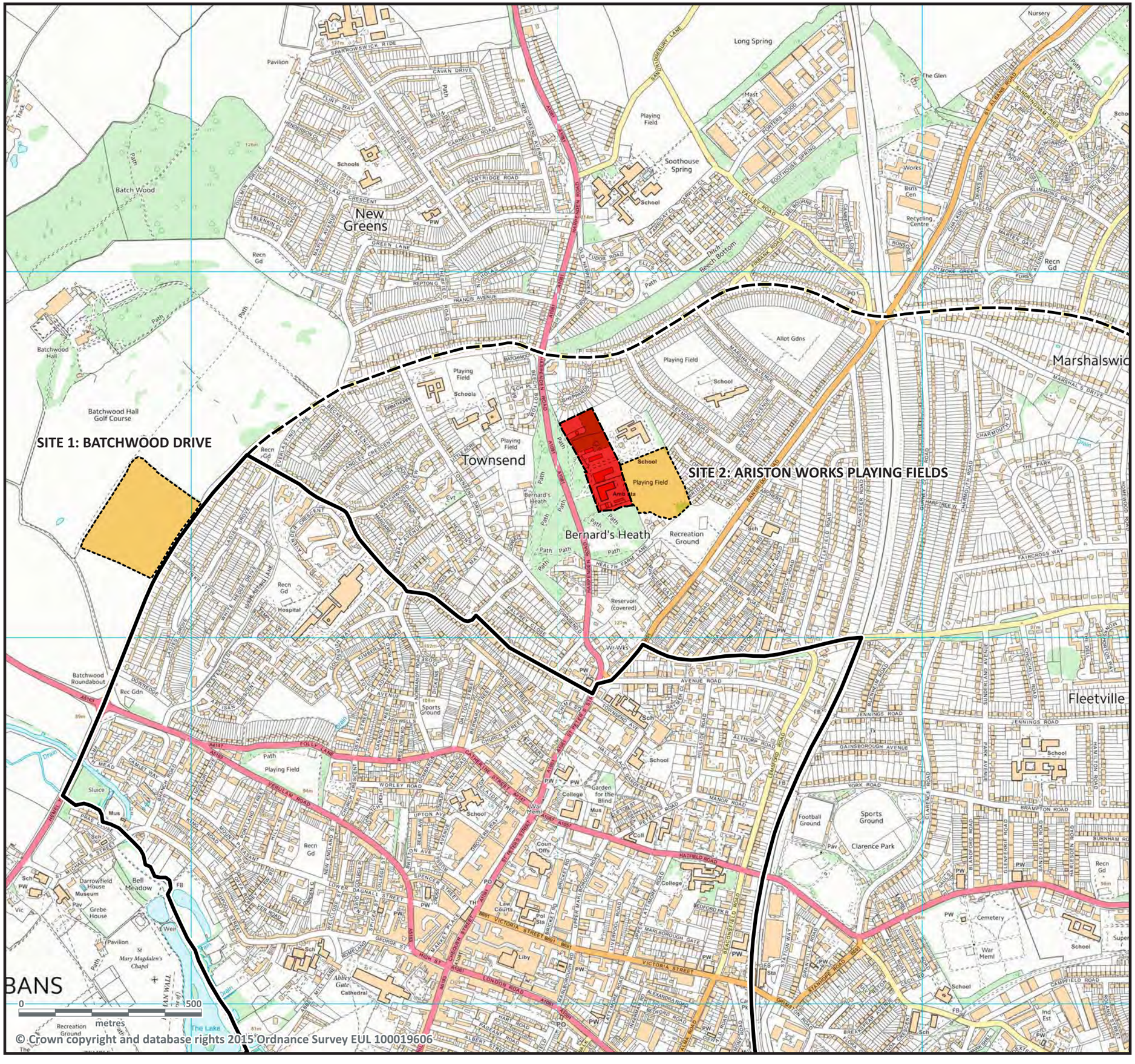
17:45 - 18:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	11.69	123.51	0.095	11.72	0.1	8.052	A
C-A	105.18			105.18			
C-B	6.29	137.18	0.046	6.31	0.0	6.879	A
A-B	3.60			3.60			
A-C	76.41			76.41			

18:00 - 18:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	9.79	128.29	0.076	9.81	0.1	7.599	A
C-A	88.08			88.08			
C-B	5.27	140.33	0.038	5.28	0.0	6.664	A
A-B	3.01			3.01			
A-C	63.99			63.99			

DRAWINGS



THE SITE

OTHER SITES UNDER CONSIDERATION

CORE SEARCH AREA

WIDER SEARCH AREA

PROJECT TITLE

St Albans Primary School
Site search

DRAWING TITLE

Site 2: WNW10 - Ariston Works
Main site
Site identification

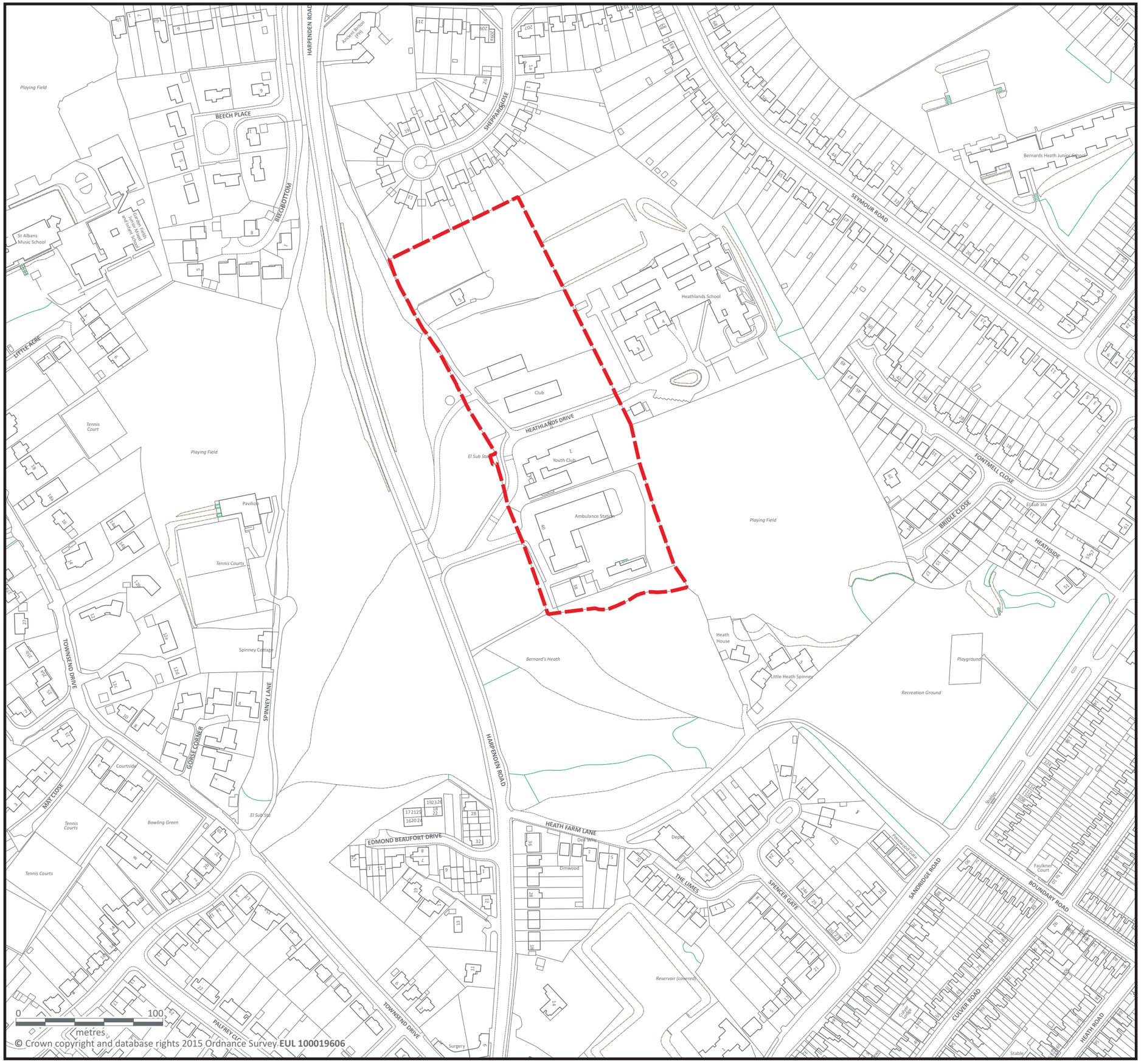
SCALE	DATE	CHECKED
1:10000	JANUARY 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

150

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035



SITE BOUNDARY
2.63ha 6.49ac

PROJECT TITLE

St Albans Primary School
Site search

DRAWING TITLE

Site 2: WNW10 - Ariston Works
Main site
Site identification

SCALE	DATE	CHECKED
1:2500	JANUARY 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

1 5 1

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

SITE BOUNDARY
2.63ha 6.49ac

PROJECT TITLE
St Albans Primary School
Site search

DRAWING TITLE
Site 2: WNW10 - Ariston Works
Main site
Aerial photograph

SCALE	DATE	CHECKED
1:2500	JANUARY 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

152

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

HEATHLANDS SCHOOL
TERRACED SLOPE DOWN
JUDO CLUB
CAR PARKING
PIONEER YOUTH CLUB
FORMER FIRE STATION
ACCESS
OUTLOOK
GRASS FIELD
FORMER PLAYING FIELD
WOODED COMMON
WOODED COMMON
EXISTING CROSSING
RECREATION GROUND
CYCLE ROUTE
CYCLE ROUTE
HARPENDEN ROAD
HEATHLANDS DRIVE
SEYMOUR ROAD
FONTMELL CLOSE
BRIDLE CLOSE
HEATHSIDE
SHEPPARDS CLOSE
BEECH PLACE
BEECHBOTTOM
LITTLE ACRE
TOWNSEND DRIVE
GORSE CORNER
MAY CLOSE
EDMOND BEAUFORT DRIVE
HEATH FARM LANE
THE LIMES
SPENCER GATE
SANDRIDGE ROAD
BOUNDARY ROAD
CULVER ROAD
HEATH ROAD
PALFREY CLOSE
0
100
metres
© Crown copyright and database rights 2015 Ordnance Survey EUL 100019606

SITE BOUNDARY
2.63ha 6.49ac

PROJECT TITLE
St Albans Primary School
Site search

DRAWING TITLE
Site 2: WNW10 - Ariston Works
Main site
Site appraisal

SCALE	DATE	CHECKED
1:2500	JANUARY 2016	
	DRAWN HNA	DATE

PROJECT No.
5115 N 1 5 3

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

SCHOOL SITE BOUNDARY
2.63ha 6.49ac

PROJECT TITLE

St Albans Primary School
Site search

DRAWING TITLE

Site 2: WNW10 - Ariston Works
Main site
Development principles

SCALE	DATE	CHECKED
1:2500	MARCH 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

154

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

0 50 metres

RESIDENTIAL PROPERTIES (AT LOWER LEVEL)

SEYMOUR ROAD

SCHOOL PLAYING FIELD

TERRACED SLOPE DOWN

SUNKEN PATH

Heathlands School

WOODLAND

VIEWS OF HOUSES

WOODED COMMON

CAR PARKING

CAR PARKING

OVERLOOKING

HARPENDEN ROAD

DELL

FORMER FIRE STATION

HOSE TOWER

HOUSE

DELL

GRASS FIELD
(FORMER PLAYING FIELD)

Heath House

RECENTLY BUILT HOUSES

OPEN SPACE
(RECREATION GROUND)

WOODED COMMON

SITE BOUNDARY
5.36ha 13.24ac

OTHER LAND OWNED BY HERTFORDSHIRE COUNTY COUNCIL
2.11ha 5.21ac

SINGLE STOREY BUILDING

TWO STOREY BUILDING

THREE STOREY BUILDING

PROMINENT TREES

INFORMAL ACCESS POINTS

REVISION A:
Site boundary and other land boundary amendments
HNA/19-11-2013

REVISION B:
Site boundary amended
HNA/10-03-2015

PROJECT TITLE
Former Ariston Works
Harpenden Road
ST ALBANS

DRAWING TITLE
Site appraisal

SCALE	DATE	CHECKED
1:1250	SEPTEMBER 2013	
	DRAWN HNA	DATE

PROJECT No. 4208 | N | 355 B

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

ST ALBANS PRIMARY SCHOOL SITE SEARCH

PLANNING APPRAISAL REPORT FOR SHORT LISTED POTENTIAL NEW PRIMARY SCHOOL SITES

SITE 3: WNW11 – LAND AT ARISTON WORKS (FORMER PLAYING FIELD), HARPENDEN ROAD, ST ALBANS (REVISED JANUARY 2017)

1.0 INTRODUCTION

1.1 This planning appraisal is for the following site which was short listed following a review of potential sites for a new primary school at St Albans:

- Land at Ariston Works (former playing field), Harpenden Road, St Albans

1.2 The site is also known as the Lower Field or Lower Heath.

1.3 This appraisal updates the September 2016 version, which amended the original (March 2016) version to take account of a Technical Note on the Heathlands Drive / Harpenden Road junction prepared by Stomor (see below for further details). This update amends the earlier version to take account of a report on Geotechnical Hazards prepared by Opus.

1.4 The site is located on the northern side of St Albans, within the Wider Search Area, approximately 400m north of the Core Search Area.

1.5 A site visit has been visited on many occasions – the most recent being on 2nd February 2016.

1.6 The site has an area of approximately 2.44ha. This appraisal assesses whether there is potential for the site to accommodate a 2fe primary school.

1.7 The following drawings accompany this report:

- Site Location Plan (drawing 5115/200)
- Site Identification Plan (drawing 5115/201)
- Aerial Photograph (drawing 5115/202)
- Site Appraisal (drawing 5115/203)
- Development Principles (drawing 5115/204)

1.8 The following drawing also accompanies this report:

- Site appraisal (drawing 4208/355B)

1.9 This is a more detailed site appraisal drawing, incorporating topographical survey information, which has been prepared for the whole of the Ariston Works site (Sites WNW10 and WNW11) for the purposes of a planning application which is to be submitted to St Albans City and District Council.

1.10 The County Council has been progressing proposals for a mixed use development on the Ariston Works site (including the adjoining main site - Site WNW10), for a number of years. The development proposals include residential development, open space, and a replacement youth and community building, with the built development on the main site and most of the open space on the former playing field (this site). As part of these

proposals a number of technical studies and investigations have been undertaken. The following paragraphs incorporate the main findings of these investigations.

1.11 The following reports also accompany this report (see Appendix):

- High Level Accessibility Appraisal (including drawing ST-2479-05) prepared by Stomor Civil Engineering Consultants.
- Technical Note on Heathlands Drive / A1081 Harpenden Road Junction Modelling prepared by Stomor Civil Engineering Consultants.

2.0 SITE DESCRIPTION

2.1 The site is located in the northern part of St. Albans approximately 700m north of the City Centre. It lies to the east of the main part of the Ariston Works site which lies to the east of Bernard's Heath which is an area of common land on either side of Harpenden Road from which the site has access across the common (via the main part of the site).

2.2 The site comprises an area of former brick fields and clay pits which were restored to use as playing fields. It is currently an area of informal grassland with a number of shallow grass mounds, which are the result of remedial works due to subsidence of parts of the field. A temporary access road currently crosses the field to provide vehicular access to a number of residential properties in Fontmell Close and Bridge Close which were stranded following the opening of a large sink hole in October 2015.

2.3 As mentioned earlier the field is often referred to as the Lower Field or Lower Heath. It is owned by the County Council.

2.4 Immediately to the west of the site is the main part of the Ariston works site (Site WNW10) which comprises an area of partly used and partly unused land. It includes the site of the former St Albans Adolescent Resources Centre, a number of buildings – St Albans Judo Club, The Pioneer Club, the former St Albans fire station (now closed and replaced elsewhere), and an ambulance station. It is largely hidden from view by existing woodland, trees and vegetation on the heath. The main body of the site is connected to Harpenden Road by a narrow corridor of land partly comprising Heathlands Drive and partly the access road serving the former fire station and the ambulance station. The playing fields have a maintenance access from this site.

2.5 The existing access on the main site is shared with Heathlands School, which lies immediately to the north of the former playing field. Heathlands School is a special school for the hearing impaired, currently offering nursery, primary, and secondary provision

2.6 Immediately to the east and south west of the site and the west of the main site is an area of common land known as Bernard's Heath, which is used as public open space.

2.7 The area of the common to the south west of the site mostly comprises mature woodland, with a number of deep depressions and significant changes in level. The area to the east, beyond a hedgerow and trees, is a more formal recreation ground with children's playground.

2.8 To the east of the site is a residential area comprising mainly two storey semi-detached and detached houses. Immediately to the south west, within the common, is a cluster of recent two storey detached houses. A short distance further to the south, beyond an area of common, is a residential area of mainly two storey semi-detached and detached houses.

2.9 **Access/Highways** – apart from the temporary access mentioned above, the site has a maintenance access via the adjoining main part of the site, from the un-adopted Heathlands Drive, which crosses Bernard's Heath, and joins Harpenden Road to the west at a priority junction. Heathlands Drive serves the site and Heathlands School, with the former Fire Station and the former Ambulance Station, having a separate access off the Drive.

2.10 Harpenden Road (A1081) is the main route leading to and through St. Albans city centre to the south and Harpenden to the north.

2.11 Stomor Civil Engineering Consultants have undertaken a high level transportation and accessibility appraisal for the site (and the adjoining Site 2 WNW10), based on a review of work previously undertaken by other consultants (Wormald Burrows Partnership), which makes the following conclusions (for both sites):

The former Ariston site is well located in a residential area to serve a wide catchment. It is expected that most pupils will travel from the main area of need to the south. Existing levels of traffic in the vicinity of the site were observed to be reasonably low, so the access should be able to cater for the levels of traffic expected with a 2FE primary school, in addition to traffic already on Heathlands Drive from Heathlands School and the existing community use of a Judo Club and Youth Centre. However, modelling would be required to simulate the impact of school traffic on the local network and confirm this.

It is considered that fairly minimal works are likely to be required if the western site (WNW10) is redeveloped with the eastern site (WNW11) left as open space. Works are likely to include remediation of the concrete access road and installation of a new foot/cycleway to the north of the access. Additionally, there are likely to be some waiting restrictions required on the main access routes and, possibly also installation of new street lights on Heathlands Drive.

Development of the eastern site is likely to require more extensive works as a result of sharing the access with a new residential development on the western site. It is considered that the junction from the A1081 is unlikely to be able to cope with school on the east site and the other development on the west site. Detailed analysis would be required to confirm junction capacity. The land adjacent to the A1081 Harpenden Road is understood to be Common Land. This is likely to prohibit any widening in the vicinity of the site, and therefore, it is unlikely the junction can be improved.

The local public transport provision and cycle network are reasonable, providing options for staff as well as accompanied pupils to use these sustainable travel modes.

Given the very limited opportunities for parking around the site, on site provision for parents as well as staff vehicles will be required. There is potential for a park and stride scheme with the Ancient Briton public house to be used if the necessary agreement is obtained.

Overall, the western site offers a fairly straight forward opportunity to locate a 2FE primary school with reasonably good accessibility to the north of St Albans City Centre. On the basis of the existing traffic flows on the A1081 and the low expected level of school vehicular traffic, given the site's central location, it appears that the access should be able to adequately deal with this possible use. Further analysis will be needed to confirm this and test the local network, but it is considered that the site is sufficiently suitable to warrant this further study.

2.12 A copy of the report, and the accompanying drawing which illustrates the main conclusions, is attached at the Appendix.

2.13 Stomor Civil Engineering Consultants subsequently prepared a short Technical Note on Heathlands Drive / A1081 Harpenden Road Junction Modelling (7th September 2016), which considered the suitability of Heathlands Drive and its junction with the A1081 Harpenden Road to serve a development consisting of a new 2FE primary school, a residential development of 48 dwellings, a replacement youth and community building and the existing Heathlands Special School for Deaf Children. (See below for information on development proposals). The note makes the following conclusion:

Based on the assumptions above, the J9 modelling indicates that the junction should be able to just cope with the predicated traffic associated with:-

- *A new 2FE primary school,*
- *48 residential units*
- *A replacement youth and community building*
- *Maintaining access to Heathlands – A Special School for Deaf Children.*

Most of the school generated traffic is expected to be concentrated over a short period of time at either ends of the school day, so this is when the junction is likely to experience the most delay. However modelling suggests that this should not be too significant. The operation of the junction becomes more sensitive to additional traffic the closer it is to its capacity, so a fairly modest increase in traffic may cause a noticeable change in the junctions operation. The assumptions above consider that the majority of pupils would walk to school, so measures would need to be implemented to encourage this. The assumptions also consider that all pupils originate from the south as advised by HCC; if more were expected to come from the north, the modelling may indicate a different result.

2.14 A copy of the note is also attached at the Appendix.

2.15 **Pedestrian / cycle access** – there are several points of access to the site from Bernard's Heath and the main part of the site. The St Albans Green Ring, which is a strategic cycle route (partly off road and partly on quiet roads) running around St Albans, runs along the western side of Harpenden Road, with a Toucan crossing point to the south of Heathlands Drive. A further cycle route, which forms part of the Sustrans National Cycle Network, runs along the western edge of Bernard's Heath.

2.16 **Public transport** – Harpenden Road is the main route into the city centre from the north west and is a public transport corridor with Arriva bus service 321 providing a half-hourly link to the retail, service and community facilities in St. Albans city centre as well as to facilities in Luton and Watford. Harpenden Road is also served by routes 84A, 361 and 714, but these services are less frequent. There is a bus stop close to the site. Sandridge Road is a short distance to the east of the site and is also an important public transport corridor with two services operating – 304/305 and 657.

2.17 **Green Belt** – the site is not located in the Green Belt.

2.18 **Land ownership** – the land is owned by Hertfordshire CC.

2.19 **Flooding** – the Environment Agency website indicates that the site is not within an area at risk of flooding. A Flood Risk Assessment (including drainage strategy) has been prepared by Wormald Burrows Partnership which concludes that the site is not at risk from the sources of flooding considered,

as suitable sustainable engineering measures can be implemented to mitigate and manage flood risk.

2.20 **Topography** – The site is generally level with gently sloping mounds. It lies at a lower level than land to the east, due to past quarrying activities relating to the former brickearth workings on the site. (See below for further information).

2.21 **Listed buildings/conservation area** – there are no listed buildings on the site or in the vicinity of the site and the site is not within a conservation area. The nearest conservation area lies approximately 140m to the east of the site.

2.22 **Archaeology** – the site does not contain any Scheduled Ancient Monuments and does not lie within an Area of Archaeological Significance. A Heritage Desk Based Assessment prepared by CgMs Consulting (September 2013) has established that the majority of the site has been disturbed by former industrial uses, consequently, there is no archaeological potential within the southern part of the site. The remaining area has low/no archaeological potential. In these circumstances, it is concluded that the proposed residential development proposals do not require any further archaeological investigations or mitigation works.

2.23 **Other Heritage Assets** – The site is located within the general locality of the Second Battle of St. Albans. However, the battlefield is not included on the English Heritage Register of Battlefields since "the battlefield no longer survives sufficiently to warrant conservation measures ..." The Battlefields Trust confirmed that it had no objection to the development of the area shown for development in the Planning Brief (see Planning Policy Context) (ie the main part of the site) and supported keeping the former playing field (ie this site) free from development as it forms part of the remaining open area of the original battlefield.

2.24 **Ecology** – the site has no designations for its nature conservation importance or interest, and there are no Sites of Special Scientific Interest or Local Nature reserves within 2km of the site. There are a number of non-statutory County Wildlife Sites (CWSs) within 2km of the site, the nearest being Bernard's Heath which is adjacent to the site.

2.25 A number of ecological appraisals and species surveys have been undertaken for the site. These found that the site contains a number of habitats which are all common and under no conservation threat and have a lack of general ecological value. They also did not find any bat roosts or reptiles and advised that the site is unlikely to support important species of amphibians. However, surveys did find some bird nesting habitat, bat feeding / foraging habitat, and potential hedgehog habitat. The report made a number of recommendations for mitigation measures for nesting birds, bats and hedgehogs.

2.26 **Trees** – There is an area of woodland on the southern boundary of the site, where there are changes level due to past brickearth workings, and a number of mature trees on the other boundaries of the site and immediately adjoining the site. A tree survey has been carried out and a root protection plan prepared.

2.27 **Tree Preservation Order** – the status of the trees has not been investigated at this stage but it is likely that there are trees on the site which would be worthy of a TPO.

2.28 **Agricultural land quality** – not applicable.

2.29 **Public Rights of Way** – There are no definitive public rights of way (i.e. public footpaths or bridleways etc) crossing the site. However, there are a number of points around the boundary of the site where pedestrian access is gained to the site on an informal basis from the adjoining open space and common land, and from a car park at the rear of the Pioneer Club. (Note: standard HCC ownership signs are in place)

2.30 **Public access / Community Use** – Bernard's Heath is an area of registered Common Land, which is also an area of Access Land over which there is public access. In 2000 an application was made by the Bernard's Heath Village Green Preservation Society to register the former playing field as a town or village green. However, the application was rejected following a Public Inquiry in June 2002.

2.31 In April 2014 St Albans City and District Council gave notice that the former playing field (referred to as the Lower Field) had been added to the Council's list of Assets of Community Value.

2.32 **Noise sources** – there are unlikely to be any significant noise issues.

2.33 **Size / shape** – the site comprises a large rectangular field which is more than the minimum 0.7ha required by this study to accommodate a new primary school (excluding playing field) on a constrained urban site. It is also larger than the 1.99ha site required by BB103 for a new 2FE primary school (including 60 place nursery and playing field) on an unrestrained site in a non-urban area.

2.34 **Ground conditions** – a number of geotechnical and geo-environmental investigations have been carried out for the site and the adjoining main part of the Ariston site (Site WNW10) in connection with development proposals (see Planning History section below) as they have a history of former industrial activities and brickearth excavations and lime workings. Further investigations have also been undertaken following the opening up of a large sink hole, at Fontmell Close in the residential area a short distance to the east of the site, in October 2015. These investigations, which are on-going, have identified a number of anomalies which may affect the site.

2.35 A Geotechnical Hazards Summary Report (August 2016) has been prepared by Opus on behalf of the County Council which provides a summary of the assessments of potential geotechnical hazards which might be encountered across the site and the bearing they may have on the potential location of a school on the site.

2.36 The Executive Summary advises that:

There are potential development constraints associated with the presence of past clay extraction and the likely presence of variable depth of unreliable materials (Made Ground) at shallow and moderate depths. This rules out the use of traditional shallow footings for much of the proposed building footprint.

There will also be abnormal costs associated with the required precautions associated with external areas (roads, parking, hard landscaped areas etc.) and provision of service installations (in particular drains, sewers and water supply).

The proposed mitigation works are within the "normal" range of site specific "extra-over" costs associated with poor near surface ground conditions. The site is therefore considered developable.

2.37 The report notes that the footprint of a school building may be able to be adjusted to avoid anomalies.

2.38 (Note: The residential properties which were stranded by the sink hole were accessed via a temporary road which crossed the former playing field from the rear of the closed fire station on the adjoining main part of the Ariston site).

3.0 SUMMARY OF RELEVANT LOCAL PLANNING POLICIES

3.1 The St Albans District Local Plan was adopted in November 1994 and covers the period 1981 to 2001. A number of policies have been 'saved'.

3.2 The Local Plan Proposals Map does not indicate any designations or allocations affecting the site or the immediately adjoining land apart from including them in the built up area of St Albans, which is one of two towns in the district which area excluded from the Green Belt.

Policy 2 Settlement Strategy advises that development will generally be concentrated in the towns, but proposals should not detract from their essential character, particularly in respect of a number of considerations, including green spaces within settlements (Policy 75).

3.3 The Local Plan contains the following 'saved' policies which are of relevance:

Policy 65 Education Facilities is particularly relevant to the current proposals, particularly part A which relates to proposals for new schools, extensions to existing schools and changes of use to schools within towns and specified settlements. It advises that proposals for new schools (and extensions or changes of use) will be assessed against the following criteria:

(i) Where a loss of dwellings is proposed, Policy 10 (iv) shall be complied with;

(ii) The impact on the amenity of the surrounding area in terms of visual impact, design, noise and disturbance, road access and traffic generation;

(iii) Sufficient on-site parking and servicing shall be provided;

(iv) Provision shall be made for the setting down and picking up of pupils, by car or public transport, in a safe and acceptable manner.

[Note: there are no dwellings on the site]

Policy 69 General Design and Layout – seeks to ensure developments are to a high standard.

Policy 75 Green Space Within Settlements seeks to protect green space or re-provide it elsewhere if its loss would result in a deficiency of open space in the area. The policy would not permit development if it would destroy the character of any remaining green space. The policy identifies a number of considerations which will be taken into account in determining planning applications for the development of green space within towns. The accompanying explanatory text advises that urban green spaces consist of all open land, irrespective of ownership, which supports trees and other plants in

built–up areas, including parks, playing fields, allotments, verges , waste land about public utilities and gardens.

Policy 74 Landscaping and Tree Preservation – seeks to retain existing landscaping and provide new landscaping in developments

Policy 39 Parking Standards, General Requirements sets out the Council's car parking standards.

Planning brief

3.4 In October 2001 the District Council approved a Planning Brief for the site (including the former playing field – Site WNW11), and the adjoining Heathlands School, following public consultations, including an exhibition. The aim of the brief was to provide a planning framework for the redevelopment of the site, consistent with planning policies. The brief proposed the following:

- Residential development of the northern part of the site, except the woodland (i.e. Pioneer Centre, Judo Club, IT Centre, and the sites of the former depot and houses).
- Community use of the site of the fire and ambulance stations.
- Retention of the playing field (now former playing field) as open space.
- Retention of Heathlands School
- Retention of existing trees and new planting.
- Improvement to junction of Heathlands Drive / new access with Harpenden Road.

3.5 The brief indicates a residential area of 1.55ha, comprising three areas, and indicated suggested densities and number of storeys for development as follows:

- Northern area – 10 to 20 dpha and 2 storey maximum
- Central area – 20 to 30 dpha and 2.5 storey maximum
- Southern area – over 30 dpha, may include flats up to 3 storeys

3.6 The brief includes a section on implementation which identifies a number of matters which may be covered by a Section 106 Agreement.

4.0 PLANNING HISTORY

4.1 In August 2002 St Albans City and District Council resolved to grant planning permission (ref: 5/02/0852) for the comprehensive redevelopment of the adjoining main site, subject to the completion of a S106 agreement. The application was for residential, community and open space purposes, including approximately 50 dwellings. The proposals included the relocation of St Albans Judo Club and Pioneer Club, with ancillary parking. The former playing field was outside this site but was shown as retained as open space.

4.2 The Legal Agreement, which reached an advanced stage, was not concluded and so a planning permission was not issued. Technically the 2002 application is therefore still 'live'.

4.3 Since 2012 the County Council has been progressing proposals for a new planning application which is effectively a renewal (or refresh) of the 2002

planning application, but with the site extended to include this site (to be used as open space. This has involved commissioning updated technical investigations, discussions with St Albans Council, and holding two public exhibitions. However, submission of the application has been delayed pending the resolution of highways / access issues, negotiations over the content of the related S106 agreement, and more recently by ground condition issues relating to the sink hole at Fontmell Close, which opening up near the site, including the need for further technical investigations.

5.0 ASSESSMENT OF POTENTIAL FOR NEW PRIMARY SCHOOL

Site

5.1 The site has an area of 2.44ha, which is significantly more than the minimum 0.7ha size sought for a new 2FE primary school by this study to identify potential new primary school sites (excluding playing field). It would also be more than the minimum 1.99ha site required by BB103 for a new 2FE primary school (including 60 place nursery and playing field) on an unrestrained school site in a non-urban area. It would also allow room for adjusting the location of a building to avoid ground anomalies (if necessary). Unlike the main part of the Ariston site the former playing field is relatively clear of trees and other site features, apart from the gentle mounds (assuming the temporary access road is removed).

Acquisition of additional land

5.2 The site is adjoined by the main part of the Ariston Works site (Site WNW10), which is also owned by the County Council, which could potentially enable the site to be enlarged, but this may not be necessary. It is also adjoined by Bernard's Heath to the east which could also potentially enable the site to be enlarged, but is a registered Common and designated Access Land, is used as a public open space, and is at a higher level than the site.

Maximum height of development

5.3 Bearing in mind the location a single or two storey building would be appropriate.

Location relative to area of need

5.4 The site is located in the Wider Search Area approximately 400m north of the Core Search Area which is the optimum location for a new primary school, and so is a sub-optimal location. However, it is located approximately 700m north of the City Centre and so may help meet needs within the Core Search Area.

Other considerations

5.5 We understand that the adjoining Heathlands School may wish to use part of the field to enable that school to be expanded and that the proposed youth and community building, which is proposed as part of the redevelopment of the main site, may need to use part of the field as a sports pitch. There is also the possibility that another school may require additional playing fields.

5.6 The site is formally unused, apart from a temporary access road, but is informally used by the public as if it were open space. The site has recently

been designated an Asset of Community Value and Local Plan policies seek to protect the open space from development. It may also be one of the last remaining open areas of the site of the Second Battle of St. Albans, although this is not a formally designated battlefield site. But this could become an issue if it were to be developed for a school.

Development principles

5.7 The Development Principles drawing illustrates how a 2FE primary school could be accommodated on the site. This is based on a new primary school (including nursery) for an unrestrained site (1.99ha) in a non-urban area, rather than a two storey school on a constrained urban site (0.7ha), with detached playing field, as this is considered to be more appropriate for the site and could be accommodated on the site bearing in mind its size. As noted earlier the location of the building could be adjusted to avoid ground anomalies (if necessary).

6.0 SUMMARY AND CONCLUSIONS

6.1 The main planning and environmental constraints and considerations which would affect the potential use of the site for a new primary school are:

- Loss of Green Space (ie open space), which is designated an Asset of Community Value
- Relationship to Bernard's Heath (County Wildlife Site / Registered Common Land / Access Land / mature trees)

6.2 Potential ground stability issues were previously thought to be a constraint on the potential use of the site for a new primary school but technical investigations indicate that the site is developable. Although there will be abnormal costs they are within the normal range of costs.

6.3 Another consideration is that the site may be one of the last open areas of the site of the Second Battle of St. Albans, although this is not a formally designated battlefield site.

6.4 The site is of sufficient size to accommodate a new primary school based on the higher standard for an unrestrained site in a non-urban area, rather than the minimum 0.7ha (excluding playing field) for a constrained site which has been sought by this site search. Apart from a number of gentle mounds there are no site features to affect its use as a school.

6.5 It is located outside the optimum location for a new school, but may help to meet needs within the Core Area, being located in the Wider Search Area. It is also owned by the County Council, which is an advantage.

6.6 The site is relatively free of physical and site constraints and considerations (apart from ground stability issues) which would affect the potential use of the site for a new primary school. The main constraints are:

- Its use by the public as if it were open space, Local Plan policy which seeks to protect Green Spaces within Settlements, and its designation as an Asset of Community Value (although a school use may not conflict with this designation). It had also been offered informally to St Albans DC for use as open space.

- The possibility that the site may be needed to allow the expansion of Heathlands School and/or provide a playing pitch for the proposed youth and community building or for another school.
- Existing mature trees on the perimeter of the site
- Provision of a satisfactory vehicular access, which would be most likely to need to be via a redevelopment of the main site (ie Site 2 WNW10) – it may therefore be dependent on that development taking place and the timing of that development.

6.7 Proposals for a school would need to avoid the existing trees, which would need to be retained.

6.8 The high level transportation and accessibility appraisal initially advised that the Heathlands Drive junction with the A1081 is unlikely to be able to cope with a development consisting of a new 2FE primary school, residential development, and a replacement youth and community building on the main Ariston site, and the existing Heathlands School. However, the subsequent technical note which looked in more detail at the suitability of the junction to serve these uses found that it should just about be able to cope with the predicted traffic, based on a number of assumptions, including the majority of pupils would walk to the school, and all school related traffic is from the south.

6.9 Most of the necessary studies and technical investigations have already been undertaken for the site in connection with the current redevelopment proposals but they may need to be modified to reflect proposals for a school rather than residential / youth and community use / open space, in particular the following:

- Transport assessment
- Utilities assessment

6.10 Ground condition investigations are on-going and may identify ground stability issues which would need to be addressed by development proposals for the site.

6.11 It was previously concluded that although the site is relatively unconstrained (apart from being a green space, possibly being one of the last remaining open areas of the Second Battle of St Albans, a designated Asset of Community Value, and used by the public as open space), and is owned by the County Council and could help meet needs in the Core Area, it is in a sub-optimum location.

6.12 Ground condition issues and junction capacity issues (re: Heathlands Drive / Harpenden Road) were previously identified as matters which, taken together, meant that there was significant uncertainty about whether the site would be able to accommodate a new school. However, further technical investigations indicate that these issues can be addressed and would not prevent the site being able to accommodate a new primary school.

6.13 In the light of the further investigations the overall conclusion is that although there are a number of issues the site is potentially suitable for a new primary school and merits further consideration.

APPENDIX

St Albans Primary School Site Search

High Level Accessibility Appraisal for Sites at Former Ariston Works

This high level access appraisal is to consider the suitability of access for a new 2 Form of Entry (2FE) primary school on the location of the former Ariston Works site in St Albans. It is to be read in conjunction with Drawing ST-2479-05, attached to the end of this document and refers to site references WNW10 and WNW11.

There are two sites to be considered, WNW10 the former fire station and existing community use buildings on the west of Heathlands School (herein referred to as the west site) and WNW11 the playing field to the south of Heathlands School (herein referred to as the east site). The Client has advised that both sites would take their access from Heathlands Drive to the west, so therefore will be considered in one access appraisal and generally as one site, except where the potential sites have significantly different requirements.

The west site was subject to an assessment of access suitability for residential use in 2015 by Wormald Burrows Partnership Limited (WBPL). This study considered serving the site through Heathlands Drive onto the A1081 Harpenden Road, with access maintained through the site to Heathlands School for Deaf Children. The Transport Statement (TS) considered the redevelopment of the former fire station to 48 residential units, along with the replacement of the youth and community facilities on site. This TS concluded that the site could be suitably served from the A1081 Harpenden Road with some minor improvements to visibility splays.

Two options have been considered at this stage for the purposes of this high level transport assessment:

1. A new primary school on west site replacing all existing development, with the east site left as open space.

2. A new primary school on the east site with the residential and community use development on the west site, as considered by the WBPL TS and summarised above.

Access would be maintained to Heathlands School with both options.

1. Site Background

1.1 Location

The site is situated in the northern part of St Albans, adjacent to the Heathlands School. It is surrounded by residential areas to the north and east and woodland to the west and south. The site is currently served by Heathlands Drive, which connects the A1081 at its western end with Heathlands School to the east.

1.2 Local Road Network

Heathlands Drive is an approximately 5.5m wide access road which connects to the A1081 Harpenden Road by a simple T-junction. The A1081 is a Main Distributor Road which connects the

north of St Albans with the A414 North Orbital Road at the London Colney Roundabout, passing through St Albans City Centre. In the vicinity of the site the A1081 is approximately 7.3m wide.

The playing field site is also adjacent to Bridle Close, an approximately 5.5m wide residential road to the east. Bridle Close is accessed from Fontmell Close, another residential access which is also about 5.5m wide.

All the roads in the vicinity of the site are within a 30mph speed limit zone.

1.3 Existing Access

Vehicular and pedestrian access to the site is currently via Heathlands Drive to the west of the site, which serves the existing St Albans Ambulance Station, Heathlands School and a Judo Club.

1.4 Existing Conditions

Observations of transport conditions in the vicinity of the site were made in the AM peak period of 19th January 2016 between 8am and 9am. The weather was cold and generally dry. Traffic was seen to be generally light in the vicinity of the site, with the only congestion observed at the signal controlled junction with Batchwood Drive 400m to the north.

No parking was observed on the western part of Heathlands Drive nor on the A1081 at the time of the site visit. Some parking was observed within the site itself, in connection with its existing school and community uses.

1.5 Existing Pedestrian/Cycle Provision

Heathlands Drive has an approximately 2m wide footway on its southern side with concrete bollards and a 1.8m wide footway on the northern side. The western and eastern footways on the A1081 Harpenden Road are approximately 2.5m and 1.8m wide respectively. A relatively new traffic signal controlled pedestrian crossing is located approximately 100m south of Heathlands Drive.

Bridle Close and Fontmell Close have approximately 1.8m wide footways on either side.

National Cycle Route 6 passes about 100m to the west of the junction of Heathlands Drive and the A1081 Harpenden Road. This provides a north south route from the north of England to Uxbridge through St Albans and provides connections to Harpenden to the north and Watford and the Route 61, The Albans Way, to Hatfield to the south; passing through the centre of St Albans.

The new St Albans Green Ring walking and cycling route passes along the A1081 Harpenden Road adjacent to the site before continuing to Batchwood Drive to the north west and crossing Sandridge Road to the south east.

1.6 Public Transport

There are bus stops along the A1081 Harpenden Road on either side, approximately 160m to the south. Route 321, operated by Arriva, connects Luton and Watford via Harpenden and St Albans, passing the site three times per hour. Route 714 connects New Barnet with Luton, via St Albans and

Harpenden, passing the site between every one or two hours. Routes 84A and 361 also provide a limited number of school services past the site connecting to Sandridge, Tyttenhanger and the Garston area of Watford.

The nearest major railway station is St Albans City, approximately 1.4 kilometres to the south east of the site, which has regular connections with Harpenden, Luton, London and further afield. St Albans Abbey, an unmanned stop approximately 2.0 kilometres to the south west of the site, has connections with Watford Junction approximately every 45 minutes.

2. Access Considerations

2.1 Network Capacity

Traffic in the vicinity of the site appeared to be moderately light for a Main Distributor Road. Modelling would be required to ensure that the surrounding network has sufficient capacity for the additional vehicles associated with a new school. However, it is considered that the junction from the A1081 is unlikely to be able to cope with school on the east site and the other development on the west site. Detailed analysis will be required to confirm the capacity of the junction. The land adjacent to the A1081 Harpenden Road is understood to be Common Land. This is likely to prohibit any widening in the vicinity of the site, and therefore, it is unlikely the junction can be improved.

Parking restrictions may be required to prevent congestion caused by drop offs/pick ups on the A1081 Harpenden Road in the vicinity of the junction with Heathlands Drive.

2.2 General Improvements

Vehicular access to the site would use the existing concrete access road to the former fire station and Heathlands School. It is recommended that the improvements identified by WBPL for Heathlands Drive in terms of improving the visibility splays onto the A1081 for potential residential development are implemented in advance of construction of a new primary school.

Heathlands Drive was observed to be in poor condition in places when visiting the site. It is recommended that this be rectified as part of the access improvement works.

Considering that Heathlands Drive runs through an area of woodland in the vicinity of the site, it is possible that additional street lights would be required to encourage pupils to walk to the school. There is also a need to provide suitable crossing facilities over Heathlands Drive itself.

WBPL proposed the introduction of a new foot/cycleway to the north of Heathlands Drive. It is recommended that this is also incorporated into the improvements to access, but given the use as a primary school, a wider shared use foot/cycleway, protected from the access by guard railing may be more appropriate than the segregated shared use facility WBPL identified for possible residential development.

2.3 Proposed Access

There is likely to be only one suitable vehicular access option, particularly to the west site and this is to provide access through Heathlands Drive onto the A1081 Harpenden Road as happens at present. Pupils could travel from all directions, but will all reach the school site from the A1081. As the site lies north of the expected catchment, it is likely the majority of pupils will come from the south.

Pedestrians would travel to the Heathlands Drive entrance to the school along the A1081 Harpenden Road. The existing controlled pedestrian crossing south of Heathlands Drive would appear to be the most appropriate place for pupils to cross the A1081.

Access to the eastern site will be taken through the western site, with vehicles and pedestrians arriving from the A1081 Harpenden Road and Heathlands Drive.

If Bridle Close was to be used as a vehicular access it would require extensive parking restrictions to keep it clear for two way school traffic. This is something which would adversely affect local residents. As there is a potential access that does not have this problem and already serves the site, the Bridle Close option has not been taken forward for further consideration.

Analysis by others currently suggests that the majority of pupils will arrive at the site from the south. However, if a change in catchment means that a significant proportion of pupils will arrive from the east, it would be worth considering a new pedestrian access from Bridle Close. If this is taken forwards, some localised parking restrictions may be required to discourage parents from using this area for drop offs and pick ups.

2.4 Park and Stride

The Ancient Briton Harvester public house is located 200m to the north of the site with a large car park within walking distance of the site. Depending upon the origin of pupils, and vehicle desire lines, this could provide a suitable location for a park and stride facility, subject to agreement with the landowners.

3. Conclusion

The former Ariston site is well located in a residential area to serve a wide catchment. It is expected that most pupils will travel from the main area of need to the south. Existing levels of traffic in the vicinity of the site were observed to be reasonably low, so the access should be able to cater for the levels of traffic expected with a 2FE primary school, in addition to traffic already on Heathlands Drive from Heathlands School and the existing community use of a Judo Club and Youth Centre. However, modelling would be required to simulate the impact of school traffic on the local network and confirm this.

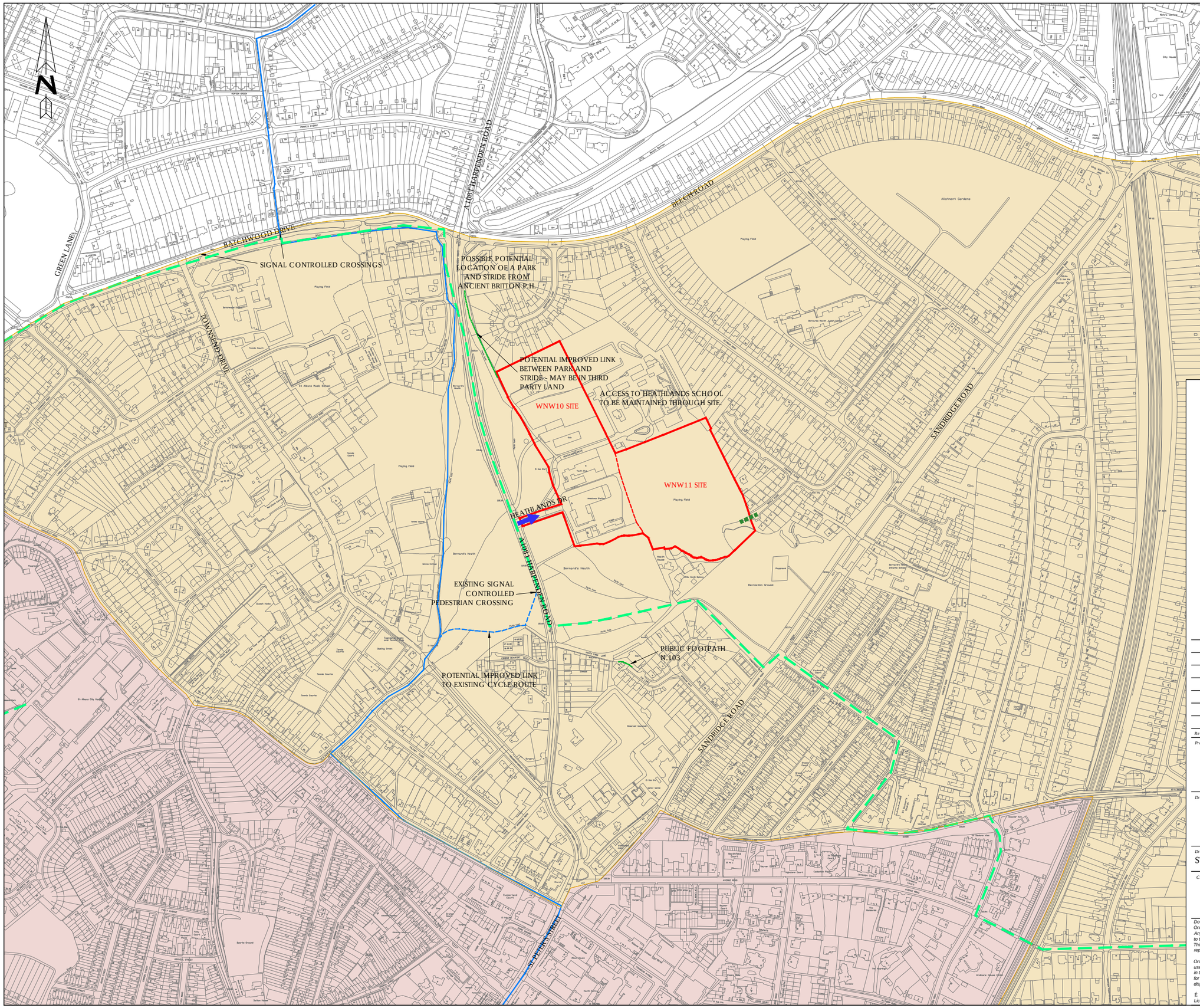
It is considered that fairly minimal works are likely to be required if the western site (WNW10) is redeveloped with the eastern site (WNW11) left as open space. Works are likely to include remediation of the concrete access road and installation of a new foot/cycleway to the north of the access. Additionally, there are likely to be some waiting restrictions required on the main access routes and, possibly also installation of new street lights on Heathlands Drive.

Development of the eastern site is likely to require more extensive works as a result of sharing the access with a new residential development on the western site. It is considered that the junction from the A1081 is unlikely to be able to cope with school on the east site and the other development on the west site. Detailed analysis would be required to confirm junction capacity. The land adjacent to the A1081 Harpenden Road is understood to be Common Land. This is likely to prohibit any widening in the vicinity of the site, and therefore, it is unlikely the junction can be improved.

The local public transport provision and cycle network are reasonable, providing options for staff as well as accompanied pupils to use these sustainable travel modes.

Given the very limited opportunities for parking around the site, on site provision for parents as well as staff vehicles will be required. There is potential for a park and stride scheme with the Ancient Briton public house to be used if the necessary agreement is obtained.

Overall, the western site offers a fairly straight forward opportunity to locate a 2FE primary school with reasonably good accessibility to the north of St Albans City Centre. On the basis of the existing traffic flows on the A1081 and the low expected level of school vehicular traffic, given the site's central location, it appears that the access should be able to adequately deal with this possible use. Further analysis will be needed to confirm this and test the local network, but it is considered that the site is sufficiently suitable to warrant this further study.



Rev	Description	Date	Drawn	Checked

Project

St Albans Primary School Search

Drawing Description

High Level Site Access Appraisal. Site WNW10-11

Drawing Number	Scale	Date	Drawn by	Checked by
ST-2479-05	1:5000@A3	15.02.16	SIV	NJM

Client

Architect

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St Albans Primary School Site Search

Technical Note on Heathlands Drive / A1081 Harpenden Road Junction Modelling

Prepared 7th September 2016

Scope

Stomor has been commissioned by Vincent and Gorbing on behalf of Hertfordshire County Council (HCC) to prepare a short technical note to consider the suitability of Heathlands Drive and its junction with the A1081 Harpenden Road to serve a development consisting of:-

- A new 2FE primary school
- 48 new residential units
- A replacement youth and community building
- Maintaining access to Heathlands – A Special School for Deaf Children

Using data from the Wormald Burrows Partnership Ltd (WBPL) Transport Statement report reference E3053-pc-hla-tsreport0912-rev 1 dated August 2015, Stomor have added a 2FE primary school to the junction arrangement set out in this report and shown on WBPL Drawing E3053/21/H. This WBPL plan is provided in **Appendix A**.

The land adjacent to the A1081 Harpenden Road is understood to be Common Land. This is likely to prohibit any widening in the vicinity of the site, and therefore, it is unlikely the junction can be improved beyond that proposed in WBPL Drawing E3053/21/H.

Junctions 9 (J9) software was used to analyse the operation of the junction in the future assessment year of 2025 when it is assumed that the school will be operating with pupils in each year group.

Assumptions:

Geometry

- Geometry of junction modelled, obtained from WBPL Drawing E3053/21/H:
    - A1081 Harpenden Road
        - 6.3m wide
        - 90m forward visibility
        - no right turn lane, so blocking would occur
    - Heathlands Drive,
        - 3.55m wide approach on average
        - 10m back
            - 26m vision to left
            - 21m vision to right

Traffic Counts

- Traffic count data was taken from the WBPL report – counts undertaken on Tuesday 10th July 2012 *(traffic may be lighter due to some older school children being on exam leave)*
    - The raw traffic count data provided in **Appendix B**.
- Existing traffic used to consider Heathlands and community uses of site
- Traffic projected from 2012 to 2025 using TEMPro 7 for car drivers using the Origin-Destination average rates for St Albans Area 010
    - AM Peak Growth 3.575%
    - Interpeak (for School PM) Growth 4.025%
    - PM Peak Growth 2.085%
- Residential TRICS rates from WBPL report used in AM and PM evening peaks, with School PM peak assumed based on Foster Street, Harlow rates, scaled up to be proportional to WBPL peak rates

	Arrivals	**Departures**	**Total**
AM	0.203	0.543	0.746
School PM	0.360	0.240	0.600
PM	0.510	0.314	0.824

- Number of Pupils:
    - 2FE - 7 classes of 60 pupils = 420 Pupils
    - Plus two nursery classes = 60 pupils
    - 480 Pupils overall
- 30% of Pupils will come by car = 144 pupils by car, based on other HCC Schools
- Share rate of cars is 1.4 = 103 cars overall, based on other HCC Schools
- For modelling purposes, assume a start time of 08:45 hours and a departure time of 15:15 hours
- Distribution of Pupils:
    - AM Peak: 100% of cars arrive from the south, as advised by HCC Client
    - AM Peak: 75% of these cars depart south, 25% of these cars depart north
    - Sch PM Peak: 75% of parents arrive from the south, 25% of parents arrive from the north
    - Sch PM Peak: 100% depart to the south, as advised by HCC Client
    - See Vincent and Gorbing Plan 5115-001 in **Appendix C** showing 'Core Search Area' where pupils are expected to originate.
- Assume that pupils will arrive/depart in the AM Peak in the same profile (shown in italics) as at observed previously at the Giles Schools in Stevenage:

	Arriving	No.	**Departing**	No.	North	South
Pre 0800	*4%*	4	-	-	-	-
0800-0815	*9%*	9	-	-	-	-
0815-0830	*33%*	34	*18%*	19	5	14
0830-0845	*51%*	53	*38%*	39	10	29
0845-0900	*3%*	3	*35%*	36	9	27
Post 0900	-	-	*9%*	9	2	7
Totals	**100**	103	**100**	103	26	77

- Assume the following distribution of pupils in school PM peak, based upon previous observations at the Giles Schools in Stevenage:

	Arriving	No.	North	South	**Departing**	No.
Pre 1500	*55%*	57	14	43	-	-
1500-1515	*41%*	42	10	32	-	-
1515-1530	-	-	-	-	*96%*	98
1530-1545	*4%*	5	1	4	-	-
1545-1600	-	-	-	-	*4%*	5
Post 1600	-	-	-	-	-	-
Totals	**100**	103	25	79	**100**	103

- Number of Staff:
  - 14 classes plus a 60 place nursery and head teacher gives 17 spaces for full-time members of staff
  - 1 space for every 100 pupils gives 5 more spaces
  - 1 space per 20 pupils gives 24 more spaces
  - Overall 46 car spaces
  - Assume all members of staff drive
- Assume that staff arrive and leave at different times:
  - 70% arrive between 8-9 AM, giving 32 arrivals; no departures
  - 40% depart between 3-4 PM, giving 18 departures; no arrivals
  - 25% depart between 5-6 PM, giving 12 departures; no arrivals
- Distribution of Staff:
  - AM: 75% arrive from the south, 25% from the north
  - PM: 75% depart south, 25% depart north
- Assume no community use of school, and community use of other facilities is equal to or less than existing
  - The traffic count data provided in **Appendix D**.
- Assume the pedestrian/cycle crossing to the south of the junction of A1081 Harpenden Road / Heathlands Drive does not influence traffic flows significantly enough to affect the operation of the junction

Results

AM Peak Year 2025 Traffic with Predicted Development plus Predicted School Traffic

	Queue (Veh)	Delay (s)	RFC
Heathlands Drive	0.9	16.44	0.49
A1081 Northbound	1.2	15.50	0.55

The junction appears to operate within its capacity in the AM peak period, with a maximum queue of about one vehicle expected on the northbound arm of the A1081. Both Ratios of Flow to Capacity (RFC) are under the 0.85 value usually used as the highest level a new junction should be designed to operate to.

School PM Peak Year 2025 Traffic with Predicted Development plus Predicted School Traffic

	Queue (Veh)	Delay (s)	RFC
Heathlands Drive	4.0	29.55	0.83
A1081 Northbound	1.5	17.32	0.61

The junction appears to operate within its capacity in the School PM peak period, with a maximum queue of approximately four vehicles expected on Heathlands Drive. Both RFCs are under the 0.85 value, but the Heathlands Drive arm is close to it.

School PM Peak Sensitivity Test

Given how close the operation is to an RFC of 0.85 in the school PM peak hour, a sensitivity test was undertaken to see the effect on the junction of 5% of parent traffic turning right, north, out of Heathlands Drive rather than all 100% turning to the left to the south. This would reflect a small number of parents (5 in this case) linking trips and visiting other destinations accessed by the A1081 north, before returning home. The results are as follows:

	Queue (Veh)	Delay (s)	RFC
Heathlands Drive	4.5	32.41	0.85
A1081 Northbound	1.5	17.32	0.61

The junction appears to operate just within its capacity in the School PM peak period, with a maximum queue of approximately five vehicles expected on Heathlands Drive. The RFC on Heathlands Drive is at the 0.85 value, so it is considered the junction would be operating at or around the maximum desirable capacity at the time parents leave the school.

Evening PM Peak Year 2025 Traffic with Predicted Development plus Predicted School Traffic

	Queue (Veh)	Delay (s)	RFC
Heathlands Drive	0.1	8.79	0.12
A1081 Northbound	0.1	7.19	0.06

The junction appears to operate well within its capacity in the evening PM peak period, with no real queuing expected. Both RFCs are well under the assessment 0.85 value.

Junction modelling results are provided in **Appendix E**.

Discussion

Based on the assumptions above, the J9 modelling indicates that the junction should be able to just cope with the predicted traffic associated with:-

- A new 2FE primary school
- 48 new residential units
- A replacement youth and community building
- Maintaining access to Heathlands – A Special School for Deaf Children

Most of the school generated traffic is expected to be concentrated over a short period of time at either ends of the school day, so this is when the junction is likely to experience the most delay. However modelling suggests that this should not be too significant. The operation of the junction becomes more sensitive to additional traffic the closer it is to its capacity, so a fairly modest increase in traffic may cause a noticeable change in the junction's operation. The assumptions above consider that the majority of pupils would walk to school, so measures would need to be implemented to encourage this. The assumptions also consider that all pupils originate from the south as advised by HCC; if more were expected to come from the north, the modelling may indicate a different result.

EXISTING SIGN DIAGRAM 562 AND DIAGRAM 563.1: 'Fire Station STOP when lights show' SIGN TO BE REPLACED WITH:

PROPOSED SIGN DIAGRAM 506.1 ILLUMINATED

PRUNE TREES ONLY WHERE NECESSARY AT LOWER LEVELS TO PROVIDE SUFFICIENT LIGHT TO THE CARRIAGEWAY TO ENSURE VISIBILITY SPLAYS

ST ALBANS DISTRICT COUNCIL ARE ABLE TO ARRANGE ON-GOING MAINTENANCE OF THE TREES

ROAD CENTRELINE RE-ALIGNED TO THE WEST BY 0.78 METERS, WITH CARRIAGEWAY REDUCED TO 6.3 METERS AT THE JUNCTION AND FOOTWAY WIDTH REDUCED TO 2 METERS ONLY AT THE JUNCTION, TO ACHIEVE FULL 4.5m x 43m VISIBILITY SPLAYS FROM HEATHLANDS DRIVE.

LAMP COLUMN TO BE RELOCATED AS A PART OF THE STREET LIGHTING DESIGN TO PROVIDE A FOOTWAY WIDTH OF NO LESS THAN 2 METERS AT ANY POINT

Visibility splay 4.5 x 43m

Visibility splay 4.5 x 43m

HARPENDEN ROAD

HEATHLANDS DRIVE

Heathland Drive

St.Albans Judo Club

Youth Club

St. Albans Fire Station

YOUTH CENTRE

DECIDUOUS WOODLAND

MIXED FOLIAGE

Coordinate Table				
Station	Datum	Eastings	Northings	Height
A	HILTI	500.000	1000.000	118.794
B	HILTI	548.734	1010.614	119.186
STN2	NAIL	582.433	1026.660	119.461
STN3	HILTI	656.788	1022.128	120.447
STN4	NAIL	560.075	973.873	119.560
STN5	HILTI	653.104	965.053	119.866
STN7	NAIL	618.907	973.414	119.459
STN8	NAIL	594.856	966.073	120.136

0 10m 20m 30m 40m

Scale 1:500

N

Key

- Existing carriageway
- Grass/Verge
- Footway
- Cycleway

NOTE:

THE ROAD SIGNS AND MARKINGS SHOWN ARE INDICATIVE AND NOT NECESSARILY COMPLETE. THEY WILL BE REVIEWED AS NECESSARY AT THE DETAILED DESIGN TO CONSTRUCTION STAGE.

Rev	Description	Date	Drawn By	Checked By
H	Existing bus stop on Harpenden Road included.	17.03.15	ACC	ACC
G	Channel markings added after Opus Review	24.11.14	AJR	ACC
F	Amendments after second Stage 1 Road Safety Audit comments.	23.10.14	DTK	ACC
E	Layout amended for revised visibility splay.	19.08.14	DTK	ACC
D	Notes added.	09.07.14	DTK	ACC
C	Footway and cycleway added to Heathland Drive	07.07.14	DTK	ACC
B	Amended to address further Stage 1 Road Safety Audit comments.	12:06:14	DTK	ACC
A	Amended to address Stage 1 Road Safety Audit comments.	22:05:14	DTK	ACC

Written dimensions to be taken

Any discrepancies, written or scaled, should be brought to the attention of the engineer immediately

This drawing is to be read in conjunction with the relevant Bills of Quantities and the Local Authority Specification.

All relevant information identifying the unavoidable risks has been passed to the planning supervisor for inclusion in the Health and Safety plan

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Email: engineer@wormburp.com

Project:
Former Ariston Works Site
Harpenden Road, St Albans

Drawing Description:
Means of Access
Priority Junction

Client:
Hertfordshire County Council
Hertfordshire Property

Drawing Number:
E3053/21/H

Scale: 1:500 @ A1

Drawn By: DTK
Date: 08.04.2014

Checked By: ACC
Date: 08.04.2014

afaq ISO 9001 Quality
UKAS MANAGEMENT SYSTEMS 022
Certified by Afnor UK

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	LEFT TO HEATHLANDS DR							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	0	0	0	0	0	0	0	0
0705 - 0710	0	0	1	0	0	0	0	1
0710 - 0715	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0715 - 0720	0	0	1	0	0	0	0	1
0720 - 0725	0	0	0	0	0	0	0	0
0725 - 0730	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
0730 - 0735	0	0	1	0	0	0	0	1
0735 - 0740	0	0	1	0	0	0	0	1
0740 - 0745	0	0	0	1	0	0	0	1
15-MINS	0	0	2	1	0	0	0	3
0745 - 0750	0	0	0	0	0	0	0	0
0750 - 0755	0	0	2	0	0	0	0	2
0755 - 0800	0	0	2	0	0	0	0	2
15-MINS	0	0	4	0	0	0	0	4
Hourly Total	0	0	9	1	0	0	0	10

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	0	0	0	0	0	0	0	0
0805 - 0810	0	0	2	0	0	0	0	2
0810 - 0815	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
0815 - 0820	0	0	3	0	0	0	0	3
0820 - 0825	0	0	1	0	0	0	0	1
0825 - 0830	0	0	0	0	0	0	0	0
15-MINS	0	0	4	0	0	0	0	4
0830 - 0835	0	0	2	0	0	0	0	2
0835 - 0840	0	0	1	0	0	0	0	1
0840 - 0845	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
0845 - 0850	0	0	0	0	0	0	0	0
0850 - 0855	0	0	1	0	0	0	0	1
0855 - 0900	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	12	0	0	0	0	12

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	0	0	0	0	0	0	0	0
0905 - 0910	0	0	0	0	0	0	0	0
0910 - 0915	0	0	0	1	0	0	0	1
15-MINS	0	0	0	1	0	0	0	1
0915 - 0920	0	0	2	0	0	0	0	2
0920 - 0925	0	0	0	0	0	0	0	0
0925 - 0930	0	0	1	0	0	0	0	1
15-MINS	0	0	3	0	0	0	0	3
0930 - 0935	0	0	1	0	0	0	0	1
0935 - 0940	0	0	0	0	0	0	0	0
0940 - 0945	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0945 - 0950	0	0	0	0	0	0	0	0
0950 - 0955	0	0	0	0	0	0	0	0
0955 - 1000	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
Hourly Total	0	0	4	1	0	0	0	5

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	0	0	1	0	0	0	0	1
1005 - 1010	0	0	0	0	0	0	0	0
1010 - 1015	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
1015 - 1020	0	0	1	0	0	0	0	1
1020 - 1025	0	0	1	0	0	0	0	1
1025 - 1030	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1030 - 1035	0	0	0	0	0	0	0	0
1035 - 1040	0	0	0	0	0	0	0	0
1040 - 1045	0	0	0	0	0	0	1	1
15-MINS	0	0	0	0	0	0	1	1
1045 - 1050	0	0	0	0	0	0	0	0
1050 - 1055	0	0	1	0	0	0	0	1
1055 - 1100	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
Hourly Total	0	0	5	0	0	0	1	6

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	0	0	0	0	0	0	0	0
1105 - 1110	0	0	0	0	0	0	0	0
1110 - 1115	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1115 - 1120	0	0	0	0	0	0	0	0
1120 - 1125	0	0	0	0	0	0	0	0
1125 - 1130	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1130 - 1135	0	0	0	1	0	0	0	1
1135 - 1140	0	0	0	0	0	0	0	0
1140 - 1145	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
1145 - 1150	0	0	0	0	0	0	0	0
1150 - 1155	0	0	1	0	0	0	0	1
1155 - 1200	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
Hourly Total	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	0	0	0	1	0	0	0	1
1205 - 1210	0	0	0	0	0	0	0	0
1210 - 1215	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
1215 - 1220	0	0	0	0	0	0	0	0
1220 - 1225	0	0	0	1	0	0	0	1
1225 - 1230	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
1230 - 1235	0	0	0	0	0	0	0	0
1235 - 1240	0	0	1	0	0	0	0	1
1240 - 1245	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1245 - 1250	0	1	0	0	0	0	0	1
1250 - 1255	0	0	1	0	0	0	0	1
1255 - 1300	0	0	0	0	0	0	0	0
15-MINS	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**
Hourly Total	**0**	**1**	**2**	**2**	**0**	**0**	**0**	**5**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	0	1	0	0	0	0	1
1305 - 1310	0	0	0	0	0	0	0	0
1310 - 1315	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1315 - 1320	0	0	1	0	0	0	0	1
1320 - 1325	0	0	0	0	0	0	0	0
1325 - 1330	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1330 - 1335	0	0	0	0	0	0	0	0
1335 - 1340	0	0	0	0	0	0	0	0
1340 - 1345	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1345 - 1350	0	0	0	0	0	0	0	0
1350 - 1355	0	0	1	0	0	0	0	1
1355 - 1400	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
Hourly Total	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**4**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	0	0	0	0	0	0
1405 - 1410	0	0	0	0	0	0	0	0
1410 - 1415	0	0	0	0	0	0	1	1
15-MINS	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
1415 - 1420	0	0	0	0	0	0	0	0
1420 - 1425	0	0	0	0	0	0	0	0
1425 - 1430	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1430 - 1435	0	0	0	0	0	0	0	0
1435 - 1440	0	0	0	1	0	0	0	1
1440 - 1445	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
1445 - 1450	0	0	0	0	0	0	0	0
1450 - 1455	0	0	0	0	0	0	0	0
1455 - 1500	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hourly Total	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**3**

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	0	0	0	0	0	0	0	0
1505 - 1510	0	0	2	0	0	0	0	2
1510 - 1515	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1515 - 1520	0	0	1	0	0	0	0	1
1520 - 1525	0	0	2	0	0	0	0	2
1525 - 1530	0	0	1	1	0	0	0	2
15-MINS	0	0	4	1	0	0	0	5
1530 - 1535	0	0	0	0	0	0	0	0
1535 - 1540	0	0	0	0	0	0	0	0
1540 - 1545	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1545 - 1550	0	0	2	0	0	0	0	2
1550 - 1555	0	0	0	0	0	0	0	0
1555 - 1600	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	8	1	0	0	0	9

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	0	0	0	0	0	0	0	0
1605 - 1610	0	0	1	0	0	0	0	1
1610 - 1615	0	0	1	1	0	0	0	2
15-MINS	0	0	2	1	0	0	0	3
1615 - 1620	0	0	1	0	0	0	0	1
1620 - 1625	0	0	0	0	0	0	0	0
1625 - 1630	0	0	2	0	0	0	0	2
15-MINS	0	0	3	0	0	0	0	3
1630 - 1635	0	0	2	0	0	0	0	2
1635 - 1640	0	0	0	0	0	0	0	0
1640 - 1645	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1645 - 1650	0	0	1	0	0	0	0	1
1650 - 1655	0	0	1	0	0	0	0	1
1655 - 1700	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	9	1	0	0	0	10

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	0	0	0	0	0	0	0
1705 - 1710	0	0	1	0	0	0	0	1
1710 - 1715	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1715 - 1720	0	0	0	0	0	0	0	0
1720 - 1725	0	0	2	0	0	0	0	2
1725 - 1730	0	0	1	0	0	0	0	1
15-MINS	0	0	3	0	0	0	0	3
1730 - 1735	0	0	1	0	0	0	0	1
1735 - 1740	0	0	2	0	0	0	0	2
1740 - 1745	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
1745 - 1750	0	0	1	0	0	0	0	1
1750 - 1755	0	0	0	0	0	0	0	0
1755 - 1800	0	0	3	0	0	0	0	3
15-MINS	0	0	4	0	0	0	0	4
Hourly Total	0	0	12	0	0	0	0	12

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	2	0	0	0	0	2
1805 - 1810	0	0	0	0	0	0	0	0
1810 - 1815	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1815 - 1820	0	0	1	0	0	0	0	1
1820 - 1825	0	0	3	0	0	0	0	3
1825 - 1830	0	0	4	0	0	0	0	4
15-MINS	0	0	8	0	0	0	0	8
1830 - 1835	0	0	2	0	0	0	0	2
1835 - 1840	0	0	4	0	0	0	0	4
1840 - 1845	0	0	1	0	0	0	0	1
15-MINS	0	0	7	0	0	0	0	7
1845 - 1850	0	0	2	0	0	0	0	2
1850 - 1855	0	0	0	0	0	0	0	0
1855 - 1900	0	0	2	0	0	0	0	2
15-MINS	0	0	4	0	0	0	0	4
Hourly Total	0	0	21	0	0	0	0	21
Session Total	0	1	88	8	0	0	2	99

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	AHEAD TO HARPENDEN RD SOUTH							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	2	0	17	6	0	1	0	26
0705 - 0710	1	0	22	6	0	0	1	30
0710 - 0715	0	0	15	4	1	0	0	20
15-MINS	3	0	54	16	1	1	1	76
0715 - 0720	1	0	29	6	0	0	0	36
0720 - 0725	1	0	26	5	0	0	0	32
0725 - 0730	0	0	35	7	0	0	0	42
15-MINS	2	0	90	18	0	0	0	110
0730 - 0735	1	0	29	4	0	0	0	34
0735 - 0740	1	0	40	5	0	0	1	47
0740 - 0745	2	0	36	0	0	0	0	38
15-MINS	4	0	105	9	0	0	1	119
0745 - 0750	2	0	38	2	0	0	0	42
0750 - 0755	5	0	46	3	0	0	0	54
0755 - 0800	2	2	25	5	0	0	1	35
15-MINS	9	2	109	10	0	0	1	131
Hourly Total	18	2	358	53	1	1	3	436

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	2	0	40	5	0	0	0	47
0805 - 0810	1	0	32	1	1	0	0	35
0810 - 0815	3	0	38	3	1	0	1	46
15-MINS	6	0	110	9	2	0	1	128
0815 - 0820	0	0	30	3	1	0	3	37
0820 - 0825	2	0	24	3	0	0	2	31
0825 - 0830	2	1	42	5	0	0	0	50
15-MINS	4	1	96	11	1	0	5	118
0830 - 0835	0	0	27	3	0	0	1	31
0835 - 0840	2	0	39	5	0	0	2	48
0840 - 0845	0	0	19	4	0	0	0	23
15-MINS	2	0	85	12	0	0	3	102
0845 - 0850	0	0	29	2	1	0	1	33
0850 - 0855	0	0	31	3	1	0	1	36
0855 - 0900	3	0	25	3	0	0	0	31
15-MINS	3	0	85	8	2	0	2	100
Hourly Total	15	1	376	40	5	0	11	448

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	1	0	39	3	0	0	0	43
0905 - 0910	2	0	18	2	0	0	0	22
0910 - 0915	0	0	48	3	0	0	1	52
15-MINS	3	0	105	8	0	0	1	117
0915 - 0920	0	0	17	1	0	0	0	18
0920 - 0925	2	0	16	1	0	0	0	19
0925 - 0930	0	0	24	7	1	0	0	32
15-MINS	2	0	57	9	1	0	0	69
0930 - 0935	0	1	16	4	0	0	0	21
0935 - 0940	0	1	31	2	0	0	0	34
0940 - 0945	1	0	24	1	0	0	0	26
15-MINS	1	2	71	7	0	0	0	81
0945 - 0950	1	0	26	0	0	0	0	27
0950 - 0955	2	1	33	1	2	0	0	39
0955 - 1000	0	0	28	4	0	0	0	32
15-MINS	3	1	87	5	2	0	0	98
Hourly Total	9	3	320	29	3	0	1	365

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	0	0	18	2	0	0	0	20
1005 - 1010	0	0	19	3	0	0	1	23
1010 - 1015	1	0	24	3	0	0	0	28
15-MINS	1	0	61	8	0	0	1	71
1015 - 1020	0	0	26	2	0	0	0	28
1020 - 1025	1	0	24	2	0	0	0	27
1025 - 1030	0	0	15	3	0	0	0	18
15-MINS	1	0	65	7	0	0	0	73
1030 - 1035	0	0	19	1	0	0	0	20
1035 - 1040	0	1	20	2	1	0	0	24
1040 - 1045	1	0	16	2	0	2	1	22
15-MINS	1	1	55	5	1	2	1	66
1045 - 1050	1	0	14	3	0	0	0	18
1050 - 1055	0	0	18	4	0	0	0	22
1055 - 1100	1	0	16	5	0	0	0	22
15-MINS	2	0	48	12	0	0	0	62
Hourly Total	5	1	229	32	1	2	2	272

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	1	0	15	1	0	0	0	17
1105 - 1110	1	0	15	2	0	0	0	18
1110 - 1115	0	0	22	3	1	0	1	27
15-MINS	**2**	**0**	**52**	**6**	**1**	**0**	**1**	**62**
1115 - 1120	1	0	25	6	1	0	0	33
1120 - 1125	0	0	20	9	0	0	0	29
1125 - 1130	1	0	29	5	0	0	0	35
15-MINS	**2**	**0**	**74**	**20**	**1**	**0**	**0**	**97**
1130 - 1135	0	0	20	2	0	0	0	22
1135 - 1140	0	0	16	3	0	0	0	19
1140 - 1145	0	0	23	1	1	0	2	27
15-MINS	**0**	**0**	**59**	**6**	**1**	**0**	**2**	**68**
1145 - 1150	0	0	23	1	1	0	0	25
1150 - 1155	0	0	20	3	2	0	0	25
1155 - 1200	0	0	27	1	1	0	0	29
15-MINS	**0**	**0**	**70**	**5**	**4**	**0**	**0**	**79**
Hourly Total	**4**	**0**	**255**	**37**	**7**	**0**	**3**	**306**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	0	0	11	2	0	1	0	14
1205 - 1210	0	1	13	3	0	0	0	17
1210 - 1215	0	0	26	4	0	0	1	31
15-MINS	**0**	**1**	**50**	**9**	**0**	**1**	**1**	**62**
1215 - 1220	0	0	26	3	2	0	0	31
1220 - 1225	0	0	20	1	0	0	0	21
1225 - 1230	0	0	15	2	0	0	0	17
15-MINS	**0**	**0**	**61**	**6**	**2**	**0**	**0**	**69**
1230 - 1235	0	0	29	3	0	0	0	32
1235 - 1240	0	0	25	1	0	0	1	27
1240 - 1245	1	0	20	1	0	0	1	23
15-MINS	**1**	**0**	**74**	**5**	**0**	**0**	**2**	**82**
1245 - 1250	0	0	24	4	1	0	0	29
1250 - 1255	0	0	18	0	1	0	0	19
1255 - 1300	0	0	22	3	0	0	0	25
15-MINS	**0**	**0**	**64**	**7**	**2**	**0**	**0**	**73**
Hourly Total	**1**	**1**	**249**	**27**	**4**	**1**	**3**	**286**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	0	23	1	1	0	0	25
1305 - 1310	0	0	21	2	2	0	1	26
1310 - 1315	1	0	22	1	0	0	0	24
15-MINS	**1**	**0**	**66**	**4**	**3**	**0**	**1**	**75**
1315 - 1320	0	0	30	5	0	0	0	35
1320 - 1325	0	0	16	0	0	0	0	16
1325 - 1330	0	0	23	4	0	0	0	27
15-MINS	**0**	**0**	**69**	**9**	**0**	**0**	**0**	**78**
1330 - 1335	0	0	16	2	0	0	0	18
1335 - 1340	1	0	15	2	1	0	1	20
1340 - 1345	0	0	18	3	1	0	0	22
15-MINS	**1**	**0**	**49**	**7**	**2**	**0**	**1**	**60**
1345 - 1350	0	0	22	2	1	0	0	25
1350 - 1355	0	0	17	1	0	0	0	18
1355 - 1400	0	0	22	2	0	0	0	24
15-MINS	**0**	**0**	**61**	**5**	**1**	**0**	**0**	**67**
Hourly Total	**2**	**0**	**245**	**25**	**6**	**0**	**2**	**280**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	21	0	0	0	0	21
1405 - 1410	0	0	13	2	1	0	1	17
1410 - 1415	0	1	31	4	0	0	0	36
15-MINS	**0**	**1**	**65**	**6**	**1**	**0**	**1**	**74**
1415 - 1420	0	1	24	5	0	0	1	31
1420 - 1425	0	0	21	6	0	0	0	27
1425 - 1430	0	0	25	2	0	0	0	27
15-MINS	**0**	**1**	**70**	**13**	**0**	**0**	**1**	**85**
1430 - 1435	0	0	26	5	0	0	0	31
1435 - 1440	0	0	20	3	1	0	0	24
1440 - 1445	0	0	24	6	0	0	0	30
15-MINS	**0**	**0**	**70**	**14**	**1**	**0**	**0**	**85**
1445 - 1450	0	0	18	3	0	0	0	21
1450 - 1455	0	0	21	1	0	1	0	23
1455 - 1500	0	0	24	1	1	0	0	26
15-MINS	**0**	**0**	**63**	**5**	**1**	**1**	**0**	**70**
Hourly Total	**0**	**2**	**268**	**38**	**3**	**1**	**2**	**314**

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD NORTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	0	0	21	0	1	0	0	22
1505 - 1510	0	0	27	3	1	0	0	31
1510 - 1515	0	0	27	6	1	0	0	34
15-MINS	0	0	75	9	3	0	0	87
1515 - 1520	0	1	23	4	1	0	1	30
1520 - 1525	0	0	23	2	0	0	0	25
1525 - 1530	2	1	28	0	0	0	0	31
15-MINS	2	2	74	6	1	0	1	86
1530 - 1535	1	0	26	1	0	0	1	29
1535 - 1540	1	0	28	2	0	0	1	32
1540 - 1545	1	0	13	6	0	0	1	21
15-MINS	3	0	67	9	0	0	3	82
1545 - 1550	1	0	23	2	0	0	4	30
1550 - 1555	0	0	42	3	1	0	2	48
1555 - 1600	0	0	26	0	0	0	0	26
15-MINS	1	0	91	5	1	0	6	104
Hourly Total	6	2	307	29	5	0	10	359

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	0	0	29	4	0	0	0	33
1605 - 1610	0	0	21	1	0	0	0	22
1610 - 1615	0	0	28	4	0	0	0	32
15-MINS	0	0	78	9	0	0	0	87
1615 - 1620	0	0	36	1	0	0	0	37
1620 - 1625	0	0	22	5	0	0	0	27
1625 - 1630	1	0	21	1	0	0	0	23
15-MINS	1	0	79	7	0	0	0	87
1630 - 1635	0	0	19	0	0	0	0	19
1635 - 1640	0	0	20	0	1	0	0	21
1640 - 1645	0	0	16	2	0	0	0	18
15-MINS	0	0	55	2	1	0	0	58
1645 - 1650	0	0	11	1	0	0	0	12
1650 - 1655	0	0	26	2	0	0	1	29
1655 - 1700	0	0	27	3	0	0	0	30
15-MINS	0	0	64	6	0	0	1	71
Hourly Total	1	0	276	24	1	0	1	303

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	0	20	1	0	0	1	22
1705 - 1710	0	0	21	0	0	0	0	21
1710 - 1715	0	0	23	2	0	0	0	25
15-MINS	0	0	64	3	0	0	1	68
1710 - 1715	0	0	25	1	0	0	0	26
1720 - 1725	1	0	24	4	0	0	1	30
1725 - 1730	0	0	27	2	0	0	0	29
15-MINS	1	0	76	7	0	0	1	85
1725 - 1730	0	2	39	4	0	0	0	45
1735 - 1740	0	0	23	0	0	0	0	23
1740 - 1745	1	0	31	0	0	0	0	32
15-MINS	1	2	93	4	0	0	0	100
1740 - 1745	0	0	30	1	0	0	0	31
1750 - 1755	0	0	27	1	0	0	1	29
1755 - 1800	1	0	21	0	0	0	1	23
15-MINS	1	0	78	2	0	0	2	83
Hourly Total	3	2	311	16	0	0	4	336

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	34	2	0	0	0	36
1805 - 1810	0	1	20	1	0	0	0	22
1810 - 1815	0	2	31	2	0	0	0	35
15-MINS	0	3	85	5	0	0	0	93
1815 - 1820	0	0	21	1	0	0	0	22
1820 - 1825	0	0	19	1	0	0	1	21
1825 - 1830	1	0	22	3	0	0	1	27
15-MINS	1	0	62	5	0	0	2	70
1830 - 1835	0	0	36	1	0	0	0	37
1835 - 1840	1	0	26	1	0	0	0	28
1840 - 1845	1	0	33	0	0	0	0	34
15-MINS	2	0	95	2	0	0	0	99
1845 - 1850	0	0	33	0	0	0	0	33
1850 - 1855	2	0	25	2	0	0	0	29
1855 - 1900	0	0	23	0	0	0	0	23
15-MINS	2	0	81	2	0	0	0	85
Hourly Total	5	3	323	14	0	0	2	347
Session Total	69	17	3517	364	36	5	44	4052

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	LEFT TO HARPENDEN RD SOUTH							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	0	0	1	0	0	0	0	1
0705 - 0710	0	0	0	0	0	0	0	0
0710 - 0715	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0715 - 0720	0	0	0	0	0	0	0	0
0720 - 0725	0	0	1	0	0	0	0	1
0725 - 0730	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0730 - 0735	0	0	0	0	0	0	0	0
0735 - 0740	0	0	0	0	0	0	0	0
0740 - 0745	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
0745 - 0750	0	0	0	0	0	0	0	0
0750 - 0755	0	0	0	0	0	0	0	0
0755 - 0800	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
Hourly Total	0	0	4	0	0	0	0	4

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	0	0	0	0	0	0	0	0
0805 - 0810	0	0	0	0	0	0	0	0
0810 - 0815	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
0815 - 0820	0	0	0	2	0	0	0	2
0820 - 0825	0	0	1	0	0	0	0	1
0825 - 0830	0	0	0	0	0	0	0	0
15-MINS	0	0	1	2	0	0	0	3
0830 - 0835	0	0	1	1	0	0	0	2
0835 - 0840	0	0	1	0	0	0	0	1
0840 - 0845	0	0	2	0	0	0	0	2
15-MINS	0	0	4	1	0	0	0	5
0845 - 0850	0	0	2	1	0	0	0	3
0850 - 0855	0	0	2	0	0	0	0	2
0855 - 0900	0	0	0	0	0	0	0	0
15-MINS	0	0	4	1	0	0	0	5
Hourly Total	0	0	9	4	0	0	0	13

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	1	0	1	0	0	0	0	2
0905 - 0910	0	0	0	0	0	0	0	0
0910 - 0915	0	0	1	1	0	0	0	2
15-MINS	1	0	2	1	0	0	0	4
0915 - 0920	0	0	0	0	0	0	0	0
0920 - 0925	0	0	1	0	0	0	0	1
0925 - 0930	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0930 - 0935	0	0	1	0	0	0	0	1
0935 - 0940	0	0	1	0	0	0	0	1
0940 - 0945	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
0945 - 0950	0	0	0	1	0	0	0	1
0950 - 0955	0	0	0	0	0	0	0	0
0955 - 1000	0	0	0	1	0	0	0	1
15-MINS	0	0	0	2	0	0	0	2
Hourly Total	1	0	5	3	0	0	0	9

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	0	0	1	0	0	0	0	1
1005 - 1010	0	0	0	0	0	0	0	0
1010 - 1015	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
1015 - 1020	0	0	0	0	0	0	0	0
1020 - 1025	0	0	1	0	0	0	0	1
1025 - 1030	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1030 - 1035	0	0	0	0	0	0	0	0
1035 - 1040	0	0	1	0	0	0	0	1
1040 - 1045	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1045 - 1050	0	0	2	0	0	0	0	2
1050 - 1055	0	0	1	0	0	0	0	1
1055 - 1100	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
Hourly Total	0	0	8	0	0	0	0	8

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	0	0	0	0	0	0	0	0
1105 - 1110	0	0	0	0	0	0	0	0
1110 - 1115	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1115 - 1120	0	0	0	0	0	0	0	0
1120 - 1125	0	0	1	0	0	0	0	1
1125 - 1130	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1130 - 1135	0	0	1	0	0	0	0	1
1135 - 1140	0	0	1	0	0	0	0	1
1140 - 1145	0	0	2	0	0	0	0	2
15-MINS	0	0	4	0	0	0	0	4
1145 - 1150	0	0	0	0	0	0	0	0
1150 - 1155	0	0	0	0	0	0	0	0
1155 - 1200	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
Hourly Total	0	0	6	0	0	0	0	6

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	0	0	0	0	0	0	0	0
1205 - 1210	0	0	0	0	0	0	0	0
1210 - 1215	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1215 - 1220	0	0	1	0	0	0	0	1
1220 - 1225	0	0	0	0	0	0	0	0
1225 - 1230	0	0	2	0	0	0	0	2
15-MINS	0	0	3	0	0	0	0	3
1230 - 1235	0	0	1	0	0	0	0	1
1235 - 1240	0	0	1	0	0	0	0	1
1240 - 1245	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1245 - 1250	0	0	1	1	0	0	0	2
1250 - 1255	0	0	1	2	0	0	0	3
1255 - 1300	0	0	0	0	0	0	0	0
15-MINS	0	0	2	3	0	0	0	5
Hourly Total	0	0	7	3	0	0	0	10

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	0	1	0	0	0	0	1
1305 - 1310	0	0	0	0	0	0	0	0
1310 - 1315	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1315 - 1320	0	0	0	0	0	0	0	0
1320 - 1325	0	0	1	0	0	0	1	2
1325 - 1330	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	1	3
1330 - 1335	0	0	0	0	0	0	0	0
1335 - 1340	0	0	0	0	0	0	0	0
1340 - 1345	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1345 - 1350	0	0	0	1	0	0	0	1
1350 - 1355	0	0	0	0	0	0	0	0
1355 - 1400	0	0	0	0	0	0	0	0
15-MINS	0	0	0	1	0	0	0	1
Hourly Total	0	0	4	1	0	0	1	6

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	0	0	0	0	0	0
1405 - 1410	0	0	0	0	0	0	0	0
1410 - 1415	0	0	3	0	0	0	0	3
15-MINS	0	0	3	0	0	0	0	3
1415 - 1420	0	0	0	0	0	0	0	0
1420 - 1425	0	0	0	0	0	0	0	0
1425 - 1430	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1430 - 1435	0	0	0	1	0	0	0	1
1435 - 1440	0	0	1	1	0	0	0	2
1440 - 1445	0	0	1	0	0	0	0	1
15-MINS	0	0	2	2	0	0	0	4
1445 - 1450	0	0	1	0	0	0	1	2
1450 - 1455	0	0	0	0	0	0	0	0
1455 - 1500	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	1	2
Hourly Total	0	0	7	2	0	0	1	10

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	0	0	0	0	0	0	0	0
1505 - 1510	0	0	1	0	0	0	0	1
1510 - 1515	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
1515 - 1520	0	0	2	0	0	0	0	2
1520 - 1525	0	0	0	0	0	0	0	0
1525 - 1530	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
1530 - 1535	0	0	2	0	0	0	0	2
1535 - 1540	0	0	8	1	0	0	0	9
1540 - 1545	1	0	5	0	0	0	0	6
15-MINS	**1**	**0**	**15**	**1**	**0**	**0**	**0**	**17**
1545 - 1550	0	0	1	0	0	0	0	1
1550 - 1555	0	0	3	0	0	0	0	3
1555 - 1600	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**
Hourly Total	**1**	**0**	**26**	**1**	**0**	**0**	**0**	**28**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	0	0	2	0	0	0	0	2
1605 - 1610	0	0	2	0	0	0	0	2
1610 - 1615	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**
1615 - 1620	0	0	3	0	0	0	0	3
1620 - 1625	0	0	1	1	0	0	0	2
1625 - 1630	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**6**
1630 - 1635	0	1	0	0	0	0	0	1
1635 - 1640	0	0	0	0	0	0	0	0
1640 - 1645	0	0	1	0	0	0	0	1
15-MINS	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**
1645 - 1650	0	0	1	0	0	0	0	1
1650 - 1655	0	0	0	0	0	0	0	0
1655 - 1700	0	0	0	1	0	0	0	1
15-MINS	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**
Hourly Total	**0**	**1**	**13**	**2**	**0**	**0**	**0**	**16**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	0	1	0	0	0	0	1
1705 - 1710	0	0	0	0	0	0	0	0
1710 - 1715	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1715 - 1720	0	0	0	0	0	0	0	0
1720 - 1725	0	0	2	0	0	0	0	2
1725 - 1730	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
1730 - 1735	0	0	0	0	1	0	0	1
1735 - 1740	0	0	5	0	0	0	0	5
1740 - 1745	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**6**	**0**	**1**	**0**	**0**	**7**
1745 - 1750	1	0	3	0	0	0	0	4
1750 - 1755	0	0	1	0	0	0	0	1
1755 - 1800	0	0	1	0	0	0	0	1
15-MINS	**1**	**0**	**5**	**0**	**0**	**0**	**0**	**6**
Hourly Total	**1**	**0**	**14**	**0**	**1**	**0**	**0**	**16**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	1	0	0	0	0	1
1805 - 1810	0	0	3	0	0	0	0	3
1810 - 1815	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**
1815 - 1820	0	0	0	0	0	0	0	0
1820 - 1825	0	0	0	0	0	0	0	0
1825 - 1830	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
1830 - 1835	0	0	4	0	0	0	0	4
1835 - 1840	0	0	3	0	0	0	0	3
1840 - 1845	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**7**
1845 - 1850	0	0	3	0	0	0	0	3
1850 - 1855	0	0	1	1	0	0	0	2
1855 - 1900	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**6**
Hourly Total	**0**	**0**	**19**	**1**	**0**	**0**	**0**	**20**
Session Total	**3**	**1**	**122**	**17**	**1**	**0**	**2**	**146**

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	RIGHT TO HARPENDEN RD NORTH							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	0	0	0	0	0	0	0	0
0705 - 0710	0	0	1	0	0	0	0	1
0710 - 0715	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0715 - 0720	0	0	1	0	0	0	0	1
0720 - 0725	0	0	0	0	0	0	0	0
0725 - 0730	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0730 - 0735	0	0	1	0	0	0	0	1
0735 - 0740	0	0	0	1	0	0	0	1
0740 - 0745	0	0	1	0	0	0	0	1
15-MINS	0	0	2	1	0	0	0	3
0745 - 0750	0	0	1	0	0	0	0	1
0750 - 0755	0	0	0	0	0	0	0	0
0755 - 0800	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	6	1	0	0	0	7

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	0	0	0	1	0	0	0	1
0805 - 0810	0	0	0	0	0	0	0	0
0810 - 0815	0	0	1	0	0	0	0	1
15-MINS	0	0	1	1	0	0	0	2
0815 - 0820	0	0	1	0	0	0	0	1
0820 - 0825	0	0	0	0	0	0	0	0
0825 - 0830	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0830 - 0835	0	0	0	0	0	0	0	0
0835 - 0840	0	0	1	0	0	0	0	1
0840 - 0845	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
0845 - 0850	0	0	2	2	0	0	0	4
0850 - 0855	0	0	1	0	0	0	0	1
0855 - 0900	0	0	4	0	0	0	0	4
15-MINS	0	0	7	2	0	0	0	9
Hourly Total	0	0	10	3	0	0	0	13

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	0	0	0	1	0	0	0	1
0905 - 0910	0	0	1	0	0	0	0	1
0910 - 0915	0	0	0	0	0	0	0	0
15-MINS	0	0	1	1	0	0	0	2
0915 - 0920	0	0	1	0	0	0	0	1
0920 - 0925	0	0	2	0	0	0	0	2
0925 - 0930	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
0930 - 0935	0	0	1	1	0	0	0	2
0935 - 0940	0	0	0	0	0	0	0	0
0940 - 0945	0	0	1	0	0	0	0	1
15-MINS	0	0	2	1	0	0	0	3
0945 - 0950	0	0	1	0	0	0	0	1
0950 - 0955	0	0	0	0	0	0	0	0
0955 - 1000	0	0	0	1	0	0	0	1
15-MINS	0	0	1	1	0	0	0	2
Hourly Total	0	0	8	3	0	0	0	11

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	0	0	0	0	0	0	0	0
1005 - 1010	0	0	0	0	0	0	0	0
1010 - 1015	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1015 - 1020	0	0	0	0	0	0	0	0
1020 - 1025	0	0	0	0	0	0	0	0
1025 - 1030	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1030 - 1035	0	0	2	0	0	0	0	2
1035 - 1040	0	0	0	0	0	0	0	0
1040 - 1045	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1045 - 1050	0	0	0	0	0	0	0	0
1050 - 1055	0	0	1	0	0	0	0	1
1055 - 1100	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
Hourly Total	0	0	3	0	0	0	0	3

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	0	0	0	0	0	0	0	0
1105 - 1110	0	0	0	0	0	0	0	0
1110 - 1115	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1115 - 1120	0	0	0	0	0	0	0	0
1120 - 1125	0	0	0	0	0	0	0	0
1125 - 1130	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1130 - 1135	0	0	1	0	0	0	0	1
1135 - 1140	0	0	0	0	0	0	0	0
1140 - 1145	1	0	1	0	0	0	0	2
15-MINS	1	0	2	0	0	0	0	3
1145 - 1150	0	0	0	0	0	0	0	0
1150 - 1155	0	0	0	0	0	0	0	0
1155 - 1200	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
Hourly Total	1	0	3	0	0	0	0	4

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	0	0	0	0	0	0	0	0
1205 - 1210	0	0	0	0	0	0	0	0
1210 - 1215	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1215 - 1220	0	0	0	0	0	0	0	0
1220 - 1225	0	0	1	0	0	0	0	1
1225 - 1230	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1230 - 1235	0	0	2	0	0	0	0	2
1235 - 1240	0	0	1	0	0	0	0	1
1240 - 1245	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
1245 - 1250	0	1	0	0	0	0	0	1
1250 - 1255	0	0	1	0	0	0	0	1
1255 - 1300	0	0	0	0	0	0	0	0
15-MINS	0	1	1	0	0	0	0	2
Hourly Total	0	1	6	0	0	0	0	7

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	0	0	0	0	0	0	0
1305 - 1310	0	0	0	0	0	0	0	0
1310 - 1315	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1315 - 1320	0	0	0	0	0	0	0	0
1320 - 1325	0	0	1	0	0	0	0	1
1325 - 1330	1	0	0	0	1	0	0	2
15-MINS	1	0	1	0	1	0	0	3
1330 - 1335	0	0	0	0	0	0	0	0
1335 - 1340	0	0	0	0	0	0	0	0
1340 - 1345	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1345 - 1350	0	0	0	0	0	0	0	0
1350 - 1355	0	0	0	0	0	0	0	0
1355 - 1400	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
Hourly Total	1	0	1	0	1	0	0	3

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	2	0	0	0	0	2
1405 - 1410	0	0	0	0	0	0	0	0
1410 - 1415	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1415 - 1420	0	0	0	0	0	0	0	0
1420 - 1425	0	0	0	0	0	0	0	0
1425 - 1430	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1430 - 1435	0	0	0	0	0	0	0	0
1435 - 1440	0	0	0	0	0	0	0	0
1440 - 1445	0	0	0	1	0	0	0	1
15-MINS	0	0	0	1	0	0	0	1
1445 - 1450	0	0	0	0	0	0	0	0
1450 - 1455	0	0	0	0	0	0	0	0
1455 - 1500	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
Hourly Total	0	0	3	1	0	0	0	4

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HEATHLANDS DR

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	0	0	0	0	0	0	0	0
1505 - 1510	0	0	0	0	0	0	0	0
1510 - 1515	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1515 - 1520	0	0	0	0	0	0	0	0
1520 - 1525	0	0	1	0	0	0	0	1
1525 - 1530	0	0	1	0	0	0	0	1
15-MINS	0	0	2	0	0	0	0	2
1530 - 1535	0	0	2	1	0	0	0	3
1535 - 1540	0	0	3	0	0	0	0	3
1540 - 1545	0	0	0	0	0	0	0	0
15-MINS	0	0	5	1	0	0	0	6
1545 - 1550	0	0	1	0	0	0	0	1
1550 - 1555	0	0	1	0	0	0	0	1
1555 - 1600	0	0	1	0	0	0	0	1
15-MINS	0	0	3	0	0	0	0	3
Hourly Total	0	0	10	1	0	0	0	11

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	0	0	2	0	0	0	0	2
1605 - 1610	0	0	0	0	0	0	0	0
1610 - 1615	0	0	1	0	0	0	0	1
15-MINS	0	0	3	0	0	0	0	3
1615 - 1620	0	0	0	0	0	0	0	0
1620 - 1625	0	0	1	0	0	0	0	1
1625 - 1630	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1630 - 1635	0	0	1	0	0	0	0	1
1635 - 1640	0	0	1	0	0	0	0	1
1640 - 1645	0	0	1	1	0	0	0	2
15-MINS	0	0	3	1	0	0	0	4
1645 - 1650	0	0	0	0	0	0	0	0
1650 - 1655	0	0	2	1	0	0	0	3
1655 - 1700	0	0	2	1	0	0	0	3
15-MINS	0	0	4	2	0	0	0	6
Hourly Total	0	0	11	3	0	0	0	14

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	0	1	0	0	0	0	1
1705 - 1710	0	0	0	0	0	0	0	0
1710 - 1715	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1710 - 1715	0	0	0	0	0	0	0	0
1720 - 1725	0	0	0	0	0	0	0	0
1725 - 1730	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1725 - 1730	0	0	1	0	0	0	0	1
1735 - 1740	0	0	1	0	0	0	0	1
1740 - 1745	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
1740 - 1745	0	0	1	0	0	0	0	1
1750 - 1755	0	0	0	0	0	0	0	0
1755 - 1800	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
Hourly Total	0	0	5	0	0	0	0	5

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	0	0	0	0	0	0
1805 - 1810	0	0	0	0	0	0	0	0
1810 - 1815	0	0	1	0	0	0	0	1
15-MINS	0	0	1	0	0	0	0	1
1815 - 1820	0	0	0	0	0	0	0	0
1820 - 1825	0	0	1	0	0	0	0	1
1825 - 1830	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1830 - 1835	0	0	1	0	0	0	0	1
1835 - 1840	0	0	0	0	0	0	0	0
1840 - 1845	0	0	2	0	0	0	0	2
15-MINS	0	0	3	0	0	0	0	3
1845 - 1850	0	0	0	0	0	0	0	0
1850 - 1855	0	0	3	0	0	0	0	3
1855 - 1900	0	0	1	0	0	0	0	1
15-MINS	0	0	4	0	0	0	0	4
Hourly Total	0	0	9	0	0	0	0	9
Session Total	2	1	75	12	1	0	0	91

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	AHEAD TO HARPENDEN RD NORTH							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	0	0	11	1	1	0	2	15
0705 - 0710	1	0	12	3	1	0	1	18
0710 - 0715	0	1	9	1	0	0	1	12
15-MINS	1	1	32	5	2	0	4	45
0715 - 0720	1	0	18	1	1	0	0	21
0720 - 0725	0	1	7	1	1	0	0	10
0725 - 0730	0	0	9	0	0	0	0	9
15-MINS	1	1	34	2	2	0	0	40
0730 - 0735	0	1	18	4	0	0	0	23
0735 - 0740	0	0	28	2	0	0	0	30
0740 - 0745	0	0	23	2	0	0	1	26
15-MINS	0	1	69	8	0	0	1	79
0745 - 0750	2	0	16	1	0	0	0	19
0750 - 0755	0	0	27	4	0	0	2	33
0755 - 0800	0	0	23	2	0	0	0	25
15-MINS	2	0	66	7	0	0	2	77
Hourly Total	4	3	201	22	4	0	7	241

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	1	1	25	3	0	0	1	31
0805 - 0810	1	0	22	1	1	0	1	26
0810 - 0815	2	0	40	5	0	0	2	49
15-MINS	4	1	87	9	1	0	4	106
0815 - 0820	1	0	28	2	0	0	1	32
0820 - 0825	0	0	25	1	0	0	2	28
0825 - 0830	0	0	15	3	0	1	2	21
15-MINS	1	0	68	6	0	1	5	81
0830 - 0835	1	0	24	3	0	0	0	28
0835 - 0840	1	0	24	3	0	0	1	29
0840 - 0845	0	0	31	3	1	0	1	36
15-MINS	2	0	79	9	1	0	2	93
0845 - 0850	0	0	19	3	1	0	0	23
0850 - 0855	1	0	16	2	0	0	1	20
0855 - 0900	0	0	23	6	0	0	0	29
15-MINS	1	0	58	11	1	0	1	72
Hourly Total	8	1	292	35	3	1	12	352

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	0	0	25	8	0	0	0	33
0905 - 0910	0	0	11	2	1	0	0	14
0910 - 0915	1	0	17	3	0	0	0	21
15-MINS	1	0	53	13	1	0	0	68
0915 - 0920	1	0	16	4	0	0	0	21
0920 - 0925	0	0	10	5	0	0	0	15
0925 - 0930	1	1	16	2	0	0	0	20
15-MINS	2	1	42	11	0	0	0	56
0930 - 0935	0	0	16	3	0	0	0	19
0935 - 0940	0	0	12	1	0	0	0	13
0940 - 0945	0	0	16	1	1	0	0	18
15-MINS	0	0	44	5	1	0	0	50
0945 - 0950	0	0	22	0	0	0	1	23
0950 - 0955	0	0	10	3	0	0	0	13
0955 - 1000	0	0	15	3	0	0	0	18
15-MINS	0	0	47	6	0	0	1	54
Hourly Total	3	1	186	35	2	0	1	228

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	2	0	10	1	0	0	0	13
1005 - 1010	0	0	21	2	2	0	0	25
1010 - 1015	0	0	13	2	0	0	0	15
15-MINS	2	0	44	5	2	0	0	53
1015 - 1020	0	0	26	7	1	0	0	34
1020 - 1025	1	0	18	2	0	0	1	22
1025 - 1030	0	0	12	6	0	0	1	19
15-MINS	1	0	56	15	1	0	2	75
1030 - 1035	0	0	21	7	0	0	0	28
1035 - 1040	0	0	12	0	0	0	0	12
1040 - 1045	0	0	14	5	1	0	0	20
15-MINS	0	0	47	12	1	0	0	60
1045 - 1050	0	0	17	3	0	0	0	20
1050 - 1055	0	1	15	4	0	0	2	22
1055 - 1100	0	0	21	1	1	0	0	23
15-MINS	0	1	53	8	1	0	2	65
Hourly Total	3	1	200	40	5	0	4	253

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	0	0	10	2	0	0	0	12
1105 - 1110	0	0	12	1	0	0	0	13
1110 - 1115	0	0	17	2	0	0	0	19
15-MINS	0	0	39	5	0	0	0	44
1115 - 1120	0	0	17	5	1	0	1	24
1120 - 1125	0	0	12	2	0	0	0	14
1125 - 1130	1	0	13	4	0	0	0	18
15-MINS	1	0	42	11	1	0	1	56
1130 - 1135	0	0	18	2	0	0	0	20
1135 - 1140	1	0	8	2	1	0	0	12
1140 - 1145	0	0	12	1	1	0	0	14
15-MINS	1	0	38	5	2	0	0	46
1145 - 1150	0	1	13	3	0	0	1	18
1150 - 1155	0	0	30	0	0	0	0	30
1155 - 1200	0	0	22	2	0	0	0	24
15-MINS	0	1	65	5	0	0	1	72
Hourly Total	2	1	184	26	3	0	2	218

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	1	0	22	4	0	0	0	27
1205 - 1210	0	0	20	1	0	0	0	21
1210 - 1215	0	0	19	3	0	0	0	22
15-MINS	1	0	61	8	0	0	0	70
1215 - 1220	1	0	27	4	0	0	1	33
1220 - 1225	0	0	21	4	0	0	0	25
1225 - 1230	0	0	22	3	1	0	0	26
15-MINS	1	0	70	11	1	0	1	84
1230 - 1235	0	0	20	2	1	0	0	23
1235 - 1240	0	0	14	3	0	0	0	17
1240 - 1245	0	0	32	2	0	0	0	34
15-MINS	0	0	66	7	1	0	0	74
1245 - 1250	1	0	24	1	0	0	0	26
1250 - 1255	0	0	22	0	0	0	2	24
1255 - 1300	1	0	19	2	1	0	0	23
15-MINS	2	0	65	3	1	0	2	73
Hourly Total	4	0	262	29	3	0	3	301

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	1	20	3	0	0	0	24
1305 - 1310	0	0	20	2	0	0	0	22
1310 - 1315	1	0	16	3	1	0	0	21
15-MINS	1	1	56	8	1	0	0	67
1315 - 1320	0	0	25	2	0	0	0	27
1320 - 1325	0	0	21	3	1	0	0	25
1325 - 1330	0	0	19	0	2	1	1	23
15-MINS	0	0	65	5	3	1	1	75
1330 - 1335	0	0	15	1	0	0	0	16
1335 - 1340	2	0	24	1	1	0	0	28
1340 - 1345	0	0	19	4	0	0	0	23
15-MINS	2	0	58	6	1	0	0	67
1345 - 1350	0	1	15	1	0	0	1	18
1350 - 1355	0	0	19	1	0	0	0	20
1355 - 1400	0	0	22	1	0	1	1	25
15-MINS	0	1	56	3	0	1	2	63
Hourly Total	3	2	235	22	5	2	3	272

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	25	2	0	0	2	29
1405 - 1410	0	0	26	0	0	0	0	26
1410 - 1415	1	0	30	2	1	0	1	35
15-MINS	1	0	81	4	1	0	3	90
1415 - 1420	0	0	15	2	0	0	1	18
1420 - 1425	0	0	17	1	0	0	1	19
1425 - 1430	0	0	14	4	0	0	0	18
15-MINS	0	0	46	7	0	0	2	55
1430 - 1435	0	1	22	5	0	0	0	28
1435 - 1440	0	1	36	4	0	0	0	41
1440 - 1445	0	0	29	1	0	0	0	30
15-MINS	0	2	87	10	0	0	0	99
1445 - 1450	0	1	26	2	0	0	0	29
1450 - 1455	0	0	23	1	0	0	0	24
1455 - 1500	1	0	26	3	0	0	1	31
15-MINS	1	1	75	6	0	0	1	84
Hourly Total	2	3	289	27	1	0	6	328

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	1	0	18	3	0	0	2	24
1505 - 1510	0	0	25	5	0	0	0	30
1510 - 1515	1	1	24	2	0	0	1	29
15-MINS	2	1	67	10	0	0	3	83
1515 - 1520	0	0	20	4	1	0	1	26
1520 - 1525	3	0	31	2	0	0	1	37
1525 - 1530	1	0	38	1	0	0	2	42
15-MINS	4	0	89	7	1	0	4	105
1530 - 1535	0	0	27	2	0	0	1	30
1535 - 1540	0	0	20	2	0	0	2	24
1540 - 1545	1	0	11	4	0	1	1	18
15-MINS	1	0	58	8	0	1	4	72
1545 - 1550	0	0	27	1	0	0	1	29
1550 - 1555	0	0	24	5	0	0	0	29
1555 - 1600	0	0	31	2	0	0	0	33
15-MINS	0	0	82	8	0	0	1	91
Hourly Total	7	1	296	33	1	1	12	351

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	1	0	27	5	0	0	1	34
1605 - 1610	1	0	31	3	1	0	0	36
1610 - 1615	1	0	34	4	1	0	1	41
15-MINS	3	0	92	12	2	0	2	111
1615 - 1620	2	0	40	0	0	0	2	44
1620 - 1625	2	0	37	2	0	0	3	44
1625 - 1630	1	0	23	0	1	0	1	26
15-MINS	5	0	100	2	1	0	6	114
1630 - 1635	0	0	25	2	0	0	0	27
1635 - 1640	0	0	20	7	0	0	2	29
1640 - 1645	1	0	32	2	0	0	0	35
15-MINS	1	0	77	11	0	0	2	91
1645 - 1650	0	1	40	3	0	0	1	45
1650 - 1655	0	0	29	5	0	0	2	36
1655 - 1700	1	0	32	2	0	0	0	35
15-MINS	1	1	101	10	0	0	3	116
Hourly Total	10	1	370	35	3	0	13	432

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	1	39	2	0	0	2	44
1705 - 1710	1	0	26	1	0	1	1	30
1710 - 1715	1	1	30	5	1	0	0	38
15-MINS	2	2	95	8	1	1	3	112
1715 - 1720	0	0	38	0	0	0	1	39
1720 - 1725	1	3	28	1	0	0	0	33
1725 - 1730	0	1	35	1	0	0	0	37
15-MINS	1	4	101	2	0	0	1	109
1730 - 1735	1	1	42	1	0	0	0	45
1735 - 1740	0	0	41	3	0	0	0	44
1740 - 1745	0	1	36	0	0	0	0	37
15-MINS	1	2	119	4	0	0	0	126
1745 - 1750	1	0	39	1	0	0	0	41
1750 - 1755	2	0	30	3	0	0	0	35
1755 - 1800	1	1	35	4	0	0	1	42
15-MINS	4	1	104	8	0	0	1	118
Hourly Total	8	9	419	22	1	1	5	465

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	23	3	0	0	0	26
1805 - 1810	0	0	26	3	1	0	0	30
1810 - 1815	0	0	42	1	0	0	0	43
15-MINS	0	0	91	7	1	0	0	99
1815 - 1820	2	1	28	0	1	0	0	32
1820 - 1825	2	0	27	1	0	0	0	30
1825 - 1830	0	0	21	0	0	0	0	21
15-MINS	4	1	76	1	1	0	0	83
1830 - 1835	2	0	24	0	0	0	0	26
1835 - 1840	2	0	26	0	0	0	0	28
1840 - 1845	0	0	25	1	0	0	0	26
15-MINS	4	0	75	1	0	0	0	80
1845 - 1850	6	2	33	1	0	0	0	42
1850 - 1855	3	0	32	1	0	0	0	36
1855 - 1900	2	0	24	1	0	0	0	27
15-MINS	11	2	89	3	0	0	0	105
Hourly Total	19	3	331	12	2	0	0	367
Session Total	73	26	3265	338	33	5	68	3808

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	RIGHT TO HEATHLANDS DR							
	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0705	0	0	1	0	0	0	0	1
0705 - 0710	0	0	0	0	0	0	0	0
0710 - 0715	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
0715 - 0720	0	0	0	0	0	0	0	0
0720 - 0725	0	0	1	0	0	0	0	1
0725 - 0730	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
0730 - 0735	0	0	1	0	0	0	0	1
0735 - 0740	0	0	1	0	0	0	0	1
0740 - 0745	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
0745 - 0750	0	0	1	1	0	0	0	2
0750 - 0755	0	0	1	0	0	0	0	1
0755 - 0800	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**4**
Hourly Total	**0**	**0**	**10**	**1**	**0**	**0**	**0**	**11**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0800 - 0805	0	0	1	0	0	0	0	1
0805 - 0810	0	0	1	0	0	0	0	1
0810 - 0815	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**4**
0815 - 0820	0	0	0	1	0	0	1	2
0820 - 0825	0	1	2	0	0	0	0	3
0825 - 0830	0	0	5	0	0	0	0	5
15-MINS	**0**	**1**	**7**	**1**	**0**	**0**	**1**	**10**
0830 - 0835	0	0	2	0	0	0	0	2
0835 - 0840	0	0	2	0	0	0	0	2
0840 - 0845	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**
0845 - 0850	0	0	6	0	0	0	0	6
0850 - 0855	0	0	1	0	0	0	0	1
0855 - 0900	0	0	1	1	0	0	0	2
15-MINS	**0**	**0**	**8**	**1**	**0**	**0**	**0**	**9**
Hourly Total	**0**	**1**	**25**	**2**	**0**	**0**	**1**	**29**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0900 - 0905	0	0	2	0	0	0	0	2
0905 - 0910	0	0	0	0	0	0	0	0
0910 - 0915	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
0915 - 0920	0	0	1	0	0	0	0	1
0920 - 0925	0	0	1	0	0	0	0	1
0925 - 0930	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
0930 - 0935	0	0	0	0	0	0	0	0
0935 - 0940	0	0	2	1	0	0	0	3
0940 - 0945	0	0	0	1	0	0	0	1
15-MINS	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**4**
0945 - 0950	0	0	0	0	0	0	0	0
0950 - 0955	0	0	0	1	0	0	0	1
0955 - 1000	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**
Hourly Total	**0**	**0**	**8**	**3**	**0**	**0**	**0**	**11**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1000 - 1005	0	0	1	0	0	0	0	1
1005 - 1010	0	0	1	0	0	0	0	1
1010 - 1015	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
1015 - 1020	0	0	0	0	0	0	0	0
1020 - 1025	0	0	0	1	0	0	0	1
1025 - 1030	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
1030 - 1035	0	0	1	0	0	0	0	1
1035 - 1040	0	0	0	0	0	0	0	0
1040 - 1045	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1045 - 1050	0	0	0	0	0	0	0	0
1050 - 1055	0	0	1	0	0	0	0	1
1055 - 1100	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
Hourly Total	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**6**

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1100 - 1105	0	0	0	0	0	0	0	0
1105 - 1110	0	0	0	0	0	0	0	0
1110 - 1115	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1115 - 1120	0	0	0	0	0	0	0	0
1120 - 1125	0	0	1	0	0	0	0	1
1125 - 1130	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1130 - 1135	0	0	0	0	0	0	0	0
1135 - 1140	0	0	0	0	0	0	0	0
1140 - 1145	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1145 - 1150	0	0	0	0	0	0	0	0
1150 - 1155	0	0	0	0	0	0	0	0
1155 - 1200	0	0	2	0	0	0	0	2
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	3	0	0	0	0	3

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1200 - 1205	0	0	1	0	0	0	0	1
1205 - 1210	0	0	1	1	0	0	0	2
1210 - 1215	0	0	0	0	0	0	0	0
15-MINS	0	0	2	1	0	0	0	3
1215 - 1220	0	0	0	0	0	0	0	0
1220 - 1225	0	0	2	0	0	0	0	2
1225 - 1230	0	0	0	1	0	0	0	1
15-MINS	0	0	2	1	0	0	0	3
1230 - 1235	0	0	0	0	0	0	0	0
1235 - 1240	0	0	0	0	0	0	0	0
1240 - 1245	0	0	0	1	0	0	0	1
15-MINS	0	0	0	1	0	0	0	1
1245 - 1250	0	0	0	0	0	0	0	0
1250 - 1255	0	0	0	0	0	0	0	0
1255 - 1300	0	0	2	0	0	0	0	2
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	0	0	6	3	0	0	0	9

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1300 - 1305	0	0	1	0	0	0	0	1
1305 - 1310	0	0	0	0	0	0	0	0
1310 - 1315	0	0	0	0	0	0	0	0
15-MINS	0	0	1	0	0	0	0	1
1315 - 1320	0	0	0	0	1	0	0	1
1320 - 1325	1	0	1	0	0	0	1	3
1325 - 1330	0	0	0	1	0	0	0	1
15-MINS	1	0	1	1	1	0	1	5
1330 - 1335	0	0	0	0	0	0	0	0
1335 - 1340	0	0	0	0	0	0	0	0
1340 - 1345	0	0	0	0	0	0	0	0
15-MINS	0	0	0	0	0	0	0	0
1345 - 1350	0	0	0	0	0	0	0	0
1350 - 1355	0	0	2	0	0	0	0	2
1355 - 1400	0	0	0	0	0	0	0	0
15-MINS	0	0	2	0	0	0	0	2
Hourly Total	1	0	4	1	1	0	1	8

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1400 - 1405	0	0	0	0	0	0	0	0
1405 - 1410	0	0	0	0	0	0	0	0
1410 - 1415	0	0	2	1	0	0	0	3
15-MINS	0	0	2	1	0	0	0	3
1415 - 1420	0	0	3	0	0	0	0	3
1420 - 1425	0	0	1	0	0	0	0	1
1425 - 1430	0	0	1	0	0	0	0	1
15-MINS	0	0	5	0	0	0	0	5
1430 - 1435	0	0	0	0	0	0	0	0
1435 - 1440	0	0	0	2	0	0	0	2
1440 - 1445	0	0	0	0	0	0	0	0
15-MINS	0	0	0	2	0	0	0	2
1445 - 1450	0	0	0	0	0	0	0	0
1450 - 1455	0	0	2	0	0	0	0	2
1455 - 1500	0	0	0	1	0	0	0	1
15-MINS	0	0	2	1	0	0	0	3
Hourly Total	0	0	9	4	0	0	0	13

JOB NAME: ST. ALBANS - JUNCTION 2 (HARPENDEN RD-HEATHLANDS DR)
DATE: TUESDAY 10 JULY 2012

APPROACH HARPENDEN RD SOUTH

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1500 - 1505	0	0	1	0	0	0	0	1
1505 - 1510	0	0	1	0	0	0	0	1
1510 - 1515	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
1515 - 1520	0	0	1	0	0	0	0	1
1520 - 1525	0	0	1	0	0	0	0	1
1525 - 1530	0	0	1	2	0	0	0	3
15-MINS	**0**	**0**	**3**	**2**	**0**	**0**	**0**	**5**
1530 - 1535	0	0	1	0	0	0	0	1
1535 - 1540	0	0	4	0	0	0	0	4
1540 - 1545	0	0	5	0	0	0	0	5
15-MINS	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**10**
1545 - 1550	0	0	0	0	0	0	1	1
1550 - 1555	0	0	0	0	0	0	0	0
1555 - 1600	0	0	1	0	0	0	0	1
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**
Hourly Total	**0**	**0**	**17**	**2**	**0**	**0**	**1**	**20**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1600 - 1605	0	0	0	0	0	0	0	0
1605 - 1610	0	0	1	0	0	0	0	1
1610 - 1615	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1615 - 1620	0	0	4	0	0	0	0	4
1620 - 1625	0	0	2	1	0	0	0	3
1625 - 1630	0	0	4	0	0	0	0	4
15-MINS	**0**	**0**	**10**	**1**	**0**	**0**	**0**	**11**
1630 - 1635	0	0	3	0	0	0	0	3
1635 - 1640	0	0	0	0	0	0	0	0
1640 - 1645	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
1645 - 1650	0	0	1	0	0	0	0	1
1650 - 1655	0	0	0	0	0	0	0	0
1655 - 1700	0	0	0	2	0	0	0	2
15-MINS	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**3**
Hourly Total	**0**	**0**	**15**	**3**	**0**	**0**	**0**	**18**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1700 - 1705	0	0	1	0	0	0	0	1
1705 - 1710	0	0	1	0	0	0	0	1
1710 - 1715	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
1710 - 1715	0	0	0	0	0	0	0	0
1720 - 1725	0	0	1	0	0	0	0	1
1725 - 1730	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
1725 - 1730	0	0	2	0	0	0	0	2
1735 - 1740	0	0	1	0	0	0	0	1
1740 - 1745	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
1740 - 1745	0	0	0	0	0	0	0	0
1750 - 1755	0	0	0	0	0	0	0	0
1755 - 1800	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hourly Total	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**6**

TIME	PC	MC	CAR	LGV	OGV1	OGV2	BUS	TOTAL
1800 - 1805	0	0	0	0	0	0	0	0
1805 - 1810	0	0	0	0	0	0	0	0
1810 - 1815	0	0	1	1	0	0	0	2
15-MINS	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**
1815 - 1820	0	1	0	0	0	0	0	1
1820 - 1825	0	0	2	0	0	0	0	2
1825 - 1830	0	0	9	1	0	0	0	10
15-MINS	**0**	**1**	**11**	**1**	**0**	**0**	**0**	**13**
1830 - 1835	0	0	2	0	0	0	0	2
1835 - 1840	0	0	1	0	0	0	0	1
1840 - 1845	0	0	2	0	0	0	0	2
15-MINS	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**5**
1845 - 1850	0	0	0	0	0	0	0	0
1850 - 1855	0	0	3	0	1	0	0	4
1855 - 1900	0	0	0	0	0	0	0	0
15-MINS	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**4**
Hourly Total	**0**	**1**	**20**	**2**	**1**	**0**	**0**	**24**
Session Total	**1**	**2**	**128**	**22**	**2**	**0**	**3**	**158**

CORE SEARCH AREA

WIDER SEARCH AREA

PROJECT TITLE

St Albans Primary School Site Search

DRAWING TITLE

Site search areas

SCALE	DATE	CHECKED
1:25000	OCTOBER 2015	
	DRAWN HP	DATE

PROJECT No. 5115

N

001

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

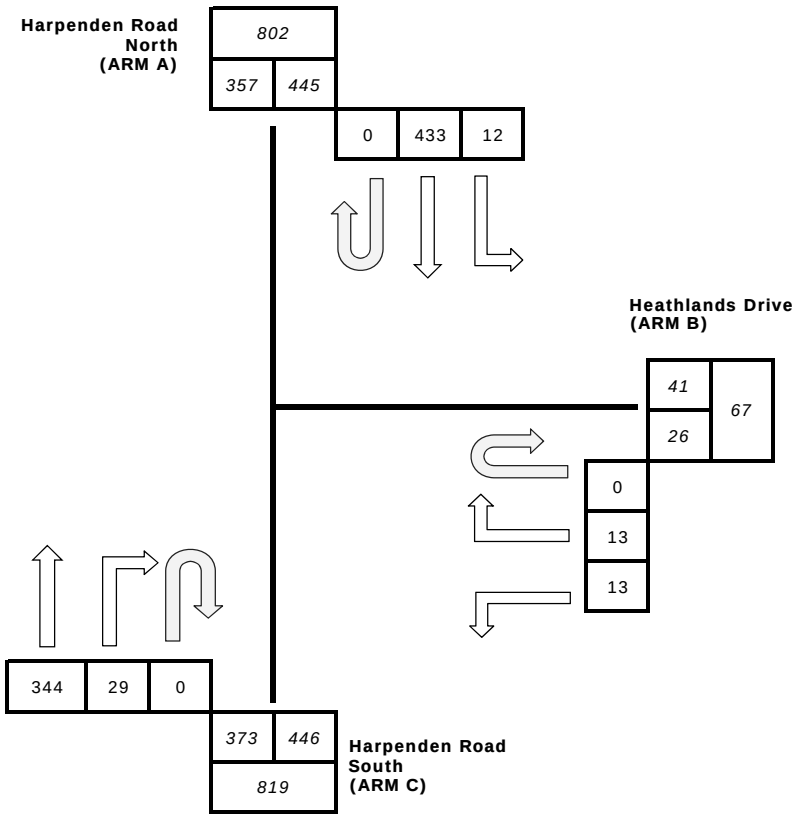
Project No. **2479**

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

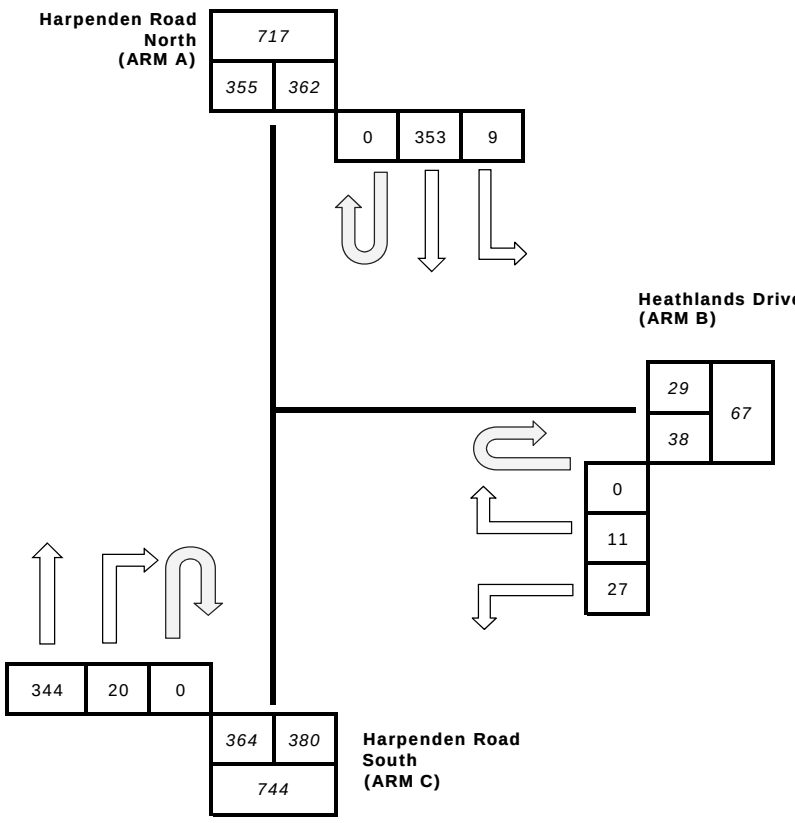
Sheet 1: Traffic Flows - 10th July 2012

Base traffic count data taken from surveys

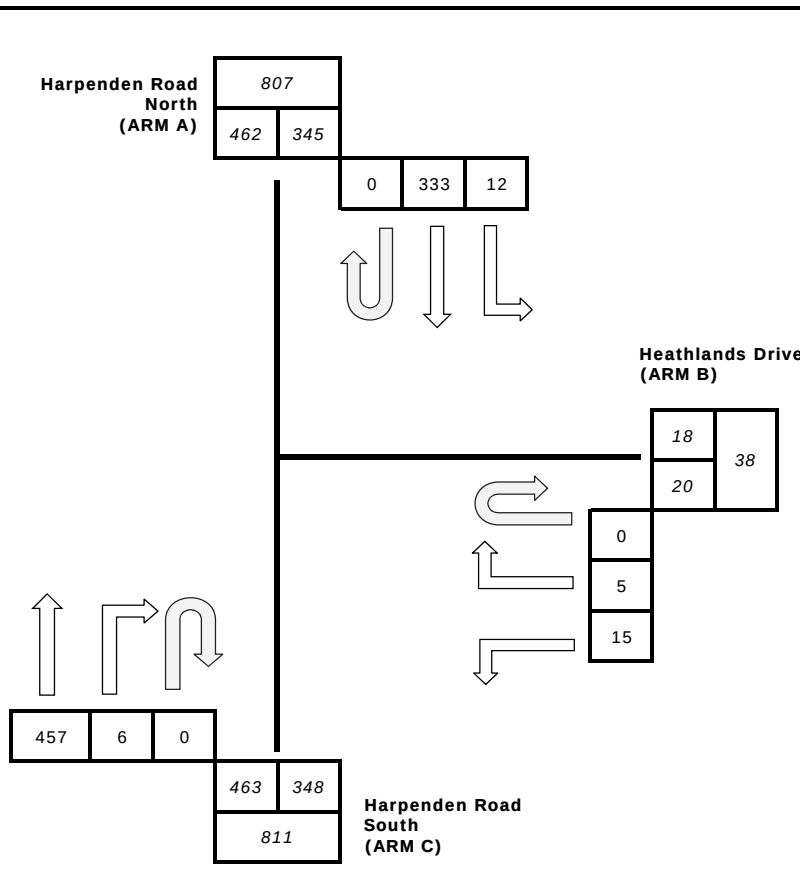
AM Peak Period **8:00**



School PM Peak **15:00**



PM Peak Period **17:00**



Site Reference:	Revision:	Details:

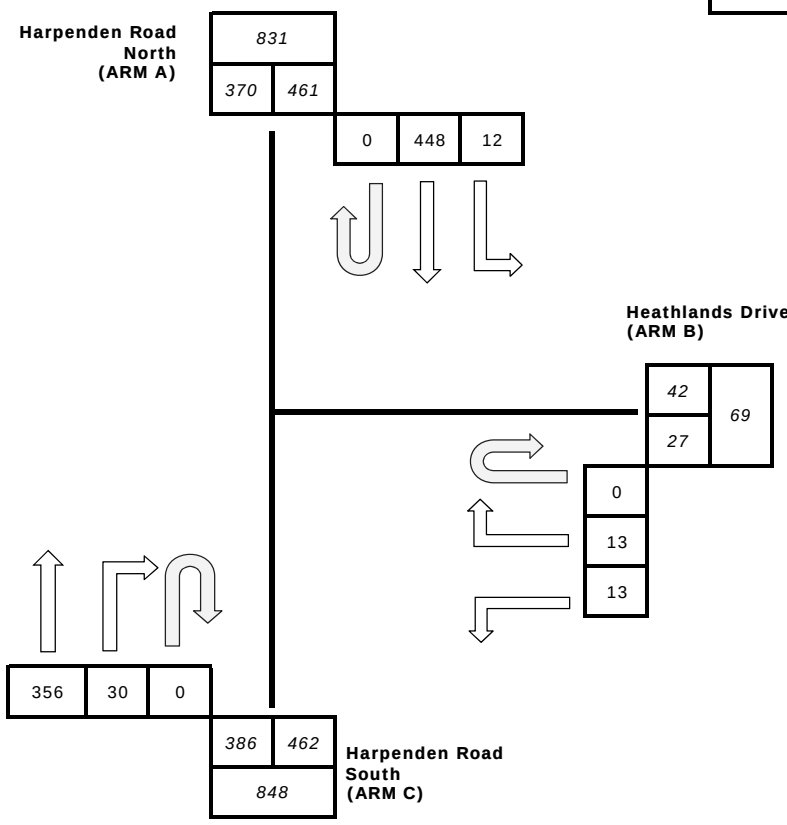
Project No. 2479

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

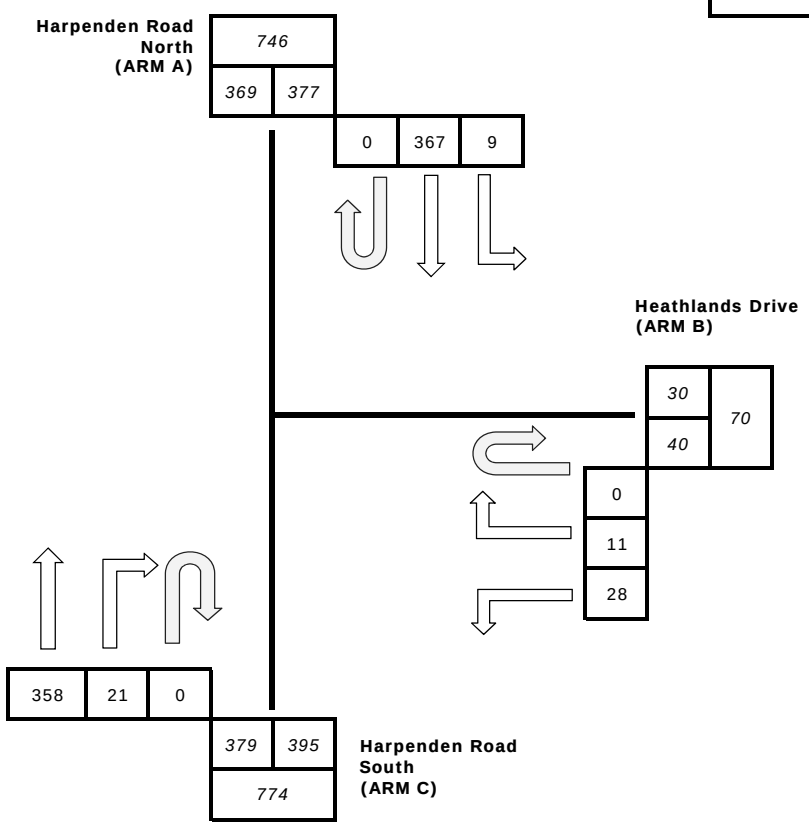
Sheet 2: 2012 Traffic Flows plus Growth to Year 2025

Base flow data muliplied by specified growth factor

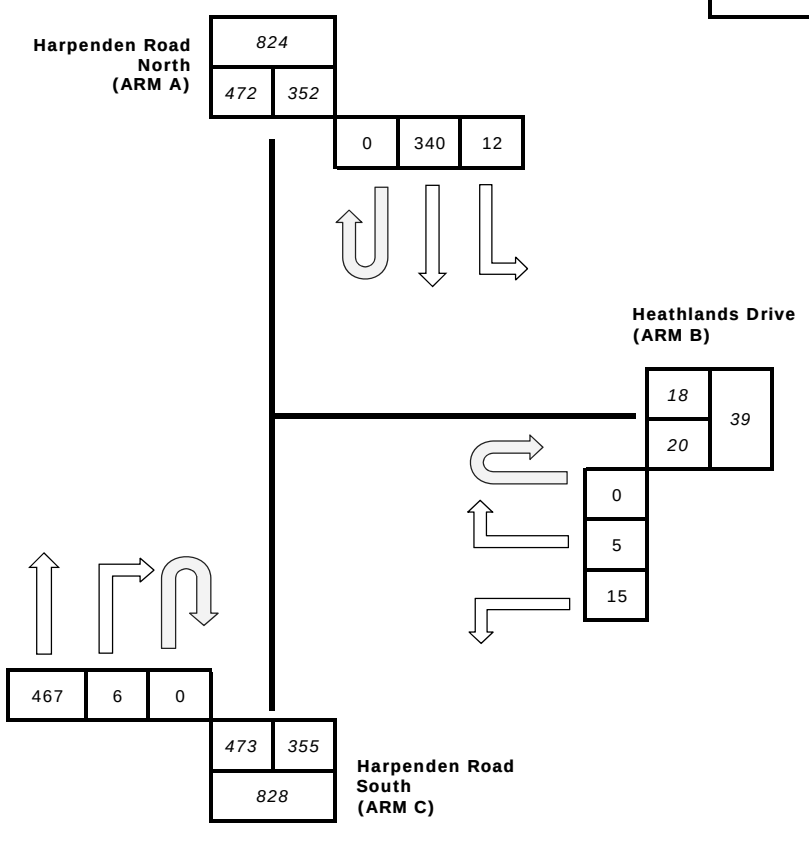
AM Peak Period **8:00** — **Growth Factor:** 1.03575



School PM Peak **15:00** — **Growth Factor:** 1.04025



PM Peak Period **17:00** — **Growth Factor:** 1.02085



Site Reference:	Revision:	Details:

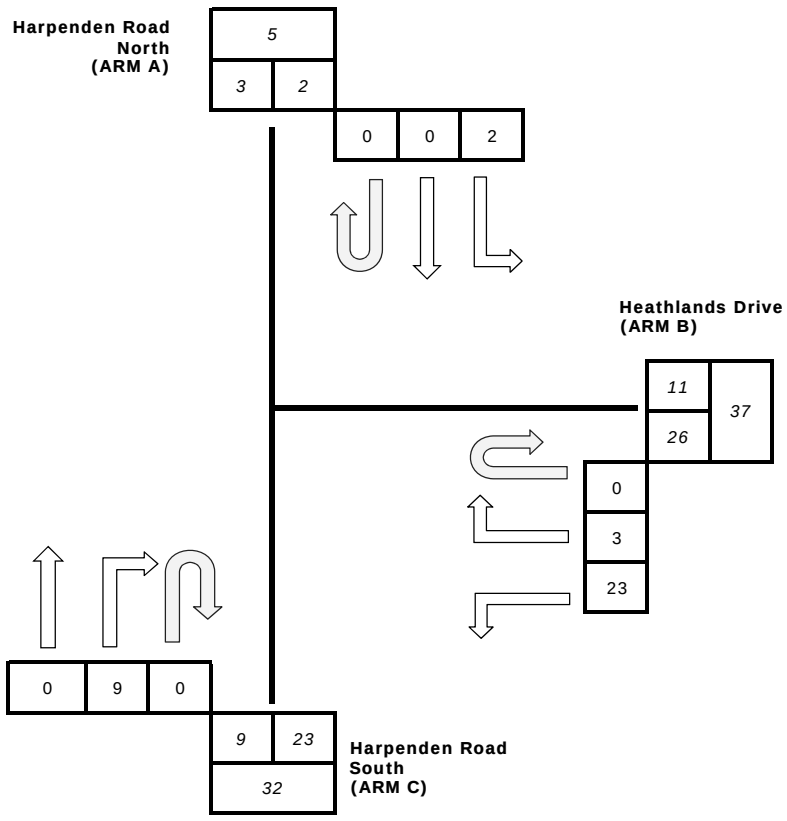
Project No. **2479**

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

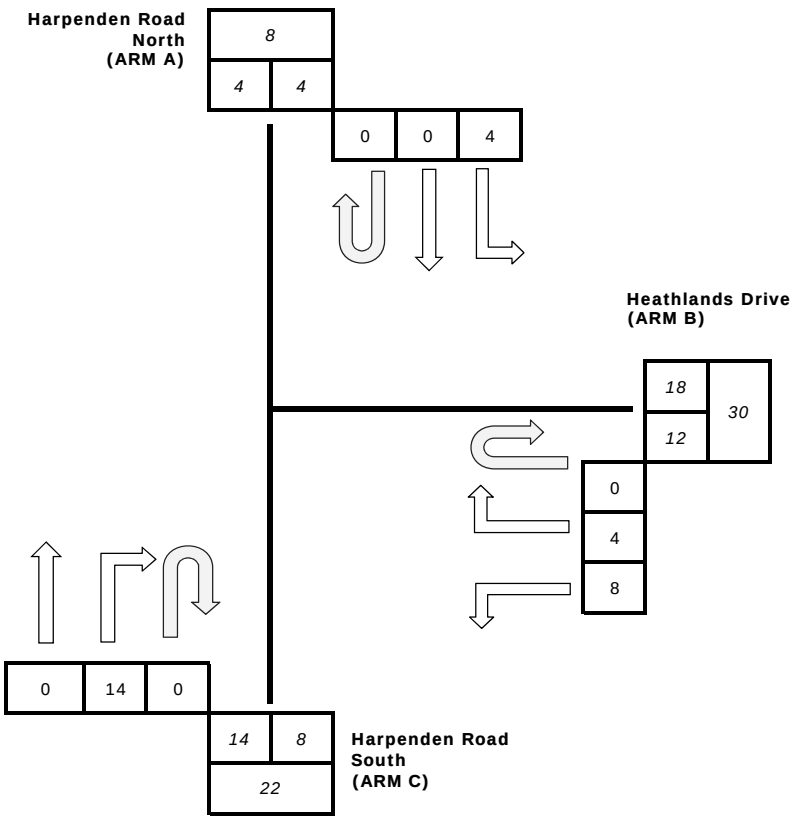
Sheet 3: Expected Housing Development Flows

Predicted flows associated with development studied (user input)

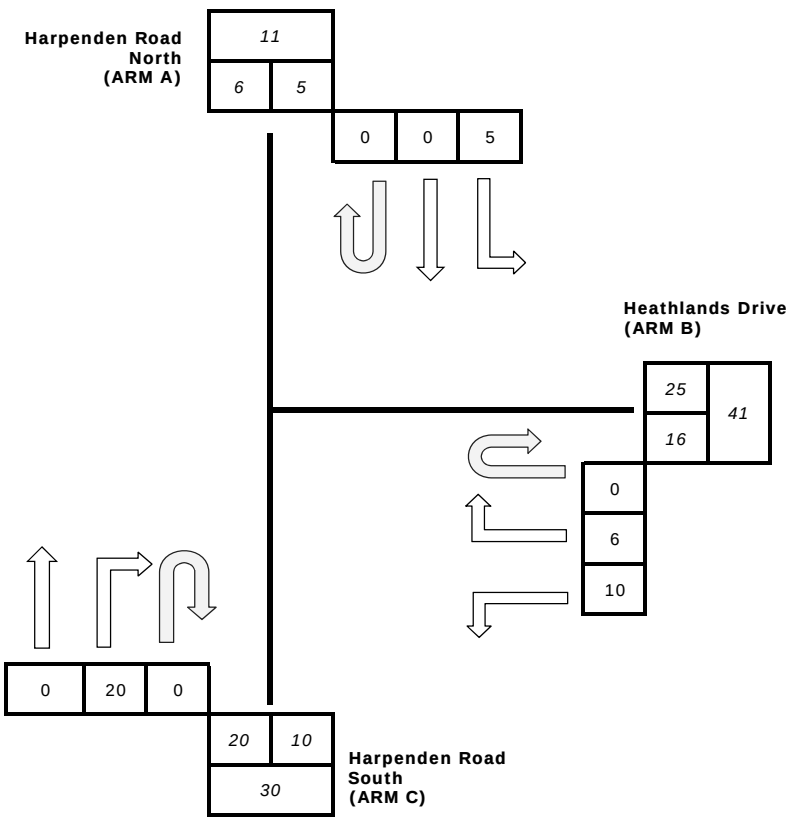
AM Peak Period **8:00**



School PM Peak **15:00**



PM Peak Period **17:00**



Site Reference:	Revision:	Details:

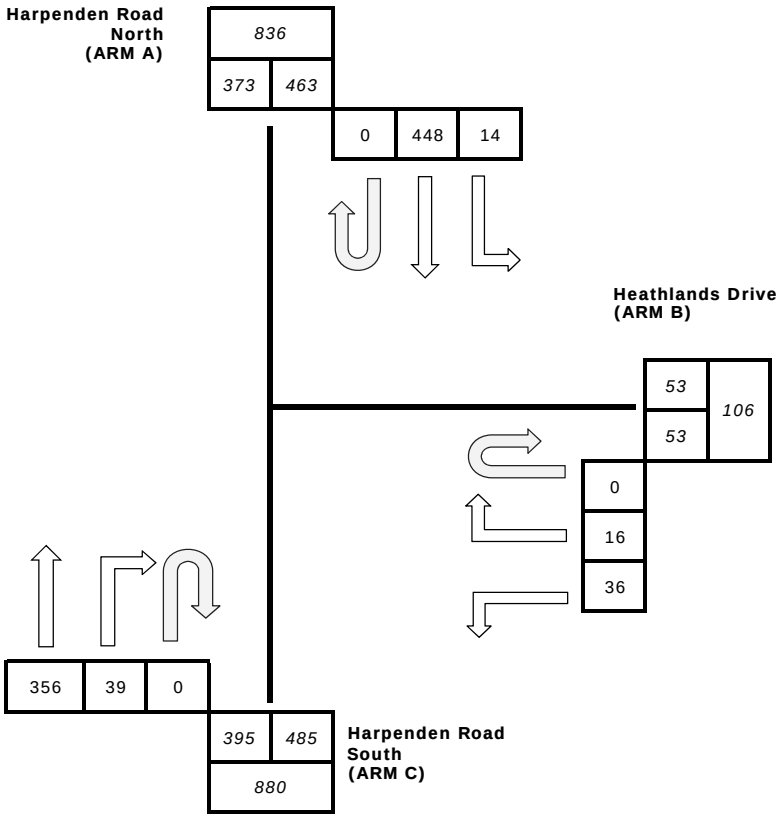
Project No. **2479**

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

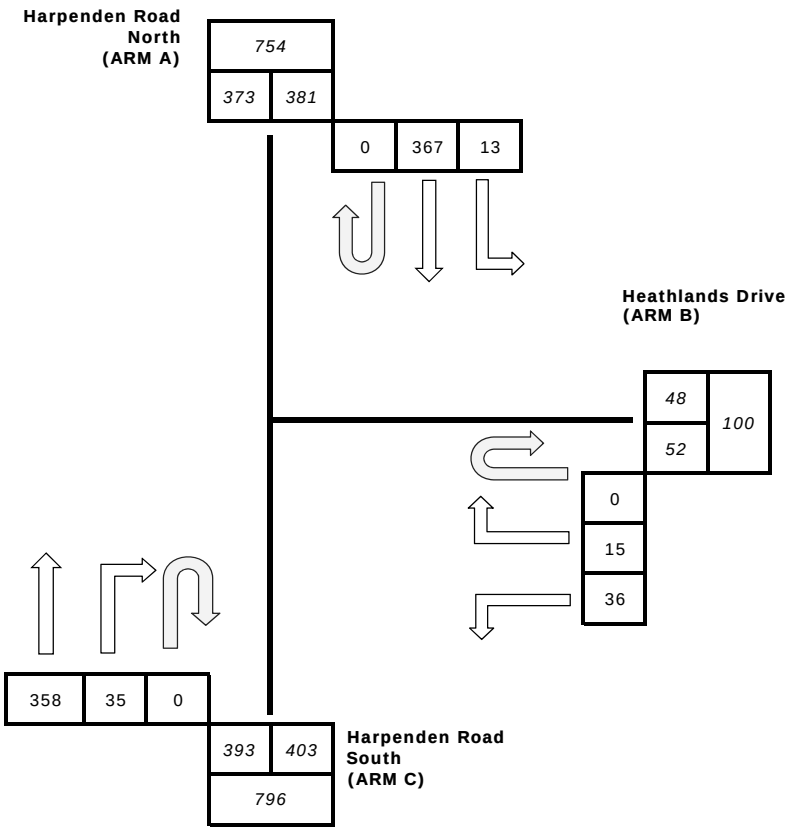
Sheet 4: Year 2025 Traffic Flows plus Residential Development

Growthed flows plus development flows (sheet 2+sheet 3)

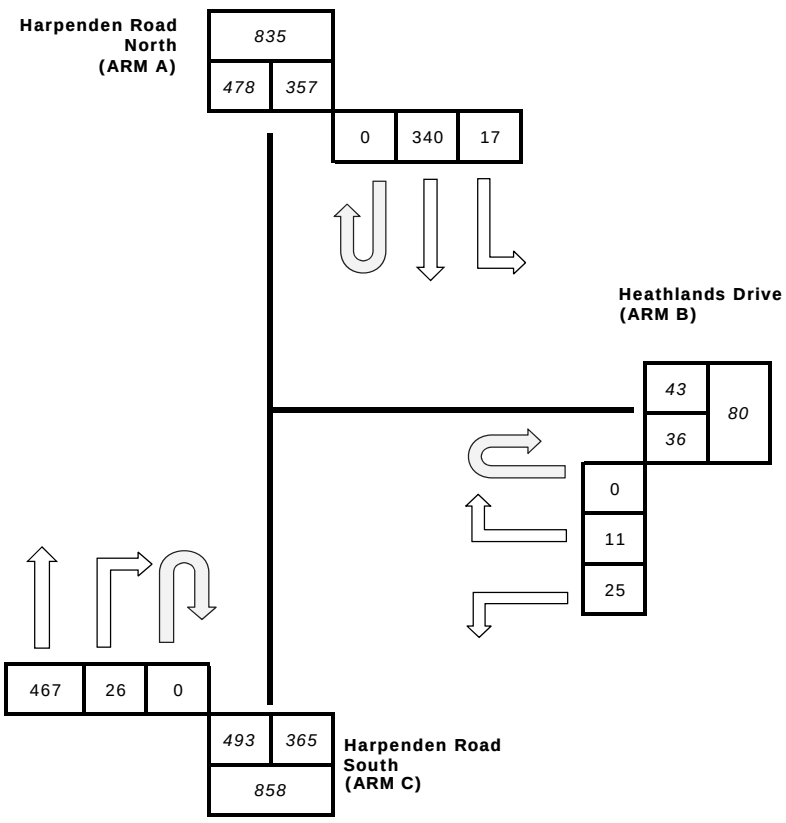
AM Peak Period **8:00**



School PM Peak **15:00**



PM Peak Period **17:00**



Site Reference:	Revision:	Details:

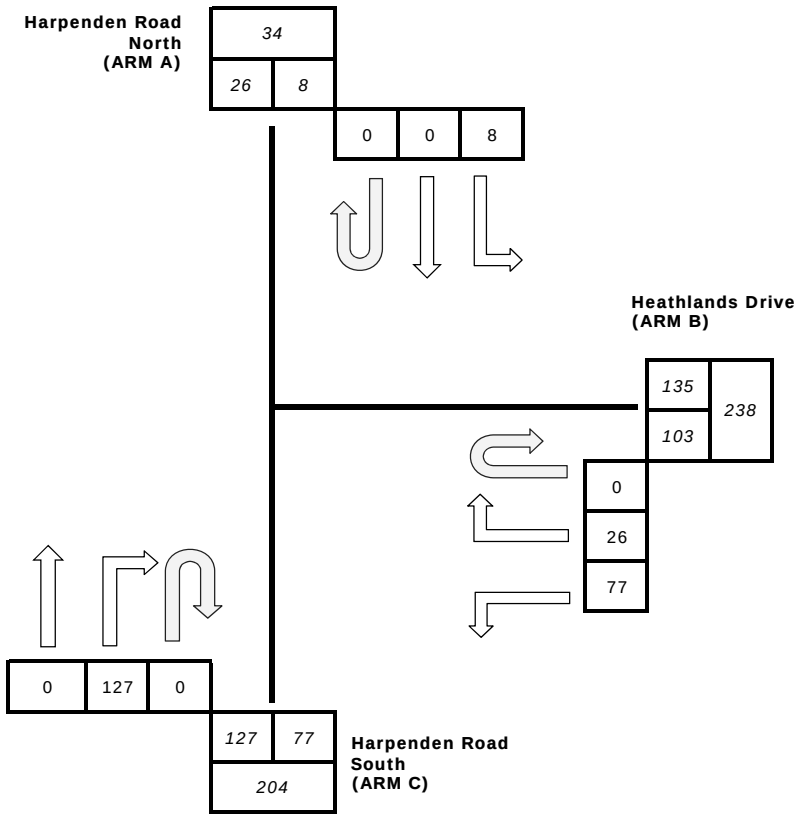
Project No. **2479**

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

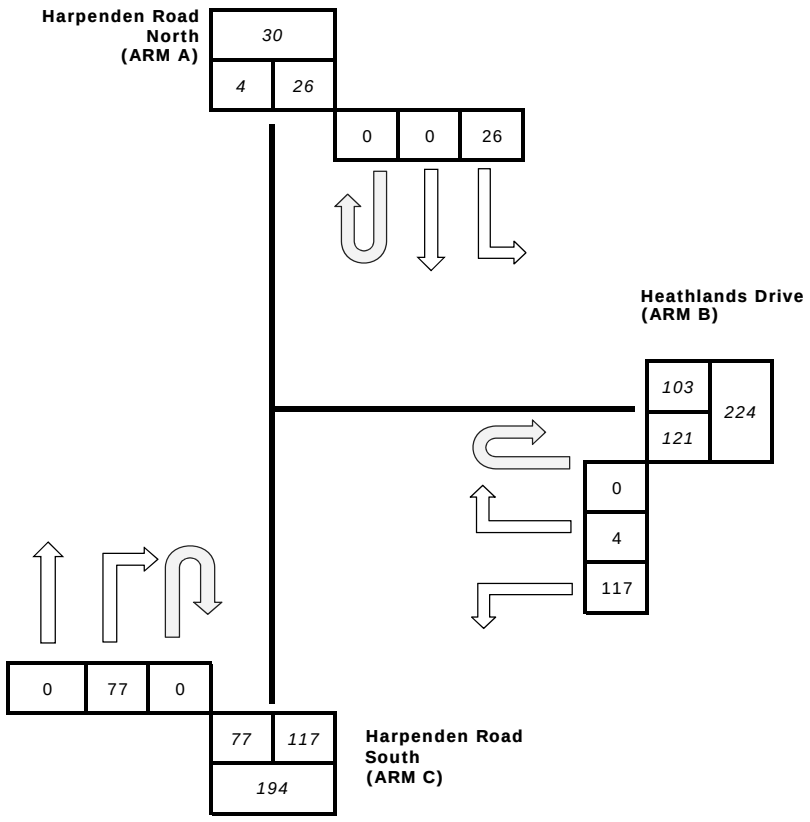
Sheet 5: Predicted School Traffic – 2FE Full – 2025

Predicted school traffic to 2025 (user input)

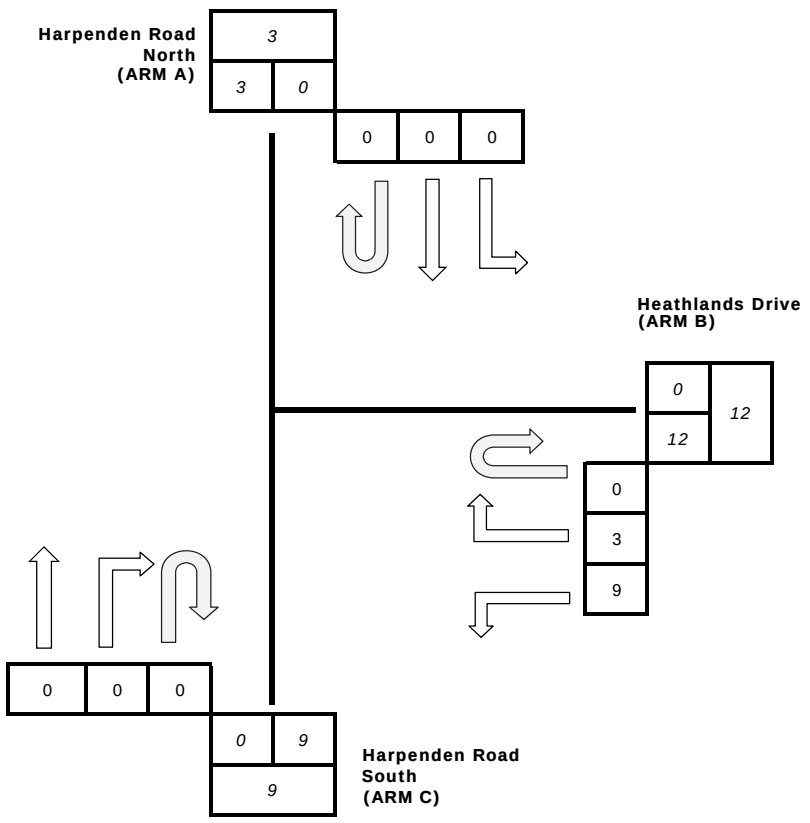
AM Peak Period **8:00**



School PM Peak **15:00**



PM Peak Period **17:00**



Site Reference:	Revision:	Details:

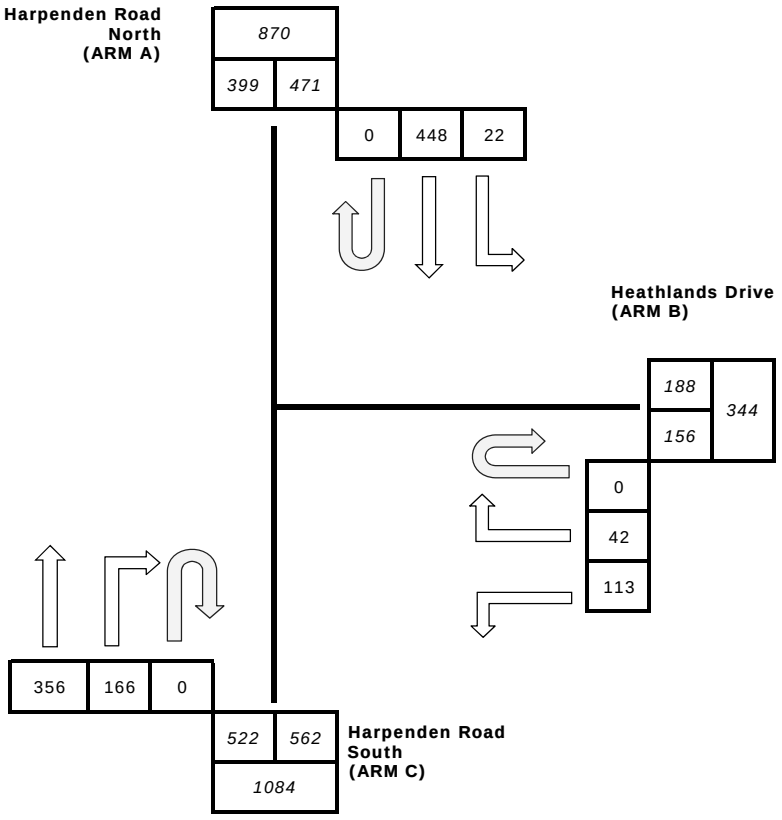
Project No. **2479**

Junctions Reference: A1081 Harpenden Road / Heathlands Drive

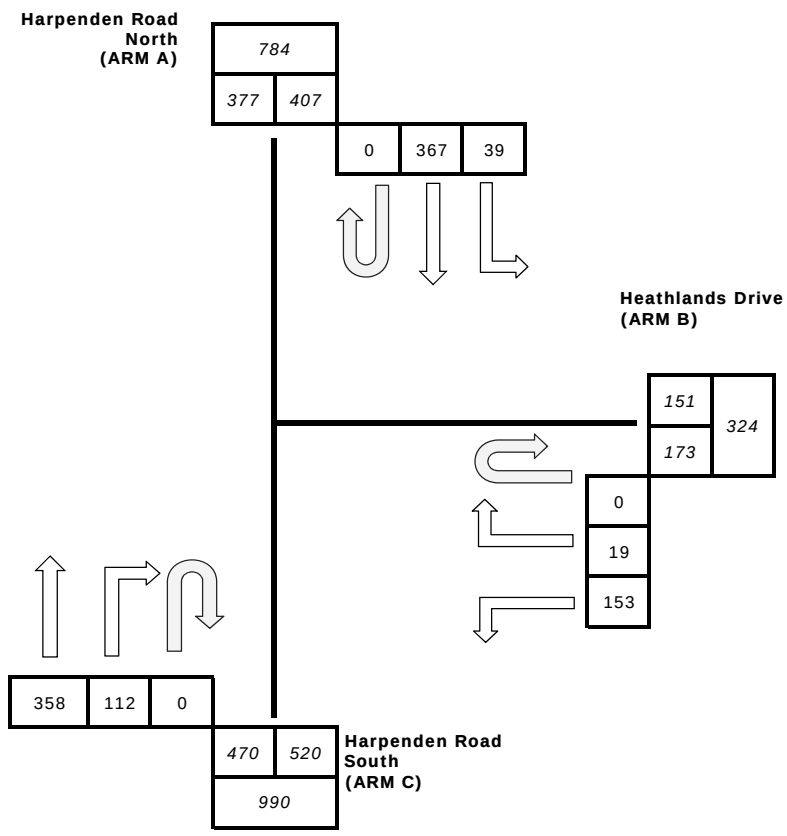
Sheet 6: Year 2025 Traffic with Residential Development plus Predicte

Proposed residential development plus prediction school traffic to Year 2025 (sheet 4+sheet 5)

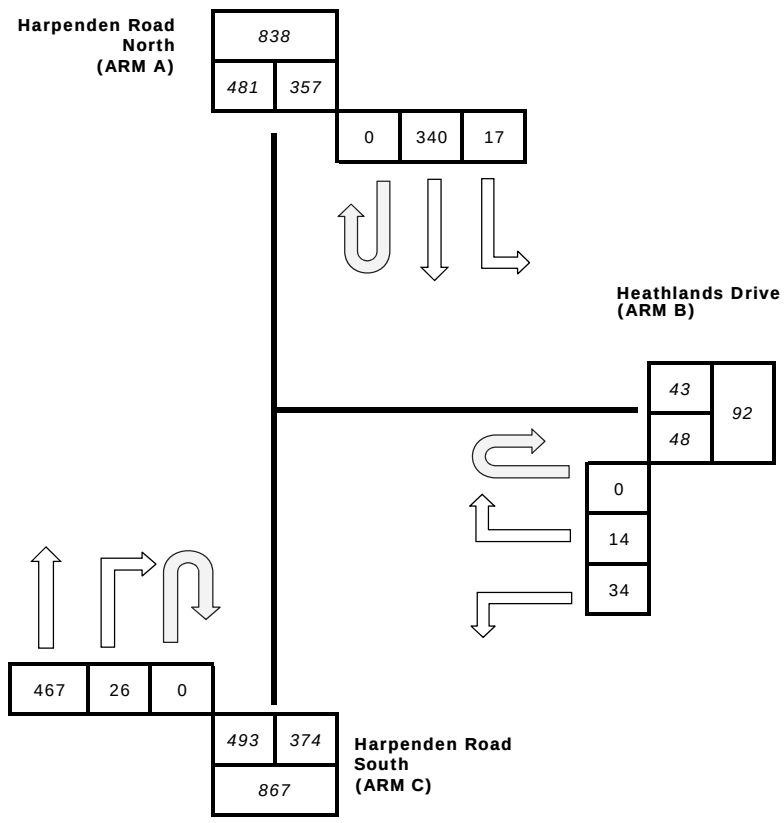
AM Peak Period **8:00**



School PM Peak **15:00**



PM Peak Period **17:00**



Site Reference:	Revision:	Details:

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Ariston Junctions 9.j9
Path: Y:\2400 Projects\2479-St Albans Primary School Search\Junctions 9\Peak Loading
Report generation date: 07/09/2016 14:56:28

Summary of junction performance

	AM Peak Period			
	Queue (Veh)	Delay (s)	RFC	LOS
	Future Traffic with Development			
Stream B-AC	0.9	16.44	0.49	C
Stream C-B	1.2	15.50	0.55	C

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

File summary

File Description

Title	Ariston Access
Location	
Site number	
Date	11/01/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ST-2479
Enumerator	STOMORLTD\paul
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	Future Traffic with Development	AM Peak Period	DIRECT	08:00	09:00	60	15

Future Traffic with Development, AM Peak Period

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	4.23	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Harpenden Road - North		Major
B	Heathlands Drive		Minor
C	Harpenden Road - South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.30			90.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.55	26	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	130.918	0.094	0.238	0.150	0.340
1	B-C	168.060	0.102	0.257	-	-
1	C-B	156.521	0.239	0.239	-	-

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

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

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

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

08:00 - 08:15

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	6.00	112.00
	B	4.00	0.00	9.00
	C	89.00	25.00	0.00

08:15 - 08:30

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	6.00	112.00
	B	9.00	0.00	23.00
	C	89.00	50.00	0.00

08:30 - 08:45

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	6.00	112.00
	B	14.00	0.00	38.00
	C	89.00	69.00	0.00

08:45 - 09:00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	6.00	112.00
	B	13.00	0.00	36.00
	C	89.00	19.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	0
	C	5	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.49	16.44	0.9	C
C-A				
C-B	0.55	15.50	1.2	C
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	13.00	112.76	0.115	12.87	0.1	8.998	A
C-A	89.00			89.00			
C-B	25.00	126.02	0.198	24.76	0.2	8.867	A
A-B	6.00			6.00			
A-C	112.00			112.00			

08:15 - 08:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	32.00	109.21	0.293	31.72	0.4	11.574	B
C-A	89.00			89.00			
C-B	50.00	126.02	0.397	49.60	0.6	11.718	B
A-B	6.00			6.00			
A-C	112.00			112.00			

08:30 - 08:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	52.00	105.68	0.492	51.47	0.9	16.443	C
C-A	89.00			89.00			
C-B	69.00	126.02	0.548	68.48	1.2	15.499	C
A-B	6.00			6.00			
A-C	112.00			112.00			

08:45 - 09:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	49.00	116.53	0.420	49.19	0.7	13.405	B
C-A	89.00			89.00			
C-B	19.00	126.02	0.151	19.99	0.2	8.564	A
A-B	6.00			6.00			
A-C	112.00			112.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Ariston Junctions 9.j9
Path: Y:\2400 Projects\2479-St Albans Primary School Search\Junctions 9\Peak Loading
Report generation date: 07/09/2016 14:57:03

Summary of junction performance

	Sch PM Peak Period			
	Queue (Veh)	Delay (s)	RFC	LOS
	Future Traffic with Development			
Stream B-AC	4.0	29.55	0.83	D
Stream C-B	1.5	17.32	0.61	C

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

File summary

File Description

Title	Ariston Access
Location	
Site number	
Date	11/01/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ST-2479
Enumerator	STOMORLTD\paul
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	Future Traffic with Development	Sch PM Peak Period	DIRECT	14:45	16:15	90	15

Future Traffic with Development, Sch PM Peak Period

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	6.03	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Harpenden Road - North		Major
B	Heathlands Drive		Minor
C	Harpenden Road - South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.30			90.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.55	26	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	130.918	0.094	0.238	0.150	0.340
1	B-C	168.060	0.102	0.257	-	-
1	C-B	156.521	0.239	0.239	-	-

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

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

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

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

14:45 - 15:00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	17.00	92.00
	B	5.00	0.00	13.00
	C	90.00	78.00	0.00

15:00 - 15:15

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	13.00	92.00
	B	5.00	0.00	13.00
	C	90.00	67.00	0.00

15:15 - 15:30

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	5.00	0.00	111.00
	C	90.00	9.00	0.00

15:30 - 15:45

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	4.00	92.00
	B	5.00	0.00	13.00
	C	90.00	13.00	0.00

15:45 - 16:00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	5.00	0.00	18.00
	C	90.00	9.00	0.00

16:00 - 16:15

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	5.00	0.00	13.00
	C	90.00	9.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	0
	C	4	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.83	29.55	4.0	D
C-A				
C-B	0.61	17.32	1.5	C
A-B				
A-C				

Main Results for each time segment

14:45 - 15:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	107.18	0.168	17.80	0.2	10.047	B
C-A	90.00			90.00			
C-B	78.00	127.07	0.614	76.49	1.5	17.322	C
A-B	17.00			17.00			
A-C	92.00			92.00			

15:00 - 15:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	110.00	0.164	18.00	0.2	9.782	A
C-A	90.00			90.00			
C-B	67.00	128.01	0.523	67.38	1.1	14.943	B
A-B	13.00			13.00			
A-C	92.00			92.00			

15:15 - 15:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	116.00	139.68	0.830	112.16	4.0	29.548	D
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	10.06	0.1	7.547	A
A-B	3.00			3.00			
A-C	92.00			92.00			

15:30 - 15:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	125.38	0.144	21.87	0.2	9.016	A
C-A	90.00			90.00			
C-B	13.00	130.12	0.100	12.96	0.1	7.679	A
A-B	4.00			4.00			
A-C	92.00			92.00			

15:45 - 16:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	23.00	127.21	0.181	22.95	0.2	8.629	A
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	9.04	0.1	7.422	A
A-B	3.00			3.00			
A-C	92.00			92.00			

16:00 - 16:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	123.47	0.146	18.05	0.2	8.540	A
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	9.00	0.1	7.418	A
A-B	3.00			3.00			
A-C	92.00			92.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []

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

Filename: Ariston Junctions 9.j9
Path: Y:\2400 Projects\2479-St Albans Primary School Search\Junctions 9\Peak Loading - Sensitivity Testing
Report generation date: 07/09/2016 14:39:08

Summary of junction performance

	Sch PM Peak Period			
	Queue (Veh)	Delay (s)	RFC	LOS
	Future Traffic with Development Sensitivity Test			
Stream B-AC	4.5	32.41	0.85	D
Stream C-B	1.5	17.32	0.61	C

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

File summary

File Description

Title	Ariston Access
Location	
Site number	
Date	11/01/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ST-2479
Enumerator	STOMORLTD\paul
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2a ST	Future Traffic with Development Sensitivity Test	Sch PM Peak Period	DIRECT	14:45	16:15	90	15

Future Traffic with Development Sensitivity Test, Sch PM Peak Period

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	6.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Harpenden Road - North		Major
B	Heathlands Drive		Minor
C	Harpenden Road - South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.30			90.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.55	26	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	130.918	0.094	0.238	0.150	0.340
1	B-C	168.060	0.102	0.257	-	-
1	C-B	156.521	0.239	0.239	-	-

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

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

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

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

14:45 - 15:00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	17.00	92.00
	B	5.00	0.00	13.00
	C	90.00	78.00	0.00

15:00 - 15:15

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	13.00	92.00
	B	5.00	0.00	13.00
	C	90.00	67.00	0.00

15:15 - 15:30

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	10.00	0.00	106.00
	C	90.00	9.00	0.00

15:30 - 15:45

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	4.00	92.00
	B	5.00	0.00	13.00
	C	90.00	13.00	0.00

15:45 - 16:00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	5.00	0.00	18.00
	C	90.00	9.00	0.00

16:00 - 16:15

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	3.00	92.00
	B	5.00	0.00	13.00
	C	90.00	9.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	0
	C	4	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.85	32.41	4.5	D
C-A				
C-B	0.61	17.32	1.5	C
A-B				
A-C				

Main Results for each time segment

14:45 - 15:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	107.18	0.168	17.80	0.2	10.047	B
C-A	90.00			90.00			
C-B	78.00	127.07	0.614	76.49	1.5	17.322	C
A-B	17.00			17.00			
A-C	92.00			92.00			

15:00 - 15:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	110.00	0.164	18.00	0.2	9.782	A
C-A	90.00			90.00			
C-B	67.00	128.01	0.523	67.38	1.1	14.943	B
A-B	13.00			13.00			
A-C	92.00			92.00			

15:15 - 15:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	116.00	136.34	0.851	111.70	4.5	32.414	D
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	10.06	0.1	7.547	A
A-B	3.00			3.00			
A-C	92.00			92.00			

15:30 - 15:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	125.07	0.144	22.32	0.2	9.125	A
C-A	90.00			90.00			
C-B	13.00	130.12	0.100	12.96	0.1	7.679	A
A-B	4.00			4.00			
A-C	92.00			92.00			

15:45 - 16:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	23.00	127.21	0.181	22.95	0.2	8.629	A
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	9.04	0.1	7.422	A
A-B	3.00			3.00			
A-C	92.00			92.00			

16:00 - 16:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	18.00	123.47	0.146	18.05	0.2	8.542	A
C-A	90.00			90.00			
C-B	9.00	130.35	0.069	9.00	0.1	7.418	A
A-B	3.00			3.00			
A-C	92.00			92.00			

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Ariston Junctions 9.j9
Path: Y:\2400 Projects\2479-St Albans Primary School Search\Junctions 9\Peak Loading
Report generation date: 07/09/2016 14:59:59

Summary of junction performance

	Eve PM Peak Period			
	Queue (Veh)	Delay (s)	RFC	LOS
	Future Traffic with Development			
Stream B-AC	0.1	8.79	0.12	A
Stream C-B	0.1	7.19	0.06	A

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

File summary

File Description

Title	Ariston Access
Location	
Site number	
Date	11/01/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ST-2479
Enumerator	STOMORLTD\paul
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Future Traffic with Development	Eve PM Peak Period	ONE HOUR	16:45	18:15	15

Future Traffic with Development, Eve PM Peak Period

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Harpenden Road - North		Major
B	Heathlands Drive		Minor
C	Harpenden Road - South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.30			90.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.55	26	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	130.918	0.094	0.238	0.150	0.340
1	B-C	168.060	0.102	0.257	-	-
1	C-B	156.521	0.239	0.239	-	-

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

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

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

Traffic Demand

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/TS)	Scaling Factor (%)
A		✓	89.00	100.000
B		✓	13.00	100.000
C		✓	124.00	100.000

Origin-Destination Data

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	4.00	85.00
	B	4.00	0.00	9.00
	C	117.00	7.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	3
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.12	8.79	0.1	A
C-A				
C-B	0.06	7.19	0.1	A
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	9.79	128.30	0.076	9.71	0.1	7.584	A
C-A	88.08			88.08			
C-B	5.27	140.33	0.038	5.23	0.0	6.660	A
A-B	3.01			3.01			
A-C	63.99			63.99			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	11.69	123.52	0.095	11.66	0.1	8.043	A
C-A	105.18			105.18			
C-B	6.29	137.18	0.046	6.28	0.0	6.875	A
A-B	3.60			3.60			
A-C	76.41			76.41			

17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	14.31	116.75	0.123	14.28	0.1	8.780	A
C-A	128.82			128.82			
C-B	7.71	132.84	0.058	7.69	0.1	7.191	A
A-B	4.40			4.40			
A-C	93.59			93.59			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	14.31	116.74	0.123	14.31	0.1	8.786	A
C-A	128.82			128.82			
C-B	7.71	132.84	0.058	7.71	0.1	7.191	A
A-B	4.40			4.40			
A-C	93.59			93.59			

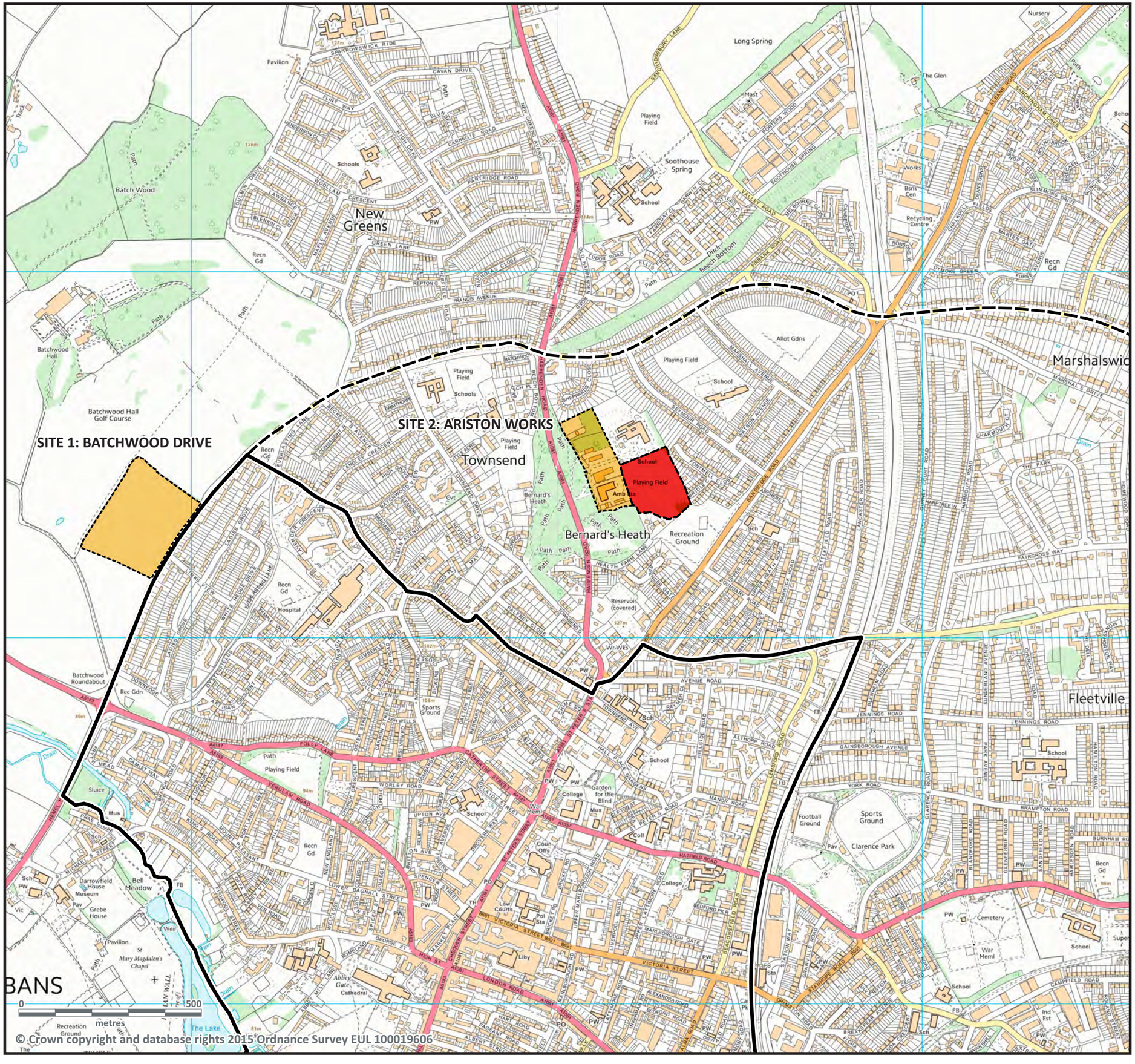
17:45 - 18:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	11.69	123.51	0.095	11.72	0.1	8.052	A
C-A	105.18			105.18			
C-B	6.29	137.18	0.046	6.31	0.0	6.879	A
A-B	3.60			3.60			
A-C	76.41			76.41			

18:00 - 18:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	9.79	128.29	0.076	9.81	0.1	7.599	A
C-A	88.08			88.08			
C-B	5.27	140.33	0.038	5.28	0.0	6.664	A
A-B	3.01			3.01			
A-C	63.99			63.99			

DRAWINGS



THE SITE

OTHER SITES UNDER CONSIDERATION

CORE SEARCH AREA

WIDER SEARCH AREA

PROJECT TITLE

St Albans Primary School
Site search

DRAWING TITLE

Site 3: WNW11 - Ariston Works Playing Fields
Site location

SCALE	DATE	CHECKED
1:10000	JANUARY 2016	
	DRAWN HNA	DATE
PROJECT No. 5115	N	200

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

SITE BOUNDARY
2.44ha 6.03ac

PROJECT TITLE

St Albans Primary School
Site search

DRAWING TITLE

Site 3: WNW11 - Ariston Works Playing Fields
Site identification

SCALE	DATE	CHECKED
1:2500	JANUARY 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

201

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

0 100 metres

SITE BOUNDARY
2.44ha 6.03ac

PROJECT TITLE
St Albans Primary School
Site search

DRAWING TITLE
Site 3: WNW11 - Ariston Works Playing Fields
Aerial photograph

SCALE	DATE	CHECKED
1:2500	JANUARY 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

202

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

PROJECT TITLE

St Albans Primary School
Site search

DRAWING TITLE

Site 3: WNW11 - Ariston Works Playing Fields
Site appraisal

SCALE	DATE	CHECKED
1:2500	JANUARY 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

203

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

SCHOOL SITE BOUNDARY
2.44ha 6.03ac

HEATHLANDS SCHOOL

RETAINED HEATHLANDS SCHOOL ACCESS

VISITOR PARKING AND DROP-OFF 2000m²

NEW SCHOOL BUILDING

SOFT PLAY

STAFF PARKING

HARD PLAY

EXISTING CROSSING

0 100 metres

PROJECT TITLE
St Albans Primary School
Site search

DRAWING TITLE
Site 3: WNW11 - Ariston Works Playing Fields
Development principles

SCALE	DATE	CHECKED
1:2500	MARCH 2016	
	DRAWN HNA	DATE

PROJECT No. 5115

N

204

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

0 50 metres

RESIDENTIAL PROPERTIES (AT LOWER LEVEL)

SEYMOUR ROAD

SCHOOL PLAYING FIELD

TERRACED SLOPE DOWN

SUNKEN PATH

Heathlands School

WOODLAND

VIEWS OF HOUSES

WOODED COMMON

CAR PARKING

CAR PARKING

OVERLOOKING

HARPENDEN ROAD

DELL

FORMER FIRE STATION

HOSE TOWER

HOUSE

DELL

GRASS FIELD
(FORMER PLAYING FIELD)

Heath House

RECENTLY BUILT HOUSES

OPEN SPACE
(RECREATION GROUND)

WOODED COMMON

SITE BOUNDARY
5.36ha 13.24ac

OTHER LAND OWNED BY HERTFORDSHIRE COUNTY COUNCIL
2.11ha 5.21ac

SINGLE STOREY BUILDING

TWO STOREY BUILDING

THREE STOREY BUILDING

PROMINENT TREES

INFORMAL ACCESS POINTS

REVISION A:
Site boundary and other land boundary amendments
HNA/19-11-2013

REVISION B:
Site boundary amended
HNA/10-03-2015

PROJECT TITLE
Former Ariston Works
Harpenden Road
ST ALBANS

DRAWING TITLE
Site appraisal

SCALE	DATE	CHECKED
1:1250	SEPTEMBER 2013	
	DRAWN HNA	DATE

PROJECT No. 4208 | N | 355 B

VINCENT AND GORBING
CHARTERED ARCHITECTS AND TOWN PLANNERS
STERLING COURT NORTON ROAD STEVENAGE HERTS
TELEPHONE: 01438 316331 FAX:01438 722035

ST ALBANS PRIMARY SCHOOL SITE SEARCH

PLANNING APPRAISAL REPORT FOR SHORT LISTED POTENTIAL NEW PRIMARY SCHOOL SITES

SITE 4: WSE13 – LAND TO THE NORTH OF VERULAM GOLF COURSE, LONDON ROAD, ST ALBANS (REVISED JANUARY 2017)

1.0 INTRODUCTION

1.1 This planning appraisal is for the following site which was short listed following a review of potential sites for a new primary school at St Albans:

- Land to the north of Verulam Golf Course, London Road, St Albans

1.2 The appraisal was originally prepared in March 2016 and has been updated to take account of a preliminary access design, Stage 1 Road Safety Audit, and a Design Team Response prepared by Pell Frischmann.

1.3 The site is located on the south eastern side of St Albans immediately adjacent to the Core Search Area.

1.4 A site visit was carried out on 2nd February 2016.

1.5 The site has an area of approximately 2.26ha. This appraisal assesses whether there is potential for the site to accommodate a 2fe primary school.

1.6 The following drawings accompany this report:

- Site Location Plan (drawing 5115/250)
- Site Identification Plan (drawing 5115/251)
- Aerial Photograph (drawing 5115/252)
- Site Appraisal (drawing 5115/253)
- Development Principles (drawing 5115/254)

1.7 The report should be read in conjunction with the Transport Assessment (February 2014), Stage 1 Road Safety Audit (September 2016), and the Road Safety Audit Stage 1 - Design Team Response (September 2016) prepared by Pell Frischmann for Hertfordshire CC. A copy of the following drawing (which forms the basis of the Stage 1 Road Safety Audit) accompanies this report (see Appendix):

- Preliminary Design for Recommended Access to Potential Primary School Site incorporating Golf Club Access – General Arrangements (drawing Q10075-SK-001 0) prepared by Pell Frischmann.

2.0 SITE DESCRIPTION

2.1 The site is located on the southern side of London Road immediately to the west of the railway bridge which crosses over London Road, to the south east of the city centre. It is located to the north of Verulam Golf Course Club House and Verulam Industrial Estate, which share an access.

2.2 It is located immediately to the south east of the Core Area of Search approximately 1.2km from the centre of the town (taken to be St Peter's Street).

2.3 The site boundaries reflect the site boundary identified by the SLAA and LSH (which was likely to have been based on this) and may need reviewing – see below.

2.4 It currently comprises an area of car parking, woodland and unused land lying between the club house and industrial estate and a long narrow industrial building to the north. Much of the centre of the site has recently been cleared, with trees and scrub being removed.

2.5 The north eastern part of the site (nearest to London Road) comprises an area of woodland and mature trees and is low lying, being some 6m to 7m lower than London Road, which appears to be on an embankment. The north eastern corner near the access to London Road appears to comprise a substantial mound of made ground.

2.6 The southern part of the site nearest to the golf club house comprises the main car park for the golf course, part of which has a loose surface and part hard surfaced, with a belt of woodland to the north of this. Aerial photographs show that the central and western part of the site comprised scattered trees, scrub and rough grass, but most of this has very recently been cleared.

2.7 Immediately to the north west is a long narrow industrial building, with a relatively recent estate of houses beyond this.

2.8 Immediately to the north east is London Road with a substantial brick retaining wall, well treed railway embankment, railway line, and railway bridge, opposite, with residential areas beyond.

2.9 Immediately to the east of the site is Verulam Industrial Estate which comprises a small industrial estate of mainly two and three storey industrial buildings, dating back to the 1930's, mainly used for non-industrial activities, including a wine merchant, tile warehouse, yoga club and a roofing materials supplier.

2.10 Immediately to the south and south west of the site is Verulam Golf Couse, and related club house and other car parking areas.

2.11 **Access/Highways** – the site has a frontage to London Road and the access to the golf course but it currently doesn't have an existing vehicular access (apart from the car park which currently forms part of the site).

2.12 Pell Frischmann were commissioned by Hertfordshire CC to produce a Transport Assessment to assess the potential transportation impacts of developing a primary school on the site. The assessment, which is dated February 2014, makes the following conclusions:

10.1.1 This report has assessed the suitability for the provision of either a 1FE or 2FE primary school located on the land north of Verulam Golf Course. As part of the process of taking a development forward, the effects of traffic on the local road network generated by either proposal has been analysed. In highway terms, the additional peak time trips generated by a proposed development can be satisfactorily accommodated on the local road network.

10.1.2 Moreover recommendations have been put forward to mitigate school traffic and measures that reduce the number of trips generated by either development scenario. These include the provision of SMART measures that seek to reduce single vehicle trips by use of promotion of sustainable school travel and promote the necessity of on-site parental pick-up/drop-off facility.

10.1.3 The accessibility of a school situated at this location, notwithstanding which development proposals should be taken forward and the number of trips generated by either a 1FE/2FE school, is a key factor. This report has identified the most realistic options for access to the development site. There are several problems with access to this land; these include – achieving the minimum visibility splay, the effects of turning traffic on London Road at peak times, the usage of established accesses and their suitability to be shared with school traffic, the speed of vehicles on London Road, the level differential between the development site and London Road.

10.1.4 Given that school establishments should be considered major generators of travel, they should be located to maximise their accessibility by walking, cycling and public transport, and have ease of access. Give the traffic volume on London Road and analysis of accident data it not recommended that cycling is conducted by Primary School Aged children (sic).

10.1.5 The presence of the A1081 London Road is a severely constraining factor for the provision of a school at this location. The consequential effects arise from all three aspects of the A1081, its traffic volume near capacity, its safety record particularly for NMUS and the severance effect with a substantial part of the catchment area lying north of the road.

10.1.6 The consequences of the first and third factors are that considerable vehicular right-turning traffic and pedestrian crossing movements will be required. Assessment of the right-turn movement, particularly in the consideration to the main-line flow, puts the site at the margins for the requirement of a right-turn lane – although it may be noted there would be insufficient space for any such facility. There is also the effect of this right Truing traffic on traffic flow, flow which would be further affected by the frequent school peak time pedestrian crossing movements (sic).

10.1.7 Although difficult to quantify precisely there will undoubtedly be a considerable effect upon the through-capacity on London Road at the critical peak time for both and commuter traffic (sic). Depending upon wider considerations (it is noted that other sites do not have right-turn facilities on this road), the highway authority may find the potential degree of obstruction to through-traffic to be of concern given the important heavy commuter traffic that this road serves.

2.13 See the report for further information.

2.14 Following this a preliminary access design was prepared which was subject to a Stage 1 Road Safety Audit and a Designer's response.

2.15 A copy of the access drawing is attached at the Appendix.

2.16 The Road Safety Audit identified a number of detailed design issues relating to:

- Existing pedestrian crossing on London Road – should be retained
- Drop adjacent to proposed footway on southern side of London Road – measures will need to be in place, such as fencing, to ensure pedestrian safety.
- Internal access arrangements - need to allow sufficient room for queing vehicles
- Vegetation needs cutting back
- Narrow footway on southern side of London road railway bridge – use should be discouraged or removed
- Preliminary access design – further swept path analysis is required.

- Lack of cycle infrastructure – a controlled crossing should be introduced to London road to allow pedestrian and cycle use.
- Bus stops - need relocation so closer to school.

2.17 The designer's response agrees most of the audit recommendations. .

2.18 The Audit identifies one Audit Problem which needs to be addressed:

Problem 9 Location: Preliminary Design and Proposed Drop Off/Pick Up Area and Staff Parking Area

Summary: Potential Conflicts

The Design Brief asks the verification of whether the layout of the modified staff car parking area and confirm users are able to enter, use and exit this arrangement safely. It is considered there is insufficient information as a staff car parking area and proposed Drop Off/Pick Up Area at the school has yet to be confirmed.

It is felt that this is required as there maybe potential conflicts with regard to movements from vehicles, pedestrians and cyclists and in particular conflicts between school children, staff and parents as well as users of the industrial estate. Once provided a review can be undertaken to identify any potential conflicts.

2.19 It recommends:

A review should be undertaken of the vehicle, pedestrian and cyclist movements between the preliminary design of the proposed access and, when designed, the proposed Drop Off/Pick Up Area and Staff Parking Area for the school in order to understand if there any potential conflicts or issues. This can be undertaken as part of a further Stage 1 RSA.

2.20 The Design Team's Response agrees this recommendation.

Note: The site is unlikely to be of sufficient size to be able to accommodate full staff car parking facilities or provide a drop off/and pick up area at the school. (See Development Principles drawing and Section 5.0 for further discussion of this issue).

2.21 **Pedestrian / cycle access** – none at present. It is noted that there is only a very narrow footway on the southern side of London Road next to the site where it passes beneath the railway bridge, which is unpleasant for pedestrians. The Alban Way cycleway / footway runs approximately 75m to the north of the site. It forms part of the National cycle Network (route 61).

2.22 **Public transport** – bus stops are located approximately 70m (east bound) and 170m (west bound) to the north of the site. London Road is served by four routes – 84, 602, 658 and 714. The first three each generally run at least hourly between 0800 and 1800, Mondays to Fridays and the latter runs less often and also does not stop at the bus nearest stops.

2.23 **Green Belt** – the site is located in the Green Belt.

2.24 **Land ownership** – site notices and planning application records suggest that the site is owned by Verulam Golf Club.

2.25 **Flooding** – The Environment Agency website indicates that the site is not within an area at risk of flooding.

2.26 **Topography** – The site slopes relatively steeply from east to west by approximately 10m. As mentioned above the north eastern part of the site (nearest to London Road) is low lying, being some 6m to 7m lower than London Road, which appears to be on an embankment. The north eastern corner near the access to London Road also appears to comprise a substantial mound of made ground.

2.27 **Listed buildings/conservation area** – the former London Road railway station approximately 75m to the north of the site is listed (now used as a children's nursery). The site immediately adjoins the south eastern boundary of the St Albans Conservation Area.

2.28 **Archaeology** – the site is not located in an area of archaeological interest.

2.29 **Ecology** – there are no designated areas of nature conservation importance in the vicinity of the site. However, due to the unused use of the site, wooded areas on a significant part of the site, and the scattered trees, scrub and rough grassland which formerly occupied the site it may have ecological value. An ecological assessment and species surveys will be likely to be required to establish whether the site has any interest and if so if any interest is significant (although the recent clearance may have removed any interest).

2.30 **Trees** – There are a large number of mature trees on the site – notably the southern and western parts, which are wooded.

2.31 **Tree Preservation Order** – the status of the trees has not been investigated at this stage but it is likely that there are trees on the site which would be worthy of a TPO. A tree survey will be required.

2.32 **Agricultural land quality** – the land is not in agricultural use and does not appear to have been in agricultural use for very many years. Agricultural land classification maps indicate that the general area is classified as other land primarily in non-agricultural use.

2.33 **Public Right of Way** – a public footpath runs alongside the south western boundary of the site. There are open views into the site from this path.

2.34 **Public access / Community Use** – the site is not identified as an area of Registered Common Land or Open Access Land or designated as an Asset of Community Value.

2.35 **Noise sources** – the site adjoins the Midland Mainline / Thameslink railway line, and London Road, which is one of the main routes into the city centre. It is also close to a number of industrial and commercial premises, so the site may be subject to some noise disturbance. A noise assessment is likely to be necessary.

2.36 **Size / shape** – the site comprises a large rectangular parcel of land which is more than the minimum 0.7ha required by this study to accommodate a new primary school (excluding playing field) on a constrained urban site. It is also larger than the minimum 1.99ha site required by BB103 for a new 2FE primary school (including 60 place nursery and playing field) on an unrestrained school site in a non-urban area.

2.37 **Other Matters** – the mound near London Road may comprise made ground and it is likely that ground condition investigations will be required to check potential contamination and stability issues, especially as the preliminary access proposal is located in this area. There may also be a need for site investigations to assess ground conditions / stability issues related to a possible widening of London Road on the frontage of the site, which is on an embankment, to accommodate a new footway.

3.0 SUMMARY OF RELEVANT LOCAL PLANNING POLICIES

3.1 The St Albans District Local Plan was adopted in November 1994 and covers the period 1981 to 2001. A number of policies have been 'saved'.

3.2 The Local Plan Proposals Map indicates the following 'saved' designations/policies affecting the site:

Policy 1 Green Belt – the usual presumption against inappropriate development applies.

Policy 114 (St. Albans City Centre, Building Height, Roofscape and Skyline) – site is located in a Zone of Visibility. The site and land to the east are identified as public viewpoints from which there are views of the City Centre skyline. The policy advises, amongst other matters, that proposals shall not obscure or detract from views of the historic roofscape of the Building Height Control Area.

3.3 The Local Plan Proposals Map indicates the following 'saved' designations/policies adjoining the site:

Policy 23: Business Use Development – the adjoining land to the north is identified as a potential business use site and a Policy Area where the Council is seeking to concentrate business use development.

St Albans Conservation Area. Policy 85 advises that the Council will pay attention to the desirability of preserving or enhancing the character of conservation areas, and also provides detailed guidance on proposals within conservation areas.

3.4 The Local Plan also contains the following 'saved' policy which are also relevant:

Policy 65 Education Facilities is particularly relevant to the current proposals, particularly part B (iii) which relates to proposals for new schools in the Green Belt, stating that 'New schools will be permitted only if very special circumstances can be demonstrated. It must be shown that no suitable location is available in areas excluded from the Green Belt and that there is an overriding need for the proposal to cater primarily for children living within the District'.

Policy 69 General Design and Layout – seeks to ensure developments are to a high standard.

Policy 74 Landscaping and Tree Preservation – seeks to retain existing landscaping and provide new landscaping in developments

Policy 102 Loss of Agricultural Land – advises that development that would result in the loss of agricultural land will be assessed against a number of criteria – land quality, and farm economics and management.

Policy 39 Parking Standards, General Requirements sets out the Council's car parking standards.

4.0 PLANNING HISTORY

4.1 As far as we have been able to establish from St Albans DC's on-line planning records there have not been any specific planning applications for the site, although the site has been included in the application sites for a number of golf course related developments, including additions to the club house. [This would suggest that the site belongs to the Golf Course or owners of the golf course].

5.0 ASSESSMENT OF POTENTIAL FOR NEW PRIMARY SCHOOL

Site

5.1 The site has an area of 2.26ha, which is significantly more than the minimum 0.7ha size sought for a new 2fE primary school by this study to identify potential new primary school sites (excluding playing field). It would also be larger than the minimum 1.99ha site required by BB103 for a new 2FE primary school (including nursery) on an unrestrained site in a non-urban area.

5.2 However, a significant proportion of the site comprises part of the car park for the existing golf course and so is unlikely to be available, part of the frontage to London Road is a steeply sloping embankment, and much of the site is woodland and mature trees. There is also the possibility that areas may have ecological interest and may need to be avoided. The car park and woodland areas comprise approximately one third to half the site.

5.3 Even after deduction of these areas the site would be likely to be large enough for the minimum 0.7ha size site sought for a new 2FE primary school but would be unlikely to be large enough for a full BB103 based primary school (including playing field) (ie 1.99ha). Further investigations, including site investigations, would need to be undertaken to establish whether the site would be able to accommodate a playing field as well as a school building. It may be necessary for a detached playing field to be provided elsewhere.

5.4 The site slopes down (approx. 10m from east to west) and so would need to be terraced to create level areas for buildings, car parking, and play areas. There are mature trees on the frontage of the site which are important in the street scene and are likely to need to be retained and together with significant changes in level mean that vehicular access would be likely to need to be taken from the existing access road leading to the golf course club house.

5.5 The site is located in the green belt and a new school would be contrary to green belt policy. In order to justify a new school in this location, very special circumstances would need to be justified to override the usual presumption against development in the green belt, in particular it would need to be demonstrated that there are no alternative non-green belt sites available which could accommodate the school. It would also be necessary to demonstrate that the impact on the green belt has been minimised. However, if the site

were to be taken out of the green belt by being allocated for educational use by the Local Plan these green belt issues would not need to be addressed, apart from minimising the impact of development on the green belt.

5.6 The site is located in a Local Plan designated Zone of Visibility across which there are views from a number of public viewpoints of the St Albans City Centre skyline. Although these 'public viewpoints' are from the golf course, which as far as we are aware is not public, the course is crossed by a public footpath from which there are views. The policy advises, amongst other matters, that proposals shall not obscure or detract from views of the historic roofscape of the Building Height Control Area. This policy mainly relates to developments in the Building Height Control Area itself, which is mainly the city centre, but we would expect it to be an important consideration in any proposals for a new school on the site. However, as the site is at a lower level and screened by the woodland with mature trees, which are likely to be higher than a school building (subject to detailed design), this may not be a significant issue.

Acquisition of additional land

5.7 The only open land adjacent to the site is part of the golf course and so is unlikely to be available to allow the site to be enlarged. It is also separated from the site by a public footpath.

Maximum height of development

5.8 Bearing in mind the green belt location and the location in a Zone of Visibility any buildings should be kept as low as possible and preferably limited to single storey in height, in order to minimise the impact on the green belt and views, although a two storey building may be acceptable as it would be mostly screened by trees. [Note: the 0.7ha site would require a two storey building]

Location relative to area of need

5.9 The site is located immediately adjacent to the Core Area which is the optimum location for a new primary school. It is located approximately 1.2km to the centre of St Albans, taken to be St Peter's Street.

5.10 Although the site is outside the Core Area it is only just and so it is therefore relatively well located relative to the need. However, the railway line and London Road are barriers to pedestrian / cycle movement from areas to the north of the site (i.e. areas east of the Core Area).

Development principles

5.11 The Development Principles drawing illustrates how a 2FE primary school could be accommodated on the site. This is based on a two storey school on a constrained urban site (0.7ha), with a detached playing field - although it does include an area for soft play (but would be too small for a pitch), as this is considered to be more appropriate for the site bearing in mind its size and characteristics.

5.12 The site would not be able to accommodate full parking for staff, or visitor parking and picking up/dropping off facilities, unless the soft play area were to be reduced / removed, so picking up/dropping off would need to take place