

Land South of Branch Road COMBERTON

Greater Cambridgeshire
Issues & Options Consultation

VISION DOCUMENT

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EXECUTIVE SUMMARY

This document sets out Endurance Estates' vision for a new intergenerational, sustainable neighbourhood at Land South of Branch Road in Comberton, in response to the Greater Cambridge Local Plan Issues and Options Consultation.

<p>150 to 200 home Retirement Village within a high quality landscape setting</p>	<p>Local Benefits Potential for new development to promote enhancements to public transport and community facilities</p>	<p>Intergenerational Community A masterplan designed for all generations to live together</p>	<p>Community Integration Opportunities for new community spaces and amenities</p>
<p>Green Corridors Enhancement of hedgerows and ditches. Creation of new habitats providing Biodiversity Net Gain</p>	<p>Enhanced permeability Enhancing connectivity with existing homes and facilities</p>	<p>Connectivity to the Comberton Greenway A sustainable location in proximity to Cambridge</p>	<p>150 to 200 new homes including opportunities for Starter homes and Self-build</p>

A VISION FOR COMBERTON

Response to the Greater Cambridge Local Plan Issues and Options Key Themes.





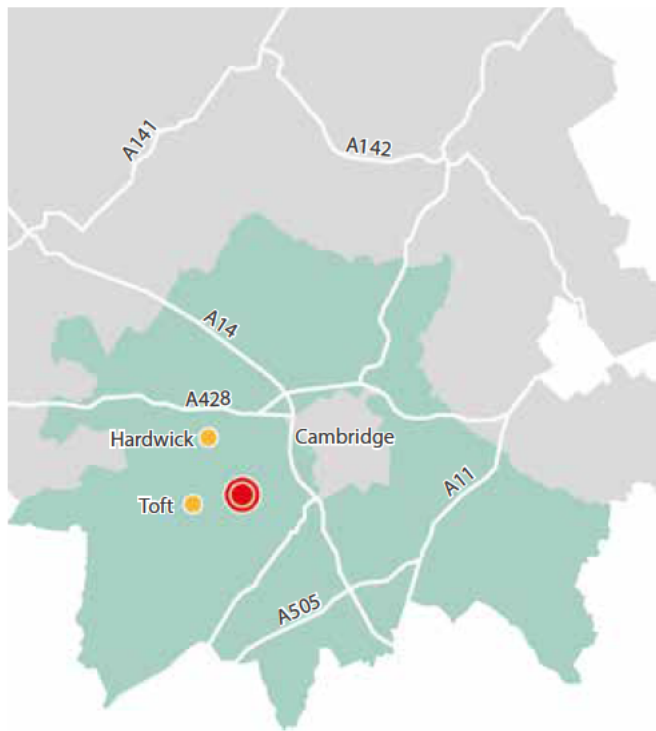





SECTION 01
SITE APPRAISAL

NATIONAL & REGIONAL CONTEXT

Greater Cambridge Location

Comberton is a village and civil parish in South Cambridgeshire England. It is situated 4.5 miles to the south west of Cambridge. Neighbouring villages east include Toft, Hardwick, Coton and Barton. The population of Comberton is 2,400 according to the 2011 Census.

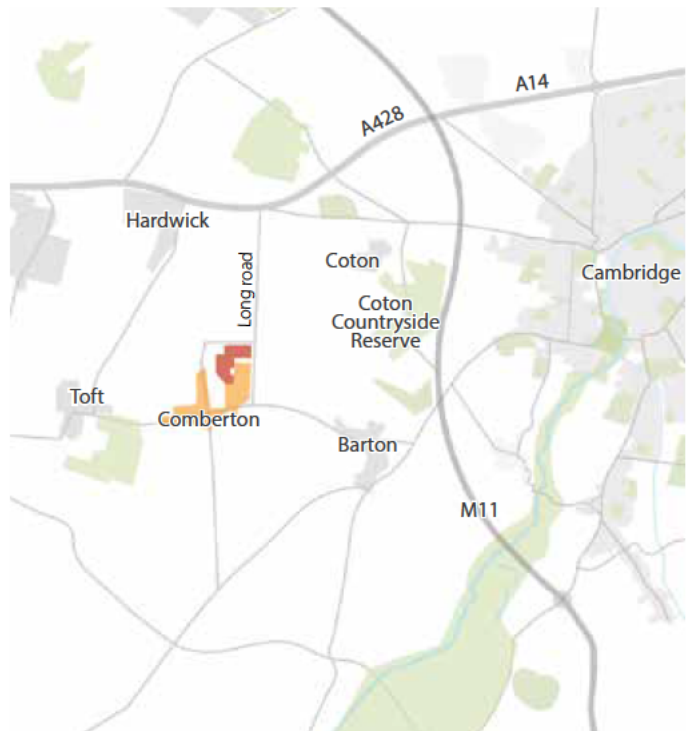







-  Comberton Village
-  Greater Cambridge
-  South Cambridgeshire



Comberton location

The primary road running east-west through the village is the B1046, providing links to Cambridge. Long Road runs north south and connects to the A428 and A1303 in turn linking through to the M11 and A14 and the wider transport network.



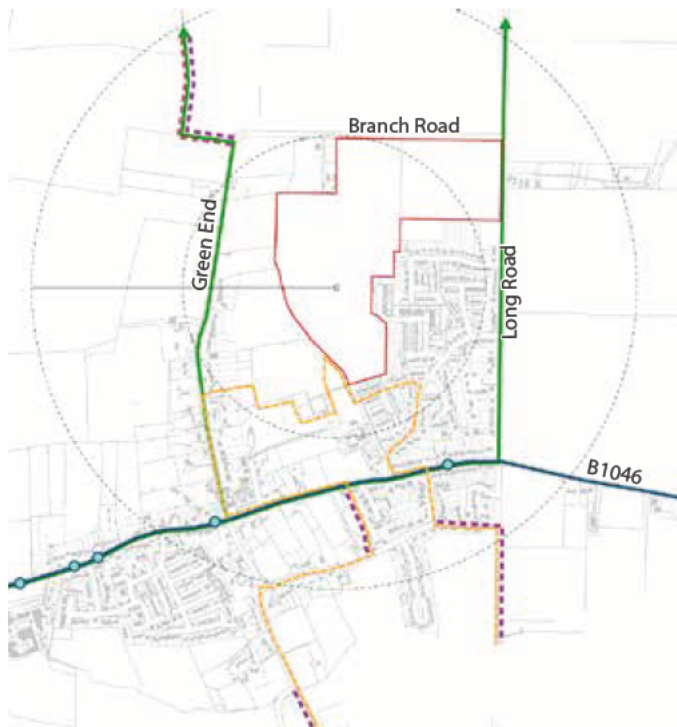
-  Site Location
-  Comberton village
-  Development
-  Woodland
-  Road network



CONTEXT ANALYSIS

Local Transport Analysis

The number 18 bus runs between Comberton and Cambridge City Centre providing an hourly service but is more frequent in the peak hours. A real time electronic timetable is shown at each bus stop. There are a number of Public Rights of Way around the village including the Circular Diamond Jubilee walk linking key features of the village.

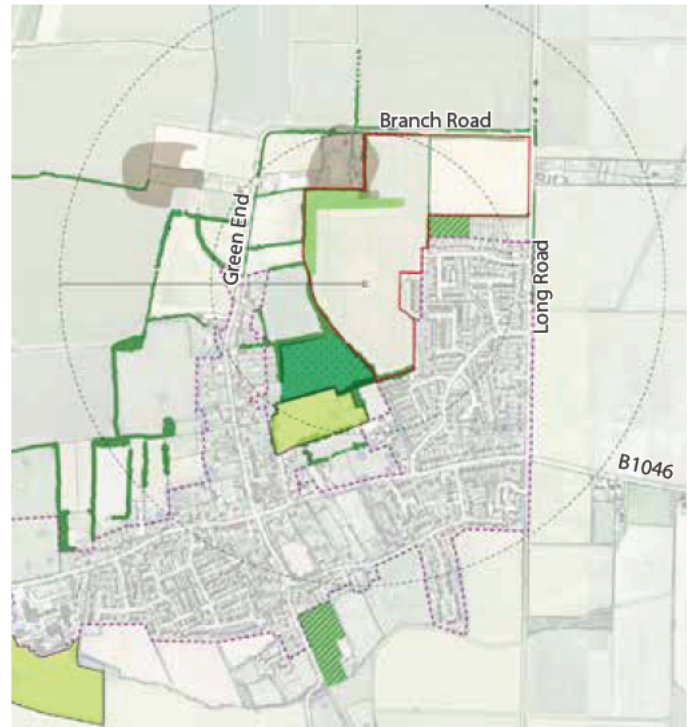


- Site Location
- Bus route (number 18)
- Bus stop
- Proposed Comberton Greenway
- Diamond Jubilee walk
- Public Right of Way (PROW)



Open space, Landscape and Ecological designations

The site is well located next to high quality public open space. To the south there are playing fields, an outdoor gym, tennis courts, skateboard ramp and a large play space. Two allotment sites are located in the village, one just off South Street and the second is located immediately south east of the site.



- Site Location
- Playing fields
- Existing tree planting
- Woodland Priority Habitat
- Allotments
- Lower quality playing fields
- Hedgerows
- Public Rights of Way (PROW)



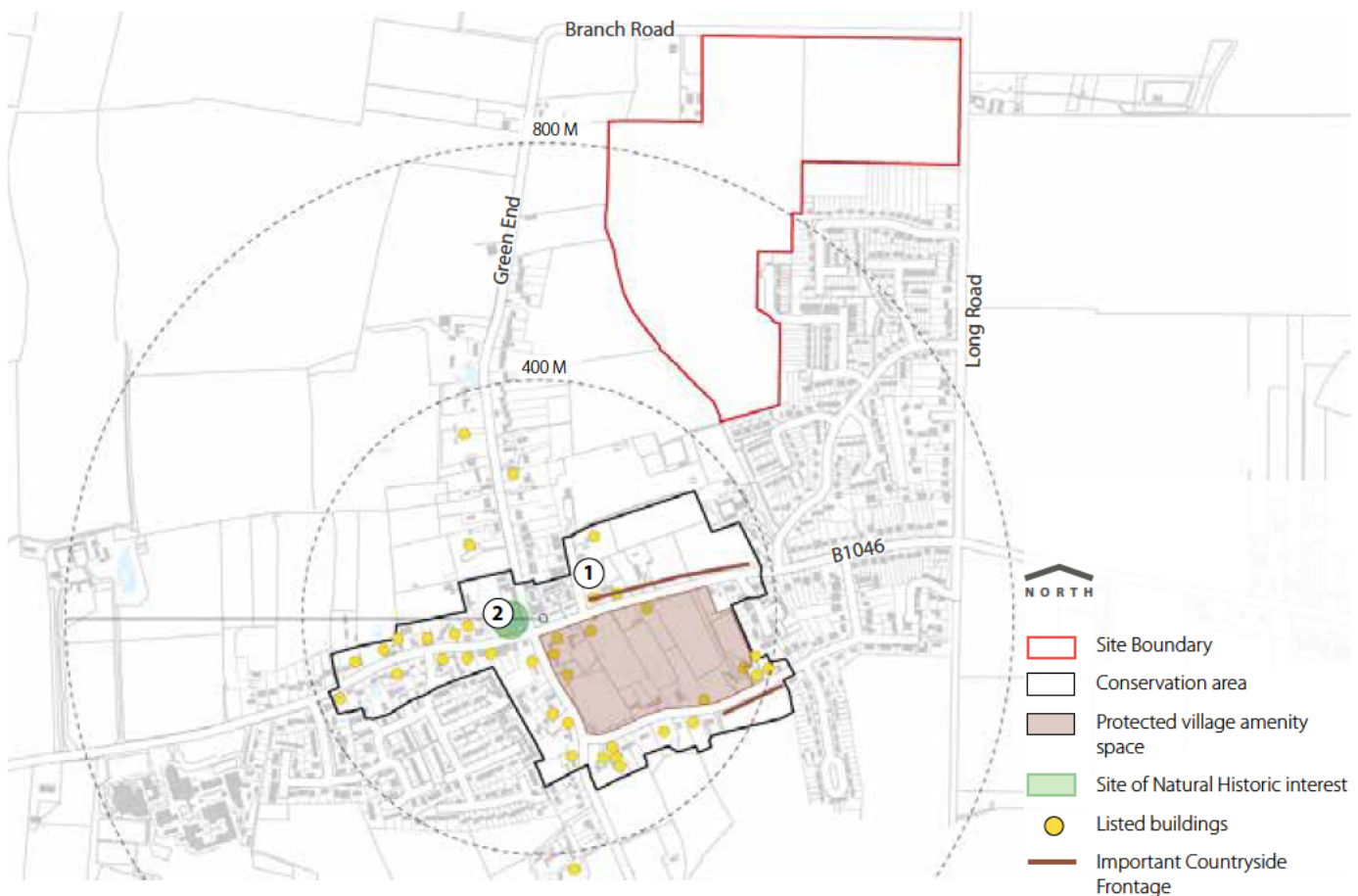
CONTEXT ANALYSIS

Heritage and local character

Comberton is an historic Roman settlement which is designated as a conservation area around the crossroads of the B1046 and Green End, as illustrated below. The conservation area includes an area to the south of the village, at the location of the Grade I listed Church, originally built in the 13th century. Buildings within the historic core use traditional building materials of timber, plaster, plain tile and thatched roofs.

Two Important Countryside frontages are defined for the village within the South Cambridgeshire District Council Local Plan. The policy stresses the importance to the village street scene of the open countryside that penetrates the settlement providing views towards the countryside. The proposed development will not adversely affect these.

Ponds and woodlands are common features of Cambridgeshire historic villages. The central pond within Comberton is a site of Natural Historic interest.



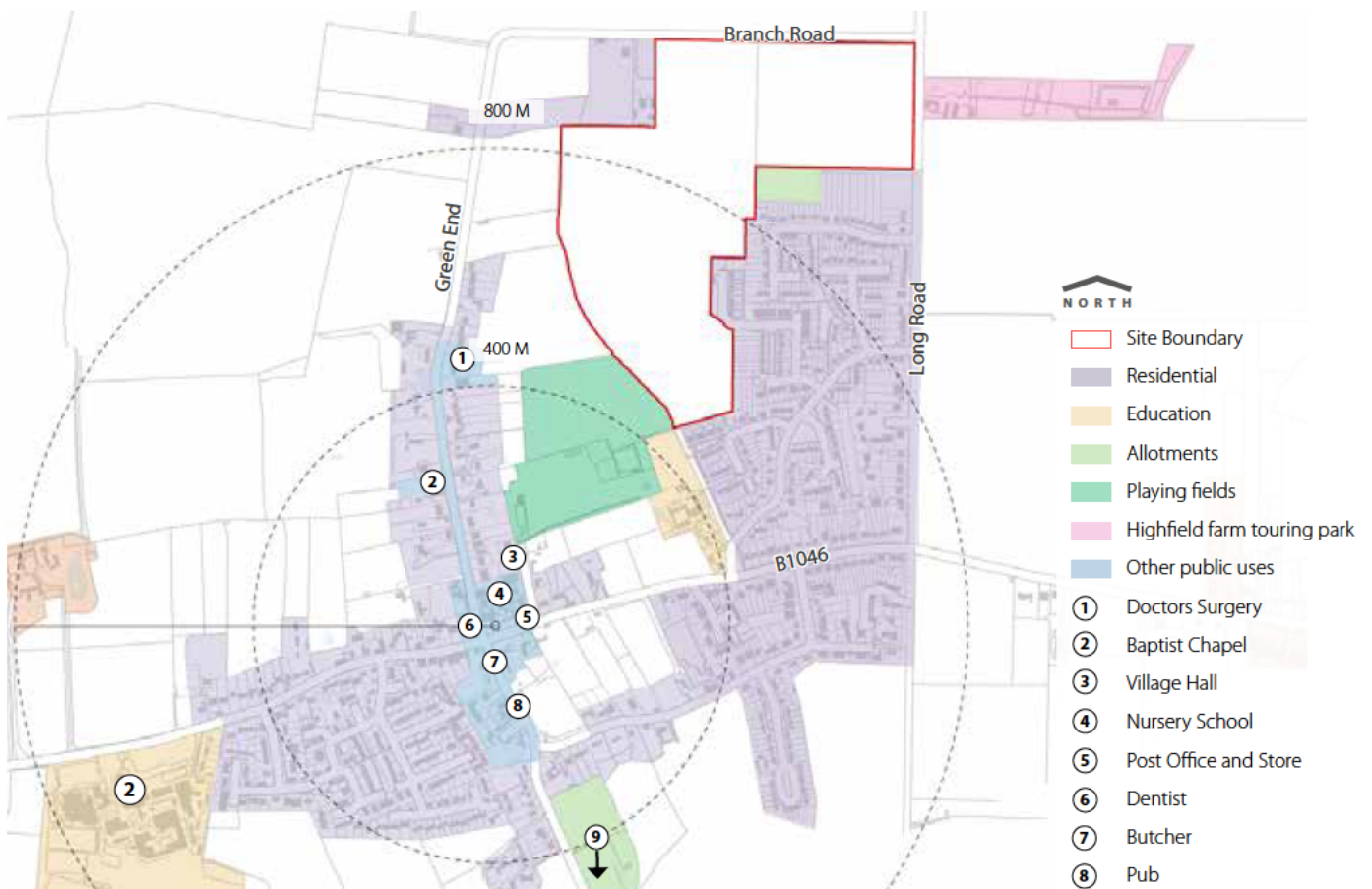
Traditional thatched cottage along Hines lane



Comberton village pond (Site of National historic interest.)

Land use and services

Comberton has a range of local facilities and services. This includes a village hall, post office, village shop, pub, primary school and doctors surgery. Comberton college sits on the west side of the village. Voted as outstanding by Ofsted this is a particular asset to the village and includes other sports facilities that are available for community use. Horizon business park is located roughly one km east of the village .



Comberton village hall located along Green End



Saint Mary the Parish Church of Comberton

SITE ANALYSIS

The majority of the site is characterised as being open farmland, which gently slopes from north to south. Field boundaries are defined by hedgerows. To the west of the site, newly planted woodland forms the boundary. A ditch runs along the south-western boundary.

To the north of the site lies open countryside. The site is bordered to the east by residential development. A short run of homes, recently constructed overlook the site. The south west boundary is utilised by community sports pitches and amenities.



Site Boundary



View looking South from Branch Road



View looking East from Branch Road



View looking South along the Watercourse



View looking North East across the Site



View looking South towards Meridian Primary



View looking East along the footpath from Green End



View across Comberton village pond

CONSTRAINTS

Analysis of the site and surrounding area has enabled an understanding of the various constraints that will influence proposals for the site.

- 1 The hedgerows to the north of the site are broken in places enabling views into the site.
- 2 There is woodland to the west that comes into the site from the boundary.
- 3 There is a local overhead power cable running diagonally across the site

- 4 Topography falls from north to south.
- 5 There is a lack of positive frontages on the east boundary.
- 6 Important Countryside Frontage which stresses the importance of retaining views towards open countryside



OPPORTUNITIES

There is an opportunity to provide a sustainable intergenerational community in Comberton south of Branch Road.

- 1 There are existing informal footpaths running through the site from east to west. These can be enhanced and formalised to create safe and legible pedestrian and cycle connectivity between the site and Green End to the west, Valley Road in the east and Barton Road to the south, utilising an existing path that runs adjacent to Meridian Primary School.
- 2 There is an opportunity to improve the hedgerows to the north of the site alongside Branch Road strengthening the green edges to the site, enhancing the ecological corridor and providing a new landscape transition to the countryside.

- 3 There is significant woodland to the west, providing a strong landscaped edge and structure that can be enhanced and incorporated into the footpath network. Utilising existing assets such as these provides the opportunity to better integrate opportunities for exercise and improve the health and well-being of residents.

- 4 There is an opportunity to widen Branch Road and provide a segregated cycle and footpath that links into the Comberton Greenway.

- 5 There is an opportunity to create a central open space as a focal point of the new community, which is accessible by the existing community.







SECTION 02
THE VISION

DESIGN CONCEPT AND PRINCIPLES

Existing landscape

Existing hedgerows and tree belts will be retained throughout the site, providing a landscape framework from which to build on.

Enhancing the landscape

The existing hedgerows and woodland will be enhanced to form green corridors providing important habitats for wildlife. Green links will connect from these green corridors extending through the site. The existing ditch will be enhanced providing important wildlife habitats. Focal green open spaces will provide areas for leisure and play creating a vibrant community.



-  Site Boundary
-  Existing vegetation
-  Surrounding landscape
-  Existing ditch

-  Site Boundary
-  Existing vegetation
-  Surrounding landscape
-  Enhanced water course
-  Enhanced green corridors
-  Proposed green links
-  Proposed green spaces
-  Central community green
-  Existing recreation ground

Development parcels and Community uses

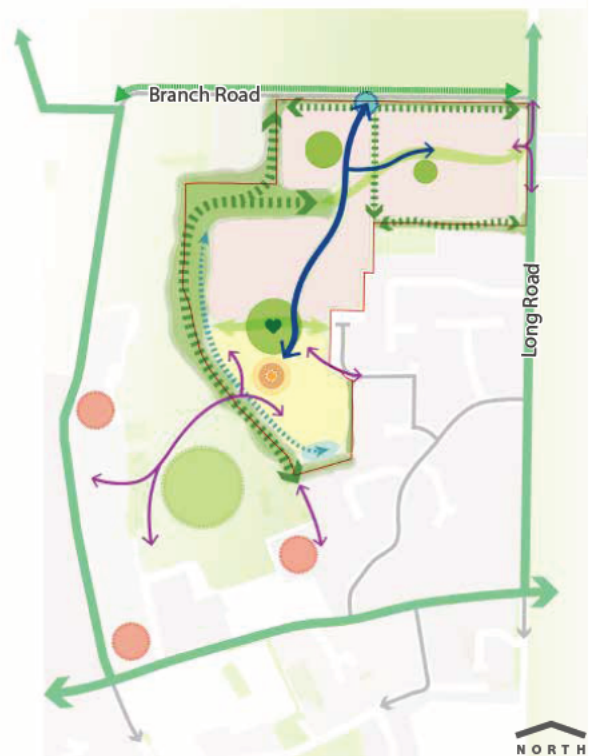
The new community will consist of a series of development parcels, which will respond to the existing context and surrounding landscape character. Central to the proposal is the retirement village located in the south of the site. The retirement village hub will provide shared use community amenity space, creating a vibrant and inclusive space for all Comberton Residents, instilling a greater sense of place and community.



- | | |
|----------------------------|--------------------------------------|
| Site Boundary | Residential development parcels |
| Existing vegetation | Later Living Development parcel |
| Surrounding landscape | Retirement village Hub and amenities |
| Enhanced water course | |
| Enhanced green corridors | |
| Proposed green links | |
| Proposed green spaces | |
| Central community green | |
| Existing recreation ground | |

Permeable streets

Primary vehicular access through the site will be provided off Branch road. This central road will become the main spine for the site connecting to further secondary and tertiary streets. Pedestrian and cycle routes will follow along the proposed green links and green corridors, connecting the site to the villages surrounding amenities.



- | | |
|----------------------------|--|
| Site Boundary | Residential development parcels |
| Existing vegetation | Later Living Development parcel |
| Surrounding landscape | Retirement village Hub and amenities |
| Enhanced water course | Key vehicular routes |
| Enhanced green corridors | Vehicular Access point |
| Proposed green links | Pedestrian/Cycle route |
| Proposed green spaces | Proposed option for Comberton Greenway |
| Central community green | Potential connectivity to Comberton Greenway |
| Existing recreation ground | Surrounding amenities |

LANDSCAPE STRATEGY

Land South of Branch road will offer a green, attractive, tranquil development, rich in biodiversity and wildlife. The landscape will create an inclusive and immersive environment, supporting the health and wellbeing of all residents in Comberton.



1 The hedgerow on the northern boundary will be retained, and the proposed homes set back from it behind a green corridor. New tree planting will be incorporated within the green corridor, to reinforce the existing vegetated edge, and to filter the views of the new homes from the north. This vegetated boundary will form an appropriate edge to the settlement, and mark the boundary between the settlement and the countryside beyond.



2 The access can be designed to minimise any hedgerow loss, by positioning the access where there is already a gap in the vegetated boundary.

3 The existing hedgerow along the boundary with Long Road will be retained. New tree planting will be incorporated along this boundary to continue the existing informal avenue character which occurs along this road and to filter views of the new homes.

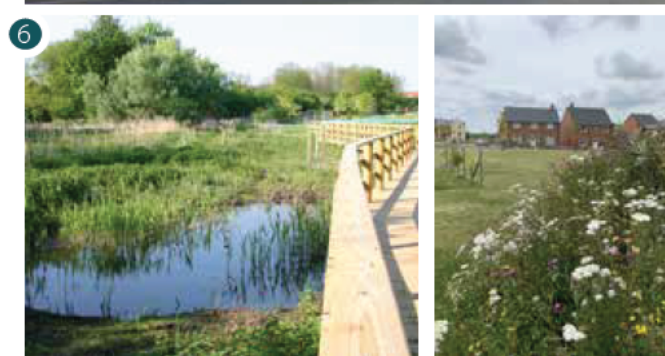


4 The proposed residential areas will include incidental green open spaces which will break up the built form and create an attractive streetscape. These green spaces can include benches, wildflower planting, ornamental shrub planting and new trees, as well as play equipment for children. These incidental green spaces also aid in creating a legible development with identifiable spaces making it easier to navigate.

5 The primary movement routes will be tree-lined to create an attractive environment, while also increasing the habitat value of the Site.



6 The proposal includes new swales and a drainage basin as part of the Sustainable Drainage System (SuDS). These features will condition and control the flow of surface water while improving the water quality by filtering out particles. The swales will be planted with wildflowers which are capable of tolerating periodically wet conditions, while the drainage basin will include marginal plants and shrubs which thrive in wetter soil conditions. The landscaping of these features will ensure that they are not only attractive additions to the landscape but also provide ecological and environmental benefits.



7 The existing woodland belt and Branch Road will form permanent and identifiable Green Belt boundaries.



8 The existing woodland belt within the Site will be retained and enhanced with further planting to increase the habitat and ecological value of the Site.

CONCEPT MASTERPLAN

Land South of Branch Road Comberton offers an opportunity to deliver a new vibrant, characterful and intergenerational community that will deliver new homes and facilities that can cater for the local needs.



The development of the masterplan has been designed to respond to the existing connections surrounding the site in order to increase permeability. Proposed connections will be designed to prioritise pedestrians and provide for on-street cycling and cycle parking to promote sustainable transport modes.

Key to the vision for the new neighbourhood is the creation of an intergenerational place. The entrance to the retirement living will create a natural “heart” of the site, located within a short walking distance of the new and existing homes. A central green space will be created as part of this heart, in order to create a meeting space, play space and opportunities to maximise community interaction.

- 1 **Activate open spaces and footpaths.** Integrate existing informal walking routes and footpaths, currently along rear boundaries of properties into the masterplan, overlooked by new homes, providing surveillance to create a safe and legible neighbourhood with **increased permeability**.
- 2 **Promote a healthy walkable neighbourhood through well-defined streets.** The development will have a hierarchy of streets with a provision of clearly distinct public and private spaces.
- 3 **A variety of street types** will be incorporated across the masterplan with a hierarchy of routes clearly expressed through street design, materials and landscaping.
- 4 **Intergenerational living.** To propose a variety of housing types to suit a variety of needs. This includes a retirement village in the south which will include some community uses overlooking the central green and existing sports pitches.
- 5 Homes will be predominantly 2 and 2.5 storeys, with key corners and frontages featuring 3 storeys in order to create a varied **roofline and provide visual interest**.
- 6 Provide appropriate densities in the right locations, creating a **clear sense of place**, and identity whilst retaining connectivity with the landscape.
- 7 Incorporate existing green and blue features to bring the wider landscape into and through the site.
- 8 Create a gateway space in the north of the site with feature buildings to create a **welcoming entrance and clear sense of arrival**.



CHARACTER

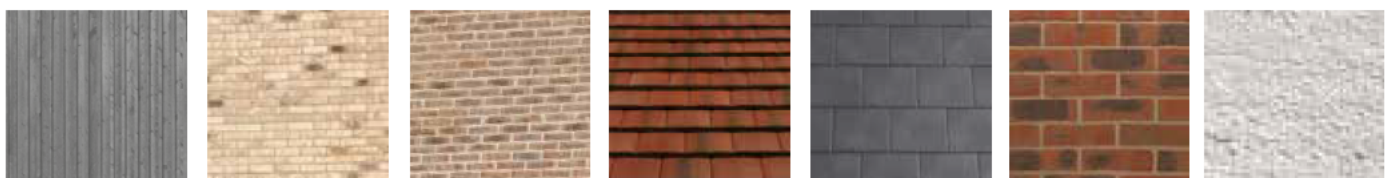
The focus will be on the highest quality placemaking and sustainable living within a responsive approach to the local character.

Creating a complementary character and context is at the forefront of the vision for Land South of Branch Road. Consideration of the local context from the outset ensure proposals which will be rooted within rationale and relatable grain, character and form.

Ponds and woodlands are common features of Cambridgeshire historic villages. Creation of focal pond attenuation features, responsive approach to existing woodland features, and consideration of local building materials and tones will enable a characterful new neighbourhood to form.



Materiality: Buildings within the historic core use traditional building materials of timber, plaster, plain tile and thatched roofs.



Within the heritage core of the village there is variation in roof forms and pitches. Dormers and chimneys are a projecting element seen throughout the village skyline, helping to provide an appropriate scale and articulation of buildings.

The character can also draw on the agricultural and farmstead style agricultural buildings which are common around Cambridgeshire villages. This includes the informal and organic nature of the landscape and the simple built forms and colour palettes.



Green corridors and footpaths overlooked by active elevations, featuring Cambridgeshire buff brick and black timber



Varied roof forms and materials



Introduction of dormer features create recognisable roof forms



Homes forming a farmstead cluster including barn inspired materiality



Homes overlooking a focal pond attenuation feature

NB: The above sketches are illustrative, from other PRP schemes, to provide an indication of potential character of the new neighbourhood

LATER LIVING

The main element of the proposed development will be a retirement village (land use C2). The retirement village will have of the order of 200 units and with some close care units for those with more severe care requirements. The retirement complex has a range of facilities including a lounge, shop, restaurant, bar, library and medical centre. Integral to the retirement village is a Wellness Spa with treatment and consultation rooms, swimming pool, sauna, gym studio etc.

The elderly UK population is set to grow dramatically over the coming years and the increasing divide between demand and supply is likely to result in the next housing crisis. This need is also projected at the local level and the village provider's assessment of demand and supply analysis points to an acute shortage of the kind of provision required by many local residents including both traditional retirement-living accommodation and extra care/assisted living provision.

The proposal for the site will be the first of its kind in Comberton. The site is in a sustainable location for the proposed use and satisfies the locational and design objectives set out in both adopted and emerging Greater Cambridge Local Plan. A Later Living scheme provides the following benefits:

- Much of the existing retirement living stock in the village takes the form of smaller converted accommodation

which does not meet current user or operator expectations and standards.

- The scheme will be an exemplar in terms of the standard of facilities and the provision of support and on-site facilities.
- The subject site is in a sustainable location for the proposed use and satisfies the locational and design objectives set out in the local plan.
- The proposal is compatible with existing uses, and there is no existing concentration of provision, thereby ensuring that the scheme will support the creation of a mixed, inclusive and sustainable community.
- The proposed accommodation will be designed with the needs of frailer older people in mind, and will offer varying levels of care and support that will be provided to meet individual requirements.
- The proposal will include an extensive range of communal facilities which are to be managed and operated as an integral part of the care concept to encourage social interaction and will be available to the wider community.
- The accommodation will be designed to provide a safe and enabling environment for future residents. In particular dwellings will be designed for the individual's changing care requirements allowing residents to age in



THE RETIREMENT VILLAGE HUB

- Studio
- Lounge
- Library
- Garden Room
- Private Dining
- Artisan Bakery
- Pool
- Steam Room
- Hair and Beauty
- Gym Studio
- Treatment

As set out in “Future of an Ageing Population’ prepared by the Government Office for Science (2016) ‘...residents of specialised housing generally show high levels of satisfaction, improved wellbeing, better health outcomes and reduced healthcare costs.”



LATER LIVING

Social Benefits and Community Cohesion

The proposed scheme can help to reduce the costs to health and social services. The proposal will reduce the burden on local GP practices by offering specialist care and support on site, reducing the need for residents (who might have previously lived alone) to call on local GP services. It is estimated that there is a reduction of 30% on the demands placed on the local NHS, from the residents living in such a community.

The village provider will commit to integrating their care facilities into the local community. The extensive communal and support facilities will therefore be opened to the local public. Collectively, these shared uses and shared spaces can help to foster social cohesion and inter-generational living, with interaction being at the heart of the proposed later living concept. The uses will promote activity within the site throughout the day and evening and will allow different members of the community to positively interact.

It is anticipated that the majority of residents to the new scheme will already be local to the site and that they will typically be moving out of larger, family homes. The proposal therefore has the potential to free up other sectors of the housing market by releasing much-needed family housing accommodation and freeing up further activity further along the housing chain. This in turn will help to reduce pressure on other sites in the area.

Employment Opportunities

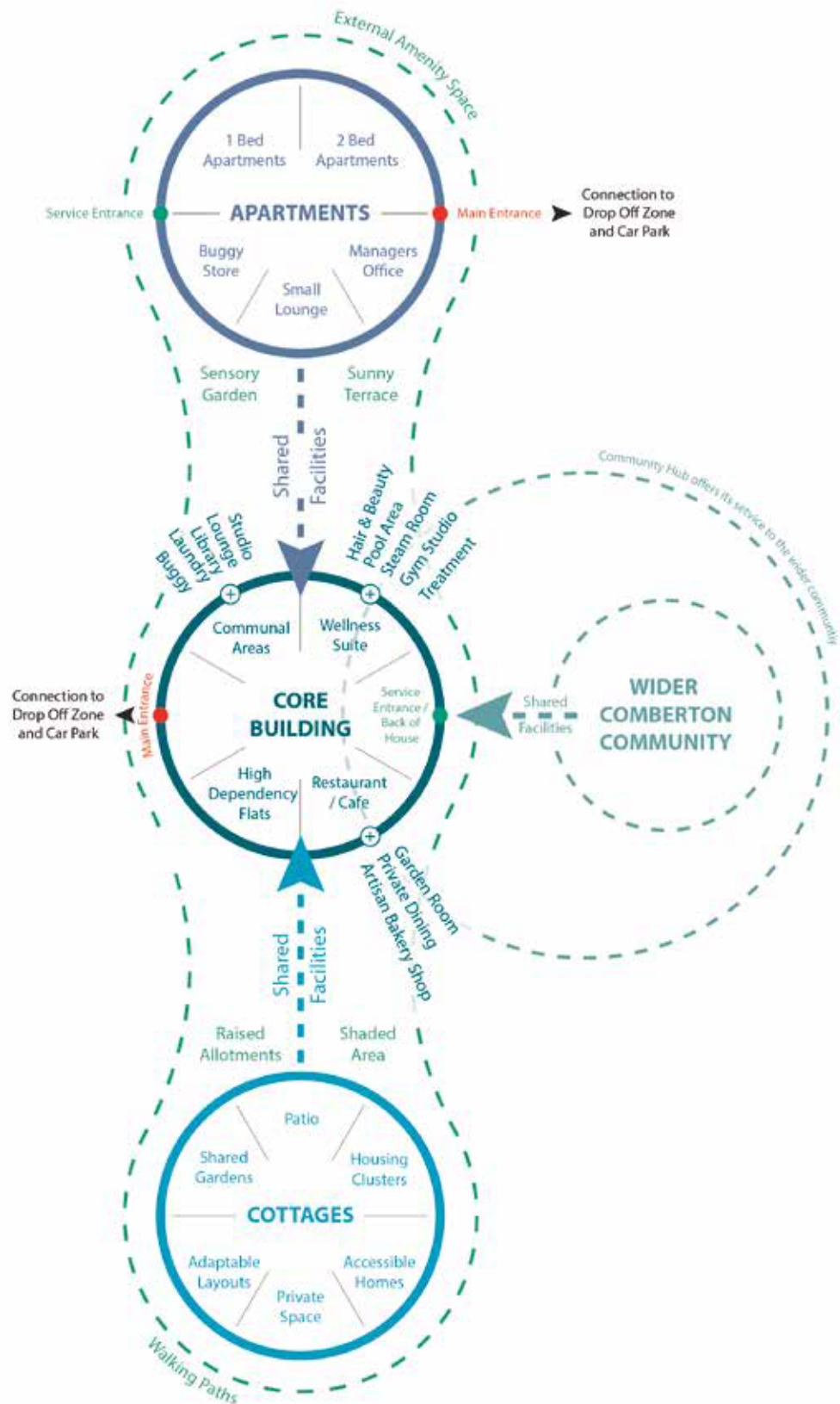
The scheme will generate a number of full and part jobs. The range of potential jobs includes on-site and off-site management, on-site administrator, support/domestic staff, housekeeping, commercial laundry, maintenance, security and gardener. In addition, the scheme will generate opportunities for continued employment through the proposed village provider's subsidiaries as well as further jobs in respect of the wellness facilities provided on site (hairdressing, physiotherapy, etc).

It is expected that most staff would be recruited locally and a site-specific recruitment strategy will be prepared to support this aspiration. The proposal will create further in-direct employment opportunities, for example, during construction and through associated facilities and services to support the on-going operation of the village.

These economic benefits may be seen as a significant planning gain, and will introduce an employment-type that is in keeping with the Comberton site.



Later Living Facilities and Adjacencies



TRANSPORT AND ACCESS STRATEGY

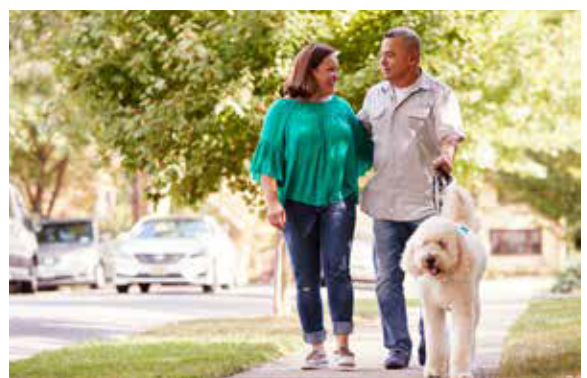
Promoting Walking and Cycling

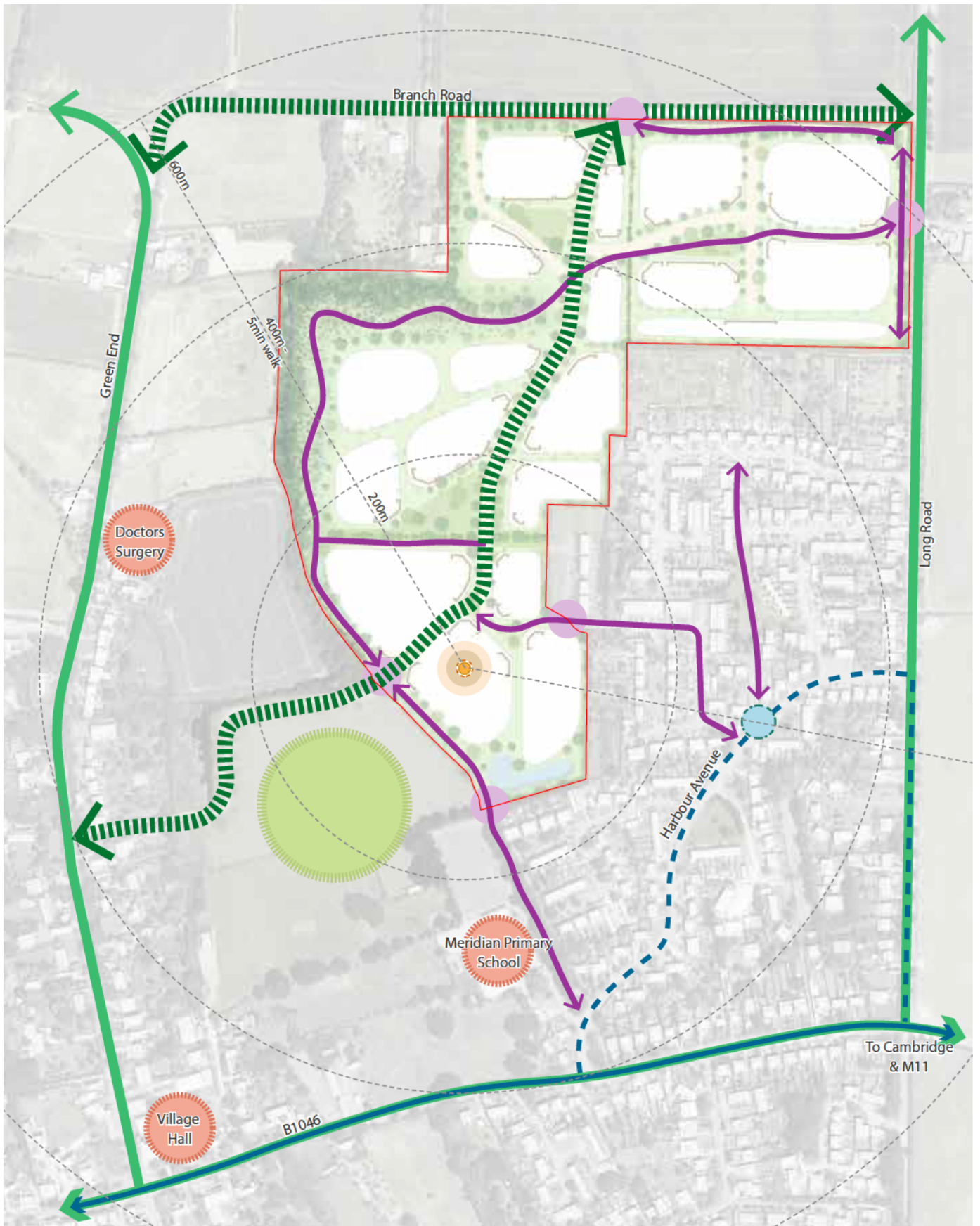
In order to maximise sustainable transport opportunities for this proposal it is essential that pedestrian and cycle porosity is created. A walk time of 10 minutes is generally considered the maximum acceptable to directly access any local facility or amenity and equates to a distance of approximately 800m. All local facilities, with the exception of the village college, are within this threshold, although it is generally accepted that a walk to a college or secondary school can be up to 2km. The village college is 1.4km from the site.

It is proposed that the development will connect to existing pedestrian routes to the west onto Green End, Barton Road to the south, utilising a footpath adjacent to the primary school, and to the east, via Normandy Close and The Valley.

Comberton Greenway

The Cambridge Greenways plan was developed in 2016 to achieve sustainable cycle routes into central Cambridgeshire from the surrounding villages and hinterland. Currently, there are a number of potential Greenway routes, which will only be made possible with the aid of landowners. As a result, there are gaps in the Greenway network. The development proposal will support the Comberton Greenway route options by a route passing through the site and aiding greater permeability across the village.





- | | | |
|--------------------------------|--|----------------------------|
| Site Boundary | Proposed option for Comberton Greenway | Proposed bus route |
| Pedestrian/cycle routes | Potential connectivity to Comberton Greenway | Proposed bus stop |
| Pedestrian/cycle access points | Existing bus route | Surrounding amenities |
| | | Existing recreation ground |

TRANSPORT AND ACCESS STRATEGY

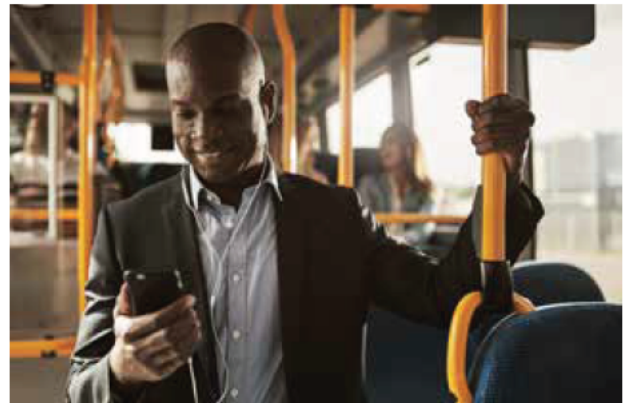
Vehicular and Public Transport

The site is bordered to the north by Branch road where vehicular access will be made (without cause to enter agreement with a third party). Branch road currently has a 4.5m carriageway with a verge on both sides bound by a ditch. To the east, Branch Road meets Long Road at a priority-controlled junction.

The proposed amendment to Branch Road follows the Cambridgeshire Highways Design Guide, which suggests that a carriageway width of 5m and a 2m footway is suitable as an access road in a rural location. It is anticipated that the old route of Branch Road would 'give way', thus minimising any hedgerow removal.

It is proposed that an emergency access will connect to Branch Road towards the north west corner of the site. This would also form a pedestrian and cycle route access.

There is a potential opportunity for a bus route along Harbour Avenue, which serves as the spine route through the existing estate. This route has a suitable carriageway width of over 6m and two footways of 1.8m width, with occasional wide verges in the public domain. The proposal for a retirement development would have a considerable population who would have dependence on public transport. The diversion of the bus route into Harbour Avenue would add circa 2 minutes to the route, however it is anticipated the commercial gain would far outweigh the minor journey time extension.

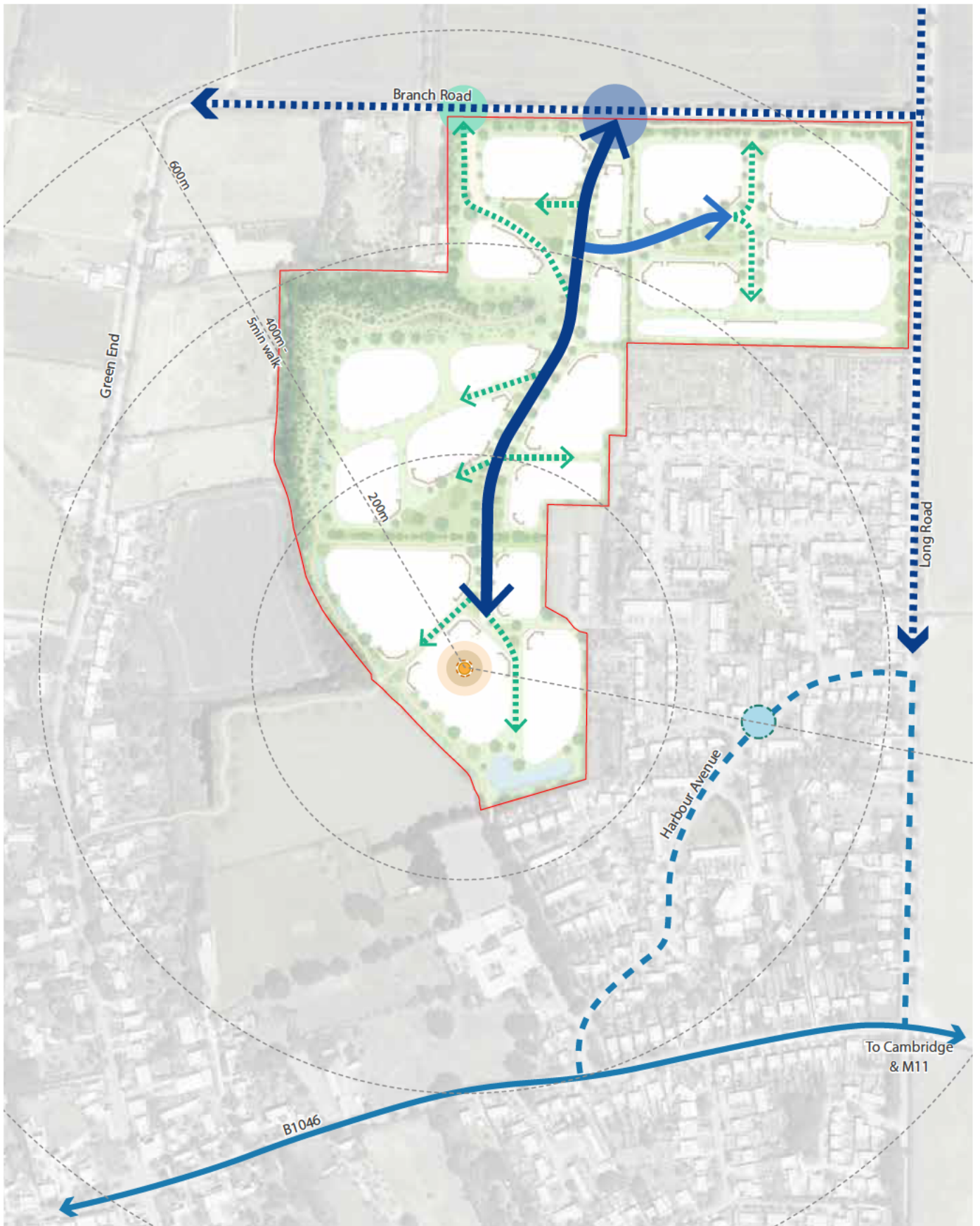


Vehicle Trip Generation

The Trip Rate database has been reviewed to determine an appropriate vehicle trip rate for the C3 element of the site. The TRICS data output is displayed in the adjacent table, and gives the following AM and PM trip rate and subsequent vehicle trips based on 200 C3 dwellings. The table shows the peak hourly flow from the site is around 98 to 120 peak hour vehicle movements. At this stage, we do not have the benefit of traffic flows to understand the distribution of existing traffic. However, we are aware traffic would generally all travel via Branch Road to its junction with Long Road; a relatively light trafficked road where an improved junction with Branch Road would accommodate this traffic increase.

	Trip Rate (Per Dwelling)		Vehicle Trips (200 Dwellings)		
	In	Out	In	Out	Total
AM Peak Hour	0.177	0.423	35	85	120
PM Peak Hour	0.294	0.197	59	39	98

Residential Vehicle TRICS Trip Rates and Trip Numbers (allow for rounding)



- | | | |
|------------------------|-------------------------------|---------------------------------|
| Site Boundary | Proposed Bus stop | Proposed tertiary routes |
| Existing vehicle route | Proposed main vehicular route | Proposed emergency access point |
| Existing bus route | Proposed vehicle access point | Proposed bus route |
| Proposed bus route | Proposed Secondary route | |

CONCLUSION

Land South of Branch Road provides an opportunity to create a new intergenerational neighbourhood within Comberton, which benefits from a sustainable location and proximity to existing facilities. A new retirement village with facilities available to the wider community will be provided, whilst offering additional enhancements for the existing village. The proposals respond to the Big Themes set out in the Issues and Options Consultation and will ensure the highest quality of place-making to meet contemporary, sustainable living requirements and enable resilience for the future.



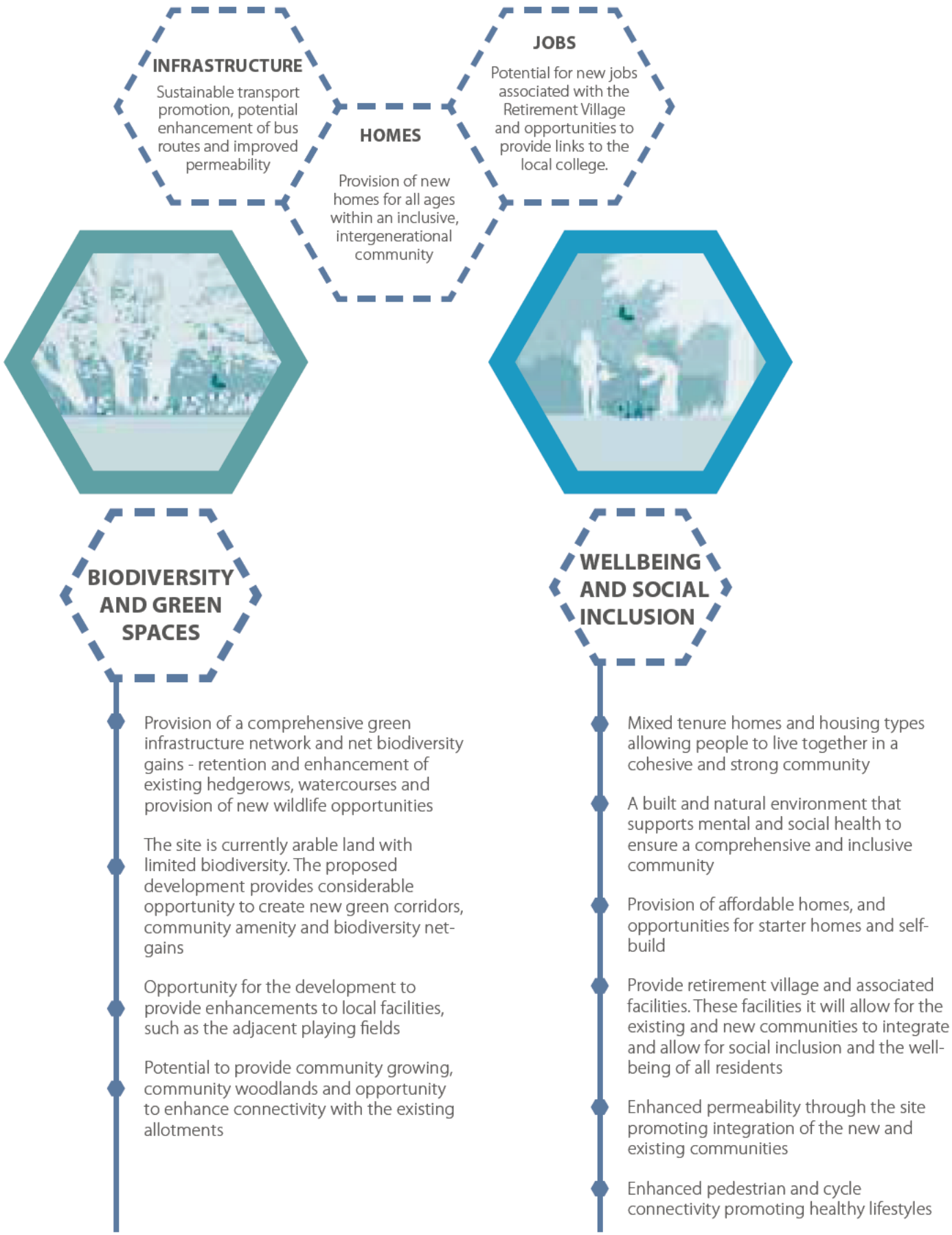
GREAT PLACES

- Provide a high quality development that with the inclusion of later living provision, will meet demand across generations, contributing to wellbeing and social inclusion
- Imaginatively design homes that will respond to Comberton's local historic context with ample public and private amenity to create a healthy community
- Permeability of the site and ability for existing residents to access facilities within the retirement village will assimilate the proposals into Comberton
- It is anticipated that both the later living and residential development will be constructed in a high energy performing manner



CLIMATE CHANGE

- Enhancements to Branch Road and Long Road to encourage pedestrian and cycle movements
- Improved permeability to the site, including access to the Comberton-Cambridge Greenway
- Proposed Retirement Village to include a centralised district heating system and be high-energy performing
- Sustainable location in close proximity to Cambridge and with good level of local services and facilities, including a primary school and college, reducing the need to travel
- The proposed retirement village will also bring its own facilities which will be made available to local residents who will be able to walk and cycle to these facilities given the site's high permeability without the need to travel longer distances to such facilities by private car



INFRASTRUCTURE

Sustainable transport promotion, potential enhancement of bus routes and improved permeability

JOBS

Potential for new jobs associated with the Retirement Village and opportunities to provide links to the local college.

HOMES

Provision of new homes for all ages within an inclusive, intergenerational community

BIODIVERSITY AND GREEN SPACES

Provision of a comprehensive green infrastructure network and net biodiversity gains - retention and enhancement of existing hedgerows, watercourses and provision of new wildlife opportunities

The site is currently arable land with limited biodiversity. The proposed development provides considerable opportunity to create new green corridors, community amenity and biodiversity net-gains

Opportunity for the development to provide enhancements to local facilities, such as the adjacent playing fields

Potential to provide community growing, community woodlands and opportunity to enhance connectivity with the existing allotments

WELLBEING AND SOCIAL INCLUSION

Mixed tenure homes and housing types allowing people to live together in a cohesive and strong community

A built and natural environment that supports mental and social health to ensure a comprehensive and inclusive community

Provision of affordable homes, and opportunities for starter homes and self-build

Provide retirement village and associated facilities. These facilities it will allow for the existing and new communities to integrate and allow for social inclusion and the well-being of all residents

Enhanced permeability through the site promoting integration of the new and existing communities

Enhanced pedestrian and cycle connectivity promoting healthy lifestyles





SECTION 03
APPENDIX



21st February 2020

Transport Review, Land at Comberton, Retirement village and Residential Development, South Cambridgeshire.

Introduction

EAS has been appointed to provide a transportation review of the above site in order to support its allocation in the South Cambridgeshire Local Plan Review process.

The land is bordered by Branch Road to the north, agricultural land and residential development to the east, residential development and school grounds to the south, and further agriculture to the west. A location plan forms **Appendix A**, the site sits in the heart of Comberton.

The frontage with Branch Road is circa 168m and access from this road can be made without cause to enter agreement with a third party.

Branch Road is subject to the National Speed Limit. It currently has a 4.5m carriageway with a verge on both sides bound by a ditch. The overall highway-controlled width is of the order of 10m. To the west Branch Road continues into and becomes Green End, which turns to a north/south alignment and finally meets with the B1046 to the south being the main road through Comberton. To the east Branch Road meets Long Road at a priority-controlled junction. Long Road also runs on a north south alignment and to the south also meets the B1046.

Based on house styles it is anticipated that the existing residential estate bordering to the east was constructed mainly in the 1970's/80's. It covers an area of circa 17Ha and is likely to contain of the order of 500 homes.

This estate is bisected by Harbour Avenue running on a south west to north east alignment with Barton Road (B1046) at the south western end and Long Road at the north eastern end. Harbour Avenue has a carriageway width of over 6m and two footways of 1.8m width. There are occasional wide verges in the public domain. Harbour Avenue serves direct frontage to some properties as well as being the spine route through the estate. It has a 30mph speed limit and continuous street lighting. This road would have suitable parameters to be used as a bus route, but it is noted that the local bus services do not enter the estate at present.

The main element of the proposed development will be a retirement village (land use C2). The retirement village will have of the order of 200 units and with some close care units for those with more severe care requirements. The retirement complex has a range of facilities including a lounge, shop, restaurant, bar, library and medical centre. Integral to the retirement village is a Wellness Spa with treatment and consultation rooms, swimming pool, sauna, gym studio etc.

These facilities would be open to non-residents and therefore create a sustainable addition to infrastructure in Comberton especially in the context of the neighbouring estate.

Comberton has a small range of existing facilities including a Budgens food store, Public House, a butchers, doctors surgery, nursery school, primary school and sports college. These facilities are however generally spread around the village, there does not appear to be a definitive village centre.

In addition to the retirement village it is anticipated that a further 200 C3 homes would be constructed typically 2 and 3 bedrooms but representing the housing need at the time of full planning.

Access

A highway access has been designed from Branch Road considering the Cambridgeshire Highways Design Guide. The guide suggests that a carriageway width of 5m and a 2m footway is suitable as an access road in a rural location. The design attached at **Appendix B** has a 5.5m carriageway and a 2m footway. The footway is intentionally located on the south (site) side. This drawing also highlights the base of the existing ditch (on either side) the top of the ditch bank and the highway boundary. This design readily avoids the ditch and is all in highway land. The access into the site is shown as the 'main route' and it is anticipated that the old route of Branch Road would 'give way'. This minimises any hedgerow removal.

Due to the size of the proposal, it is necessary to have a fire access. As Branch Road continues to both the east and the west, a fire appliance is able to approach from both directions, therefore it is proposed that an emergency access will connect to Branch Road towards the north west corner of the site. This would also form a pedestrian and cycle route access.

Pedestrian Accessibility

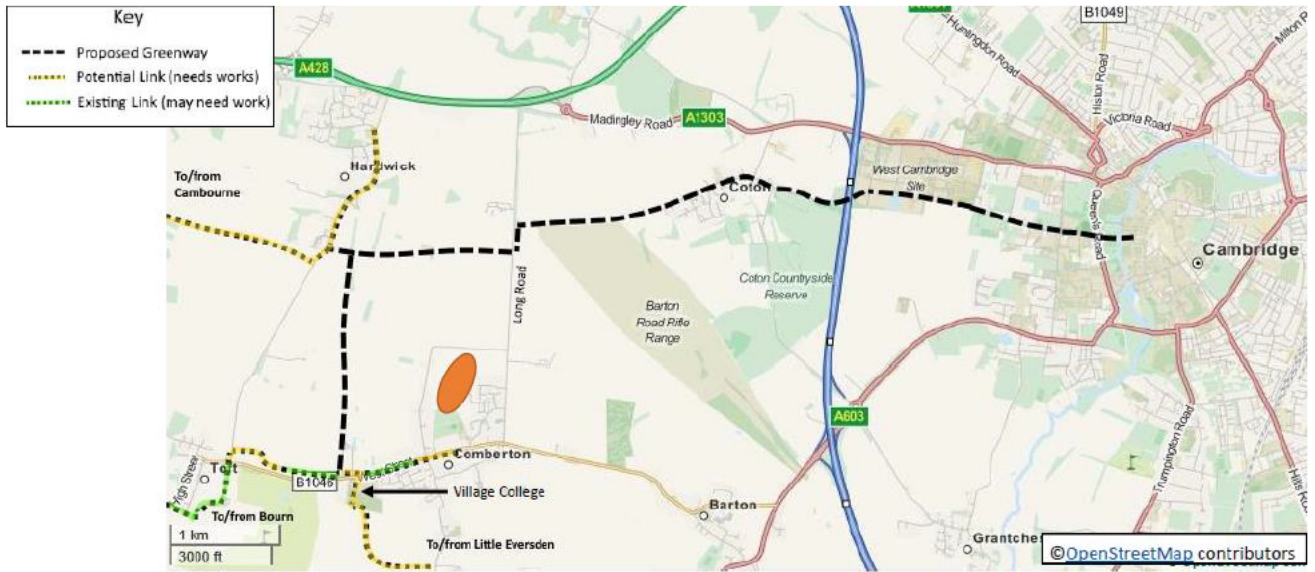
With respect to pedestrian access, a walk time of 10mins is generally considered the maximum acceptable to directly access any local facility or amenity and equates to a distance of approximately 800m. All facilities described with the exception of the village college are within this threshold, although it is generally accepted that a walk to a college or secondary school may well be up to 2km.

In order to maximise sustainable transport opportunities for this proposal it is essential that pedestrian and cycle porosity is created. It is proposed that the development will connect to existing pedestrian routes to the west onto Green End, to the south to the existing residential estate utilising a footpath bordering the primary school; and to the east, via The Valley and the more recent extension to The Valley. These connections are shown on the plan contained at **Appendix C**.

Cycle Accessibility (Greenways)

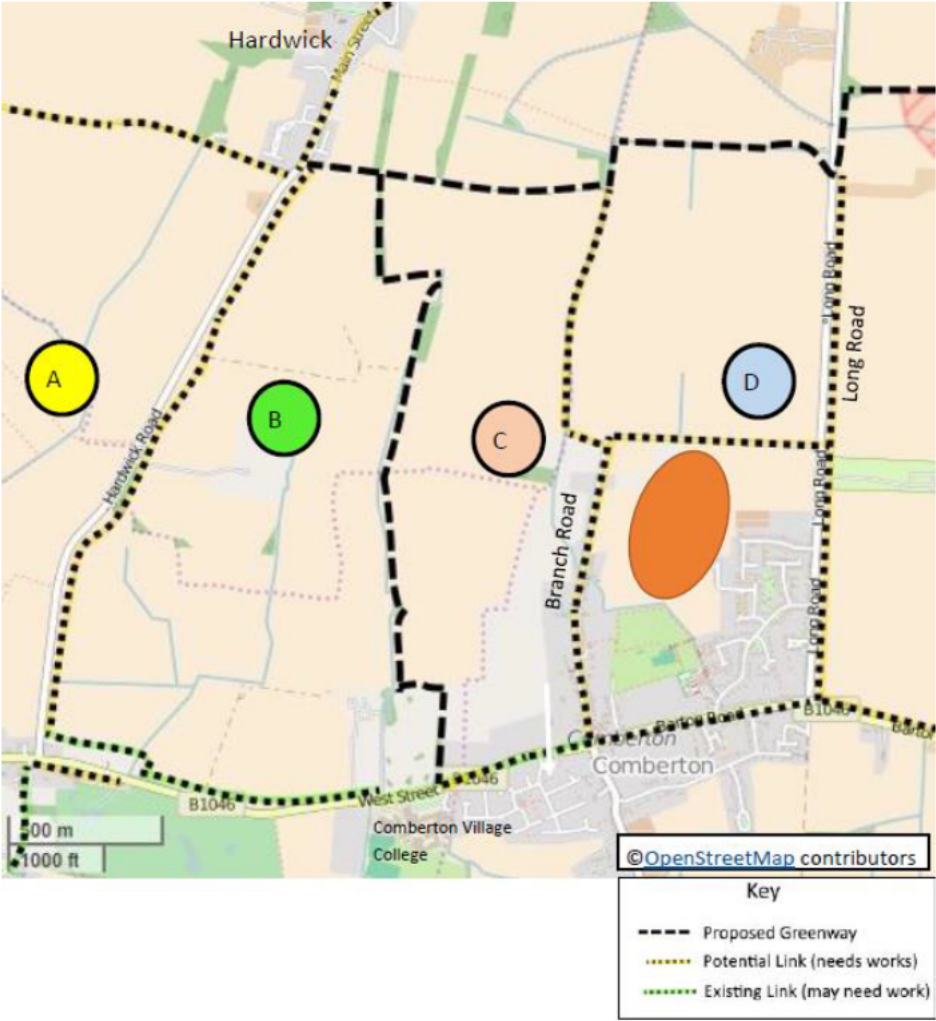
The Greenways plan was developed in 2016 (Cambridge Area Greenways Review, October 2016) to achieve sustainable cycle routes into central Cambridge from the surrounding villages and hinterland. Making use as much as possible from non-trafficked or low trafficked routes. The ideal scenario of course is to have a series of spokes leading to the hub enabling car free space for cyclists. This aspiration will only be possible with the aid of landowners as there are gaps in the network in some instances.

Appendix 12 of the main report is the 'Comberton Greenway Review', an extract of the current proposed route is in-set below.



Cambridge Area Greenways Review (V5) Comberton Greenway — Appendix 12
 October 2016

Whilst the above shows the route skirting Comberton, being to the west and north, later it shows a route option directly bordering the site (in-set below). (Site shown with orange oval in both illustrations).



Clearly the development proposal could positively benefit this option (believed to be option D) and it is currently proposed that a traffic free cycle route would be implemented from Green End (incorrectly shown as Branch Road in this plan) in the west to Branch Road/Long Road in the north east, making use of land under the control of the developer. This through route for cyclists would be implemented in any event.

Public Transport

It is likely that with this new level of development, the local bus companies would readily agree to divert bus routes along Harbour Avenue, so that they are more central to the increase in population and closer to the site. A retirement development would have a considerable population who would have more dependence on Public Transport services and who would have a bus pass. Re-directing the bus route along the Harbour Avenue would also better serve the existing population in this residential estate. The plan at **Appendix C** confirms that a large population of the proposed development would be located within a 500m walk of the bus route in this instance.

This diversion would add circa 2 minutes to the route but it is anticipated the commercial gain would far outweigh the minor journey time extension.

As present bus route 18 serving Comberton runs between Eltisley and Central Cambridge (Drummer Street) via Great Gransden, Caxton, Cambourne, Bourne, Comberton, Barton and Grantchester. It is a generally hourly service but is more frequent in the peak hours. A journey departing from Comberton would take 29 minutes to reach the terminus in central Cambridge.

It is felt possible that increased development will make it viable to increase the service frequency to 2 per hour and this would be investigated in hand with operators.

Vehicle Trip Generation

EAS has reviewed the nationally recognised Trip Rate database 'TRICS' to determine an appropriate vehicle trip rate for the C3 element of the site. To be robust, private housing developments in 'out of town' and village locations in South East England and East Anglia were included. The resulting TRICS data output is enclosed in **Appendix D** and gives the following AM and PM trip rates and subsequent vehicle trips based on 200 C3 dwellings:

	Trip Rate (Per Dwelling)		Vehicle Trips (200 Dwellings)		
	In	Out	In	Out	Total
AM Peak Hour	0.177	0.423	35	85	120
PM Peak Hour	0.294	0.197	59	39	98

Residential Vehicle TRICS Trip Rates and Trip Numbers (allow for rounding)

As can be seen from the above table, the peak hourly flow from the site based on 200 C3 dwellings is around 98 to 120 peak hour vehicle movements. These would be split approximately 70%/30% (out/in) in the AM peak and around the reverse in the PM peak hour.

At this stage we do not have the benefit of traffic flows to understand the distribution of existing traffic but we are aware that the traffic could take two routes leaving the site. It is anticipated that most work trips would travel east towards the M11 and Cambridge and north towards the A428. In any event this traffic would generally all travel via Branch Road to its junction with Long Road. Long Road is relatively lightly trafficked and the improved junction with Branch Road (by virtue of widening) would accommodate this traffic.

Traffic associated with the C2 element will be very low in the peak hours, principally because the retired element will not have a need to travel for work purposes. EAS has reviewed transport Statements available from previous retirement C2 applications and the typical AM peak hour trip rate is circa 0.09 per household

on average. For the 200-retirement village this would therefore equate to circa 18 vehicle trips which would be an imperceptible level of traffic.

Local Road Traffic Accidents

The Crash Map database has been reviewed. The study area has been the four roads surrounding the development site. From the north turning clockwise these are: Branch Road, Long Road, Barton Road and Green End, as well as any roads within the perimeter. In the five-year period commencing 2015 there have been eight slight accidents.

Eight Slight accidents occurring over this 3.3km long network in a circa 5-year period does not indicate any particular highway safety issue.

Summary

EAS has been appointed to provide a transportation review of 'Land at Comberton' to support its allocation in the South Cambridgeshire Local Plan Review process.

It is clear that a resident of this site would be able to access everyday needs living, working and education requirements, by either walking, cycling or by utilising public transport and would not therefore need to use a private motor car.

It is clear that this site would add to the variety of services on offer as well as significantly increasing the viability of the existing services and shops. The new development would promote sustainable travel by improving pedestrian and cycle connectivity and there is a great opportunity to improve public transport services but increasing the frequency of services and making a minor route diversion that would bring the service very close to a much higher population who would naturally rely more upon public transport services.

A highway access layout has been produced which improves the status of Branch Road and which meets the requirements of the Cambridgeshire Design Guide. Traffic volumes have been considered based on TRICS. It is clear that the existing network could accommodate the level of traffic predicted.

The development could assist with the development of the Greenways cycle strategy.

Conclusion

Clearly this site could come forward as a sustainable and policy compliant development opportunity in transport terms.

Appendix A – Location Plan

Appendix B – Proposed Branch Road Modification / Access.

Appendix C – Bus Route Improvement and site accessibility

Appendix D - TRICS Residential Trip Rates



Appendix A- Location Plan

4/2015



290 m

Image © 2019 DigitalGlobe

Appendix B – Proposed Branch Road Modification / Access.

SCALED AT 1:250 AT A1

CUT LINE A

Drain

LONG ROAD

5.5m

2.0m

42.4m

42.9m

POTENTIAL TO BE EXTENDED TO EXISTING FOOTWAY

SCALED AT 1:250 AT A1

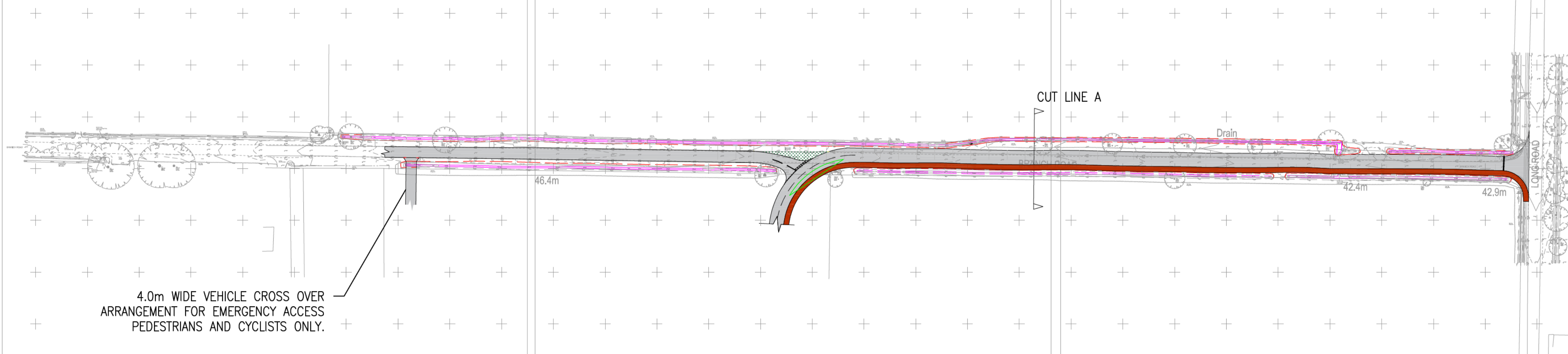
6.4m

CENTRE LINE RADIUS OF 30m

25m FORWARD VISIBILITY OF 25m FOR VEHICLES TRAVELING AROUND THE BEND ON THE BASIS THAT THEY ARE TRAVELING AT 25mph

CUT LINE A

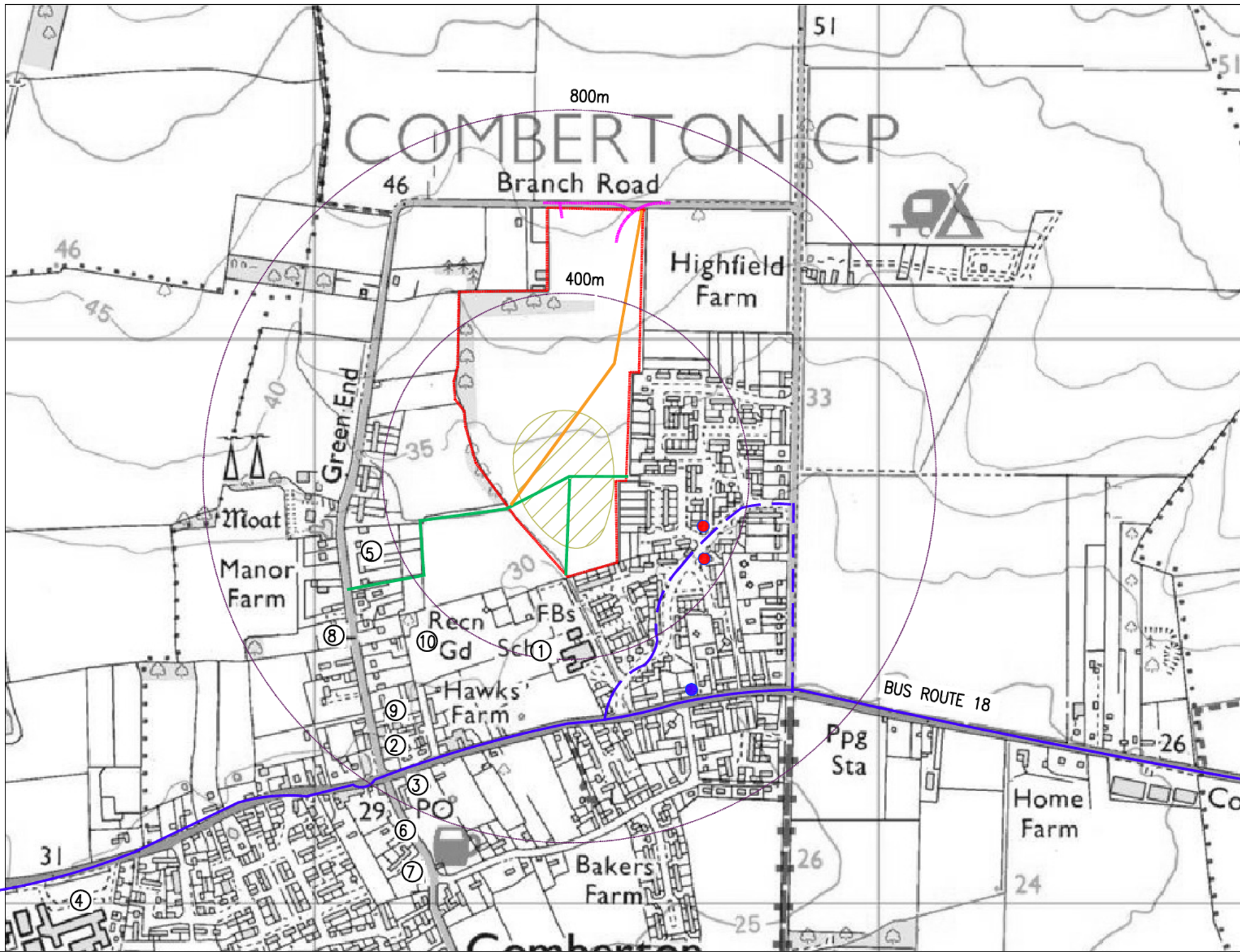
SCALED AT 1:1000 AT A1



4.0m WIDE VEHICLE CROSS OVER ARRANGEMENT FOR EMERGENCY ACCESS PEDESTRIANS AND CYCLISTS ONLY.

REV	DATE	BY	DESCRIPTION	CHK	APP
DRAWING STATUS:					
Ordnance Survey (c) Crown Copyright 2018. All rights reserved. Licence number 100022432					
CLIENT:					
ARCHITECT:					
PROJECT:					
BRANCH ROAD, COMBERTON					
TITLE:					
INDICATIVE IMPROVEMENTS TO ACCESS ROAD					
SCALE @ A1: SEE VIEWPORTS		DESIGN-DRAWING: ET		DATE: 14/02/2020	
PROJECT No: 2242		DRAWING No: SK02 REV D			

Appendix C – Bus Route Improvement and site accessibility



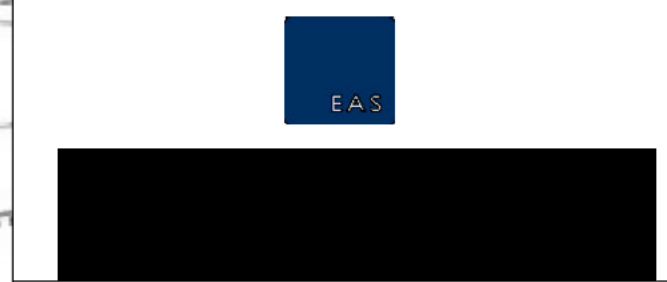
KEY

- RED LINE SITE BOUNDARY
- EXISTING BUS ROUTE
- - - PROPOSED BUS DIVERSION
- PROPOSED FOOTWAYS/CYCLEWAYS
- EXISTING BUS STOP
- ⊙ PROPOSED NEW BUS STOP
- OFF ROAD CONNECTION TO PROPOSED COMBERTON GREENWAY (CYCLE ROUTE)
- AMENDED ACCESS

REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS:

Ordnance Survey (c) Crown Copyright 2018. All rights reserved. Licence number 100022432



CLIENT:

ARCHITECT:

PROJECT:

COMBERTON

TITLE:

INDICATIVE PEDESTRIAN, CYCLIST AND PUBLIC TRANSPORT CONNECTIVITY IMPROVEMENTS

SCALE ● A3: NTS	DESIGN-DRAWN: RC	DATE: 17/02/2020
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PROJECT No: 2561	DRAWING No: SK04
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EXISTING VILLAGE FACILITIES

- 1) MERIDIAN PRIMARY SCHOOL
- 2) COMBERTON PLAYGROUP
- 3) BUDGENS WITH INTERNAL POST OFFICE
- 4) COMBERTON VILLAGE COLLEGE, LIBRARY AND LEISURE CENTRE
- 5) COMBERTON SURGERY
- 6) P AND S CRUICKSHANK BUTCHERS
- 7) THE THREE HORSESHOES PUBLIC HOUSE

- 8) COMBERTON BAPTIST CHURCH AND COMMUNITY CENTRE
- 9) COMBERTON VILLAGE HALL
- 10) RECREATION GROUND WITH SKATE PARK AND TENNIS COURTS

Appendix D – TRICS Residential Trip Rates

Calculation Reference: AUDIT-743101-160801-0817

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	BD BEDFORDSHIRE	1 days
	SC SURREY	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	NF NORFOLK	1 days
	SF SUFFOLK	2 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
	WM WEST MIDLANDS	2 days
	WO WORCESTERSHIRE	1 days

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

Filtering Stage 2 selection:

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

Parameter: Number of dwellings
 Actual Range: 6 to 82 (units:)
 Range Selected by User: 6 to 82 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/10/01 to 23/10/12

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

Selected survey days:

Tuesday	6 days
Wednesday	2 days
Thursday	1 days
Friday	2 days

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

Selected survey types:

Manual count	11 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	11
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This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	11
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This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C3 10 days

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

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
10,001 to 15,000	2 days
15,001 to 20,000	3 days
20,001 to 25,000	1 days
25,001 to 50,000	3 days

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

Population within 5 miles:

50,001 to 75,000	1 days
75,001 to 100,000	3 days
125,001 to 250,000	5 days
250,001 to 500,000	2 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	6 days
1.1 to 1.5	4 days

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

Travel Plan:

No 11 days

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

LIST OF SITES relevant to selection parameters

1	BD-03-A-02	SEMI DETACHED		BEDFORDSHIRE
	RIDDY LANE			
	LUTON			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		82	
	Survey date: TUESDAY		06/07/04	Survey Type: MANUAL
2	CA-03-A-04	DETACHED		CAMBRIDGESHIRE
	THORPE PARK ROAD			
	PETERBOROUGH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		9	
	Survey date: TUESDAY		18/10/11	Survey Type: MANUAL
3	LN-03-A-03	SEMI DETACHED		LINCOLNSHIRE
	ROOKERY LANE			
	BOULTHAM			
	LINCOLN			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		22	
	Survey date: TUESDAY		18/09/12	Survey Type: MANUAL
4	NF-03-A-01	SEMI DET. & BUNGALOWS		NORFOLK
	YARMOUTH ROAD			
	CAISTER-ON-SEA			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		27	
	Survey date: TUESDAY		16/10/12	Survey Type: MANUAL
5	SC-03-A-03	DETACHED		SURREY
	A3050 HURST ROAD			
	HURST PARK			
	EAST MOLESEY			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		54	
	Survey date: TUESDAY		12/11/02	Survey Type: MANUAL
6	SF-03-A-01	SEMI DETACHED		SUFFOLK
	A1156 FELIXSTOWE ROAD			
	RACECOURSE			
	IPSWICH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		77	
	Survey date: WEDNESDAY		23/05/07	Survey Type: MANUAL
7	SF-03-A-04	DETACHED & BUNGALOWS		SUFFOLK
	NORMANSTON DRIVE			
	LOWESTOFT			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		7	
	Survey date: TUESDAY		23/10/12	Survey Type: MANUAL
8	WK-03-A-01	TERRACED/SEMI/DET.		WARWICKSHIRE
	ARLINGTON AVENUE			
	LEAMINGTON SPA			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		6	
	Survey date: FRIDAY		21/10/11	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	WM-03-A-01	TERRACED		WEST MIDLANDS
	FOLESHILL ROAD			
	FOLESHILL			
	COVENTRY			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		79	
	Survey date: FRIDAY		03/02/06	Survey Type: MANUAL
10	WM-03-A-02	DETACHED & SEMI DET.		WEST MIDLANDS
	HEATH STREET			
	STOURBRIDGE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		12	
	Survey date: WEDNESDAY		26/04/06	Survey Type: MANUAL
11	WO-03-A-01	DETACHED		WORCESTERSHIRE
	MARLBOROUGH AVENUE			
	ASTON FIELDS			
	BROMSGROVE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		10	
	Survey date: THURSDAY		23/06/05	Survey Type: MANUAL

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL VEHICLES
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	35	0.083	11	35	0.317	11	35	0.400
08:00 - 09:00	11	35	0.177	11	35	0.423	11	35	0.600
09:00 - 10:00	11	35	0.179	11	35	0.252	11	35	0.431
10:00 - 11:00	11	35	0.226	11	35	0.270	11	35	0.496
11:00 - 12:00	11	35	0.205	11	35	0.177	11	35	0.382
12:00 - 13:00	11	35	0.229	11	35	0.195	11	35	0.424
13:00 - 14:00	11	35	0.166	11	35	0.192	11	35	0.358
14:00 - 15:00	11	35	0.187	11	35	0.234	11	35	0.421
15:00 - 16:00	11	35	0.309	11	35	0.249	11	35	0.558
16:00 - 17:00	11	35	0.343	11	35	0.205	11	35	0.548
17:00 - 18:00	11	35	0.294	11	35	0.197	11	35	0.491
18:00 - 19:00	11	35	0.330	11	35	0.187	11	35	0.517
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.728			2.898			5.626

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

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

Parameter summary

Trip rate parameter range selected: 6 - 82 (units:)
 Survey date date range: 01/10/01 - 23/10/12
 Number of weekdays (Monday-Friday): 11
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL OGVS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	35	0.003	11	35	0.003	11	35	0.006
08:00 - 09:00	11	35	0.005	11	35	0.005	11	35	0.010
09:00 - 10:00	11	35	0.003	11	35	0.003	11	35	0.006
10:00 - 11:00	11	35	0.003	11	35	0.003	11	35	0.006
11:00 - 12:00	11	35	0.003	11	35	0.003	11	35	0.006
12:00 - 13:00	11	35	0.003	11	35	0.003	11	35	0.006
13:00 - 14:00	11	35	0.003	11	35	0.003	11	35	0.006
14:00 - 15:00	11	35	0.005	11	35	0.005	11	35	0.010
15:00 - 16:00	11	35	0.000	11	35	0.000	11	35	0.000
16:00 - 17:00	11	35	0.003	11	35	0.003	11	35	0.006
17:00 - 18:00	11	35	0.000	11	35	0.000	11	35	0.000
18:00 - 19:00	11	35	0.003	11	35	0.000	11	35	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.034			0.031			0.065

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

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

Parameter summary

Trip rate parameter range selected: 6 - 82 (units:)
 Survey date date range: 01/10/01 - 23/10/12
 Number of weekdays (Monday-Friday): 11
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL PSVS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	35	0.000	11	35	0.000	11	35	0.000
08:00 - 09:00	11	35	0.000	11	35	0.000	11	35	0.000
09:00 - 10:00	11	35	0.000	11	35	0.000	11	35	0.000
10:00 - 11:00	11	35	0.000	11	35	0.000	11	35	0.000
11:00 - 12:00	11	35	0.000	11	35	0.000	11	35	0.000
12:00 - 13:00	11	35	0.000	11	35	0.000	11	35	0.000
13:00 - 14:00	11	35	0.000	11	35	0.000	11	35	0.000
14:00 - 15:00	11	35	0.000	11	35	0.000	11	35	0.000
15:00 - 16:00	11	35	0.000	11	35	0.000	11	35	0.000
16:00 - 17:00	11	35	0.000	11	35	0.000	11	35	0.000
17:00 - 18:00	11	35	0.000	11	35	0.000	11	35	0.000
18:00 - 19:00	11	35	0.000	11	35	0.000	11	35	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

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

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

Parameter summary

Trip rate parameter range selected: 6 - 82 (units:)
 Survey date date range: 01/10/01 - 23/10/12
 Number of weekdays (Monday-Friday): 11
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL CYCLISTS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	35	0.008	11	35	0.026	11	35	0.034
08:00 - 09:00	11	35	0.013	11	35	0.029	11	35	0.042
09:00 - 10:00	11	35	0.000	11	35	0.003	11	35	0.003
10:00 - 11:00	11	35	0.005	11	35	0.005	11	35	0.010
11:00 - 12:00	11	35	0.003	11	35	0.005	11	35	0.008
12:00 - 13:00	11	35	0.008	11	35	0.000	11	35	0.008
13:00 - 14:00	11	35	0.003	11	35	0.003	11	35	0.006
14:00 - 15:00	11	35	0.005	11	35	0.000	11	35	0.005
15:00 - 16:00	11	35	0.029	11	35	0.008	11	35	0.037
16:00 - 17:00	11	35	0.026	11	35	0.029	11	35	0.055
17:00 - 18:00	11	35	0.029	11	35	0.018	11	35	0.047
18:00 - 19:00	11	35	0.016	11	35	0.013	11	35	0.029
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.145			0.139			0.284

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

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

Parameter summary

Trip rate parameter range selected: 6 - 82 (units:)
 Survey date date range: 01/10/01 - 23/10/12
 Number of weekdays (Monday-Friday): 11
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL VEHICLE OCCUPANTS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	35	0.088	11	35	0.403	11	35	0.491
08:00 - 09:00	11	35	0.208	11	35	0.621	11	35	0.829
09:00 - 10:00	11	35	0.231	11	35	0.361	11	35	0.592
10:00 - 11:00	11	35	0.275	11	35	0.348	11	35	0.623
11:00 - 12:00	11	35	0.262	11	35	0.236	11	35	0.498
12:00 - 13:00	11	35	0.301	11	35	0.273	11	35	0.574
13:00 - 14:00	11	35	0.205	11	35	0.252	11	35	0.457
14:00 - 15:00	11	35	0.229	11	35	0.301	11	35	0.530
15:00 - 16:00	11	35	0.447	11	35	0.322	11	35	0.769
16:00 - 17:00	11	35	0.486	11	35	0.299	11	35	0.785
17:00 - 18:00	11	35	0.426	11	35	0.268	11	35	0.694
18:00 - 19:00	11	35	0.439	11	35	0.278	11	35	0.717
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.597			3.962			7.559

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

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

Parameter summary

Trip rate parameter range selected: 6 - 82 (units:)
 Survey date date range: 01/10/01 - 23/10/12
 Number of weekdays (Monday-Friday): 11
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL PEDESTRIANS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	35	0.031	11	35	0.114	11	35	0.145
08:00 - 09:00	11	35	0.096	11	35	0.205	11	35	0.301
09:00 - 10:00	11	35	0.062	11	35	0.057	11	35	0.119
10:00 - 11:00	11	35	0.052	11	35	0.091	11	35	0.143
11:00 - 12:00	11	35	0.099	11	35	0.057	11	35	0.156
12:00 - 13:00	11	35	0.086	11	35	0.081	11	35	0.167
13:00 - 14:00	11	35	0.075	11	35	0.101	11	35	0.176
14:00 - 15:00	11	35	0.083	11	35	0.096	11	35	0.179
15:00 - 16:00	11	35	0.197	11	35	0.109	11	35	0.306
16:00 - 17:00	11	35	0.122	11	35	0.075	11	35	0.197
17:00 - 18:00	11	35	0.083	11	35	0.078	11	35	0.161
18:00 - 19:00	11	35	0.086	11	35	0.081	11	35	0.167
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.072			1.145			2.217

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

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

Parameter summary

Trip rate parameter range selected: 6 - 82 (units:)
 Survey date date range: 01/10/01 - 23/10/12
 Number of weekdays (Monday-Friday): 11
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL PUBLIC TRANSPORT USERS
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	35	0.003	11	35	0.023	11	35	0.026
08:00 - 09:00	11	35	0.036	11	35	0.049	11	35	0.085
09:00 - 10:00	11	35	0.016	11	35	0.008	11	35	0.024
10:00 - 11:00	11	35	0.003	11	35	0.003	11	35	0.006
11:00 - 12:00	11	35	0.005	11	35	0.003	11	35	0.008
12:00 - 13:00	11	35	0.000	11	35	0.005	11	35	0.005
13:00 - 14:00	11	35	0.003	11	35	0.000	11	35	0.003
14:00 - 15:00	11	35	0.005	11	35	0.005	11	35	0.010
15:00 - 16:00	11	35	0.029	11	35	0.042	11	35	0.071
16:00 - 17:00	11	35	0.005	11	35	0.005	11	35	0.010
17:00 - 18:00	11	35	0.016	11	35	0.003	11	35	0.019
18:00 - 19:00	11	35	0.003	11	35	0.008	11	35	0.011
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.124			0.154			0.278

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

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

Parameter summary

Trip rate parameter range selected: 6 - 82 (units:)
 Survey date date range: 01/10/01 - 23/10/12
 Number of weekdays (Monday-Friday): 11
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MULTI-MODAL TOTAL PEOPLE
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	35	0.130	11	35	0.566	11	35	0.696
08:00 - 09:00	11	35	0.353	11	35	0.904	11	35	1.257
09:00 - 10:00	11	35	0.309	11	35	0.429	11	35	0.738
10:00 - 11:00	11	35	0.335	11	35	0.447	11	35	0.782
11:00 - 12:00	11	35	0.369	11	35	0.301	11	35	0.670
12:00 - 13:00	11	35	0.395	11	35	0.358	11	35	0.753
13:00 - 14:00	11	35	0.286	11	35	0.356	11	35	0.642
14:00 - 15:00	11	35	0.322	11	35	0.403	11	35	0.725
15:00 - 16:00	11	35	0.701	11	35	0.481	11	35	1.182
16:00 - 17:00	11	35	0.639	11	35	0.408	11	35	1.047
17:00 - 18:00	11	35	0.553	11	35	0.366	11	35	0.919
18:00 - 19:00	11	35	0.543	11	35	0.379	11	35	0.922
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.935			5.398			10.333

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

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

Parameter summary

Trip rate parameter range selected: 6 - 82 (units:)
 Survey date date range: 01/10/01 - 23/10/12
 Number of weekdays (Monday-Friday): 11
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

