TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	arton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

1. INTRODUCTION

WSP have been appointed by the North Barton Road Landowners Group (North BRLOG) to provide transport advice for the project 'South West Cambridge: Land North of Barton Road'.

This note has been prepared to inform the Vision Document, which promotes the site as part of the Call for Sites for the Greater Cambridge Local Plan. It highlights the good accessibility to services and facilities and the strong existing transport links by walking, cycling, car and public transport. The project will further build upon and link to planned transport projects, such as the Cambridge Greenways, Cambourne to Cambridge Busway, Cambridgeshire Autonomous Metro and Park & Ride schemes. The note then provides commentary on the existing and potential accessibility of the site and how it is positioned to bring forward benefits in transport terms to the wider area.

The potential development site comprises of approximately 224ha and lies approximately 2.6km west from the centre of Cambridge, and is bounded by the Cambridge University Colleges to the north and east, the A603 Barton Road to the south and M11 to the west. The location of the site is enclosed in **Figure 1**.



Figure 1 – Land North of Barton Road – Site Location Plan

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	arton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

2. CALL FOR SITES

Cambridge City Council and South Cambridgeshire District Council are starting work on a joint Greater Cambridge Local Plan to provide a sustainable vision for the future of the area. At this stage in the development of the plan, they want to know about potential development sites or broad locations for development in Greater Cambridge, and as such they are carrying out a 'Call for Sites' consultation, which is a key component of the Strategic Housing and Economic Land Availability Assessment to inform policies on the new Local Plan for housing, employment and other uses.

3. BACKGROUND INFORMATION

The following section provides a review of the existing conditions surrounding the potential development site, including local travel to work patterns and local transport infrastructure.

LOCAL AMENITIES

The site is located nearby to a number of amenities, including retail stores, medical centres, education and leisure facilities (**Figure 2**).

There are a number of school facilities, including both primary and secondary schools located to the north of the site. A convenience store is located in Newnham Croft, health services like that of Newnham Walk Surgery in Newnham to the east. There is also an existing Sainsburys superstore at New Eddington to the north along with the Madingley Road Park & Ride. These combine to provide very good access to services and facilities for future residents.

The proposed development will also include additional facilities, such as a local centre and a primary school, to enable future residents to access these from within the site.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	arton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray



Figure 2 – Local Amenities

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	arton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

EXISTING TRAVEL PATTERNS

The comparative travel patterns of future residents at the potential development site can best be approximated based on travel patterns of existing residents within the surrounding area. The 2011 Census Journey to Work data for the surrounding area contains journey to work information on these local residents and has been analysed using the Mid-Layer Super Output Area (MSOA) for South Cambridgeshire 009 covering the study area.

Table 1 below provides a summary of the journey to work mode split (main mode) for MSOA South Cambridgeshire 009 which covers the study area. The resident population not in employment and those working from home have been excluded from the results as they do not make a journey to work on the surrounding highway network.

Table 1 – 2011 Census Journey to Work by Mode Resident Population

Method of Travel to Work	Total	Percentage
Underground, metro, light rail or tram	18	1%
Train	121	4%
Bus, minibus or coach	164	5%
Тахі	7	0%
Motorcycle, scooter or moped	30	1%
Driving a car or van	1,688	56%
Passenger in a car or van	85	3%
Bicycle	680	23%
On foot	179	6%
Other method of travel to work	29	1%

Source: 2011 Census Data (September 2019)

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	arton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

Table 1 shows that the car / van driver is the main mode of travel to work for residents that travel to MSOA South Cambridgeshire 009 with a mode share of 56%, and that 3% of residents travel to work as passengers in a car / van. In addition, sustainable modes have a combined mode share of 39%, 6% of residents walking, 23% residents cycle and 10% use public transport (including bus and train) so there is potential for an uptake in sustainable modes for travel for future residents of the potential development site.

Table 2 below summarises the distance travelled to work for the MSOA South Cambridgeshire 009 which covers the study area.

Method of Travel to Work	Total	Percentage
Less than 2km	193	7%
2km to less than 5km	1,051	37%
5km to less than 10km	693	25%
10km to less than 20km	229	8%
20km to less than 30km	126	4%
30km to less than 40km	44	2%
40km to less than 60km	77	3%
60 km and over	217	8%
Other	189	7%

Table 2 – 2011 Census Distance Travelled to Work Resident Population

Source: 2011 Census Data (September 2019)

The results from the Census show that the majority of residents (37%) travel between 2km to less than 5km to work. This distance can easily be travelled by bicycle, so modal shift should be encouraged to persuade the residents to travel more sustainably. In total, 44% of residents travel no more than 5km to work, so increased access to safe walking routes and cycling routes, combined with more frequent bus services, could allow for a reduction in personal vehicle use.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	arton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

Using the data collected during the 2011 Census, an online site – DataShine Commute (**Figure 3**) has visually displayed the locations that residents from within the MSOA South Cambridgeshire 009 travel to. The map shows the areas that residents travel from Barton Road to work (red lines) and the areas that people travel from in order to work near Barton Road (blue lines). It can be seen that a large proportion of residents travel into Central Cambridge, Trumpington, Red Cross and Milton. Key trip attractors in these areas are Addenbrookes Hospital Campus, the University of Campus and the City Centre.

For those arriving into South Cambridgeshire 009, some travel from St Ives, Ely and Newmarket, which shows that the site is in an ideal location due to the close proximity to transport links such as the M11.

The above demonstrates that over a third of existing residents of the local area travel by non-car modes, and circa half travel less than 5km to work, as such future residents can be expected to follow these trends.

To enable this the development would seek to encourage increased walking, cycling and use of public transport, by future residents by the provision of a permeable layout for these modes. With such a high percentage of existing residents travelling less than 5km for work, cycling will be a viable option for future residents to reduce private car use. Furthermore, as shown in **Figure 2**, Madingley Road Park and Ride is within an acceptable 25-minute walk.



Figure 3 – Locations of workplace destinations from South Cambridgeshire 009 MSOA. Source: DataShine Commute

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	arton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

LOCAL TRANSPORT INFRASTRUCTURE

LOCAL HIGHWAY NETWORK

Vehicular access to the site will be gained from two points on Barton Road and a third from Ada Lovelace Road. From Barton Road, Central Cambridge can be accessed to the east and the M11 can be accessed to the west, where destinations such as London and Huntingdon can be reached.

The site masterplan, **Appendix A**, includes improvements to the internal road network, with a northern access from JJ Thompson Avenue only for use by pedestrians, cyclists and buses to prevent rat running. Three further accesses will be provided with two onto Barton Road and Ada Lovelace Road.

Pedestrian and cycle access would be gained directly from Barton Road and Ada Lovelace Road, as well as a primary street for non-motorised users off Madingley Road, from Clerk Maxwell Road. Various internal access routes would be provided to allow for connections to existing public rights of way.

WALKING AND CYCLING

Given that access to the local footway / cycleway network is provided around the proposed development site, it will be possible to achieve direct access to the local pedestrian and cycling infrastructure. It should be known that the routes along Barton Road are generally level, paved and lit when closer to the City of Cambridge, with adjacent footway / cycleway infrastructure that provides positive conditions for walking and cycling.

A walking accessibility plot showing a 25-minute walking catchment of the potential development site is enclosed in **Figure 4**, which shows that the bus stops on Barton Road can be accessed within a 20-minute walk of the centre of the site, enabling sustainable mode share for the future residents.

A cycling isochrone showing a 35-minute cycling catchment of the potential development site has been included in **Figure 5**.

It should be noted that the isochrones do not follow the red line boundary entirely, as the proposed road network and Public Rights of Way have been used to guide a walking and cycling route across the site.

Residents can access existing PROWs and bus stops which allow for travel into Central Cambridge, Grantchester, Barton and Coton. Walking routes are proposed across the site which will enable grater connectivity for pedestrians and to further encourage the uptake of sustainable modes.

The cycling isochrone has shown that the proposed development is very accessible by cycling, with future residents being able to access all of Central Cambridge, Cherry Hinton, Great Shelford, Fen Ditton and Histon, within a 35-minute cycle journey. The addition of the proposed Barton and Comberton Greenways, including sections of protected paths, quiet roads and shared-use paths, will allow for safer and faster travel from the site, into Cambridge.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	rton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray



Figure 4 – Walking Isochrone

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	arton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray



Figure 5 – Cycling Isochrone

PUBLIC RIGHTS OF WAY

Public footpaths are present across the site, allowing for travel across the M11 towards Coton and High Cross, which enables access to the wider countryside. A bridleway is located to the north-west of the site connecting to the A1303 and bridging across the M11 towards Coton. The proposed Barton and Comberton Greenways will seek to connect to the existing PROWs to create a more connected and safer route into and around Cambridge.

The development would seek to retain and enhance the PROWs through the site and link them to the proposed internal footway / cycleway network so that the site is very permeable to non-car modes. The layout of the internal network will seek to discourage private vehicle use, as it will be faster and easier to travel by non-car modes.

Figure 6 below shows the location of PROWs in the vicinity of the potential development site.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	arton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray



Figure 6 – Public Rights of Way

PUBLIC TRANSPORT

BUS ACCESSIBILITY

The nearest bus stops are located on Barton Road to the east of the existing site access, approximately 600m away. These bus stops provide access to bus services 18, 75 and 199 along Barton Road.

Table 3 below summarises the details of the bus services that operate from the bus stops on Barton Road,outside Gough Way and Grantchester Road.



TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public	
SUBJECT:	South West Cambridge: Land North of Barton Road			
PROJECT:	70062442	AUTHOR:	H Gibbs	
CHECKED:	G Murray	APPROVED:	G Murray	

Table 3 – Existing bus services operating on Barton Road, Cambridge

Route Number	Operator	Direction of Travel		Nearest Bus Stop	First Bus	Last Bus	Frequency	
		Longstowe / Eltisley –	Monday – Friday		07:23	18:55		
		Cambourne – Comberton - Cambridge	Saturday	Nerverker	07:58	18:55		
18	18 Stagecoach Cambridge – Comberton - Cambourne – Longstowe / Eltisley Monday - Friday Newnham, Grantchester	Grantchester	07:52	19:25	Hourly			
		09:00	19:25					
	A2B Bus and Coach	Wrestlingworth – Orwell - Cambridge	Monday – Friday	Newnham, near Gough Way	07:59	15:22		
75			Saturday	-	07:46	15:22	Every 2 hours	
		Cambridge – Orwell -	Monday – Friday	y — 1	10:40	17:53		
		Wrestlingworth	Saturday	-	10:40	17:53	-	
400	, , , , , , , , , , , , , , , , , , , ,	Newnham - Cambridge	Tuesday &	Newnham, Grantchester	10:12			
199	Cambridge - Newnham		Thursday	Road	13	:06	One per day	

As can be seen from **Table 3**, a regular bus service is available from bus stops along Barton Road. All stops are within an acceptable walking distance from the site and so are viable travel option for future residents of the potential development site.



TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	irton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

Further services can be reached along Madingley Road to the north of the proposed development. **Table 4** shows the details of the bus services that operate from stops along Madingley Road.

 Table 4 – Existing bus services operating on Madingley Road, Cambridge

Route Number	Operator	Direction of Travel		Nearest Bus Stop	First Bus	Last Bus	Frequency
		Papworth Everard – Dry	Monday – Friday		10:15	15:15	
	Whippet	Drayton - Cambridge	Saturday		10:15	15:15	
8	Coaches	Cambridge – Dry Drayton –	Monday - Friday	-	10:37	16:37	3 per day
		Papworth Everard	Saturday	Near Bulstrode	10:37	16:37	
		Hardwick - Fr Cambridge Sa Cambridge – Mo Hardwick - Fr Cambourne	Monday – Friday	Gardens	06:53	23:49	Every 20 minutes
			Saturday		07:47	23:49	
Citi 4	Stagecoach		Monday – Friday		06:59	22:54	
			Saturday	-	07:39	22:54	
	Whippet Coaches	Huntingdon – Papworth Everard -	Monday – Friday		07:41	17:22	
Х3		Cambridge	Saturday		08:40	17:25	Hourly
		Cambridge – Papworth	Monday – Friday	-	09:16	18:16	

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public	
SUBJECT:	South West Cambridge: Land North of Barton Road			
PROJECT:	70062442	AUTHOR:	H Gibbs	
CHECKED:	G Murray	APPROVED:	G Murray	

		Everard - Huntingdon	Saturday	10:16	17:46	
	Stagecoach	Madingley Road P&R –	Monday – Friday	07:03	20:23	Every 10 minutes
Madingley		Cambridge City Centre	Saturday	08:03	20:23	
Road P&R		Cambridge City Centre –	Monday – Friday	07:14	20:34	
	Madingley Road P&R	Saturday	08:14	20:34		
	Go- Whippet	Eddington – Cambridge	Monday – Friday	06:04	21:40	Every 20 minutes
Universal		City Centre – Addenbrookes Hospital	Saturday	07:46	21:52	
'U'		Addenbrookes Hospital –	Monday – Friday	06:56	22:31	
		Cambridge	Saturday	08:27	22:31	

A map showing the location of the bus stops accessible within a 25-minute walk, is enclosed in Figure 7.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public	
SUBJECT:	South West Cambridge: Land North of Barton Road			
PROJECT:	70062442	AUTHOR:	H Gibbs	
CHECKED:	G Murray	APPROVED:	G Murray	



Figure 7 – Bus stops within a 25-minute walk

Figure 8 below shows the routes taken by the bus services through Cambridge.

The analysis shown above highlights the strong public transport links the site has, which will be improved upon with the proposed development coming forward. The development would seek to redirect appropriate routes through the proposed development. This will make bus travel more attractive and reduce private car use. The internal road network will provide bus priority measures and remove car access through the centre of the development to reduce rat running.

Section 4 explores in more detail the improvements proposed in the site masterplan, which includes the addition of internal bus stops and bus priority measures.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public	
SUBJECT:	South West Cambridge: Land North of Barton Road			
PROJECT:	70062442	AUTHOR:	H Gibbs	
CHECKED:	G Murray	APPROVED:	G Murray	





RAIL ACCESSIBILITY

The nearest railway station is Cambridge, to the east of the development site. The railway station can easily be reached by private car, and although it is not within a reasonable walking distance of the potential development site, it is within an acceptable cycling distance (25 minutes).

Train services from Cambridge Station are summarised in Table 5 below.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public	
SUBJECT:	South West Cambridge: Land North of Barton Road			
PROJECT:	70062442	AUTHOR:	H Gibbs	
CHECKED:	G Murray	APPROVED:	G Murray	

Table 5 – Rail Services form Cambridge Railway Station

Destination	First Train	Last Train	Average Frequency	Average Journey Time
London Kings Cross	04:54	23:54	Every 20 minutes	1 hour 20 mins
London Liverpool Street	04:48	23:54	Every 20 minutes	1 hour 20 mins
Cambridge North	00:13	23:52	Every 20 minutes	4 minutes
Stansted Airport	04:44	22:51	20 minutes – 1 hour	30 minutes
Birmingham New Street	05:15	23:54	30 minutes – 1 hour	2 hours 50 mins
Norwich	06:02	22:55	30 minutes – 1 hour	1 hour 30 mins

Source: National Rail Enquiries (September 2019)

As can be seen from **Table 5**, there are good services form Cambridge Station, with frequent services to a number of locations (additional destinations are available such as Ely, Kings Lynn, Ipswich and Brighton). The station is accessible within a 25-minute cycle, which makes cycling very attractive to residents and the secure cycle parking at the stations ensures that users can be confident that their bikes will be safe. Bus services along Barton Road and Madingley Road travel into the station also, providing a number of means to interchange and reduce reliance on private car use. The rail station has connections to key work and leisure destinations, such as London, Norwich and Birmingham, alongside direct services to Stansted Airport.

4. FUTURE TRANSPORT IMPROVEMENTS

PROPOSED INTERNAL PUBLIC TRANSPORT NETWORK

The site masterplan includes plans to add bus stops on site, which will provide residents with public transport within 400m / 5-minute walk and links to the proposed Cambridge to Cambourne Busway / CAM route on the northern site boundary. **Figure 9** shows the location of the proposed links. The walking routes make sustainable travel more attractive and the addition of a bus-only access from JJ Thompson Avenue makes the roads safer and more appealing for residents. The routes link up to the bus stops and public rights of way, to make walking easier for commuting or leisure and onward journeys.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	irton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray



Figure 9 – Proposed Public Transport Network

WALKING & CYCLING

BARTON GREENWAY

The Barton Greenway is a proposed route to enable cyclists, walkers and equestrians to travel safely and sustainably into Cambridge from Barton (**Figure 10**). A public consultation on the proposed route took place in Summer 2018, on possible route options; a decision on the scheme is anticipated later this year (end-2019).

The route will begin in Barton, travel east on New Road, the route then splits off into two different directions – towards Grantchester and Central Cambridge. For the route towards Central Cambridge, users would

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public	
SUBJECT:	South West Cambridge: Land North of Barton Road			
PROJECT:	70062442	AUTHOR:	H Gibbs	
CHECKED:	G Murray	APPROVED:	G Murray	

follow Cambridge Road and Barton Road along the A603. The second route towards Central Cambridge, an existing bridleway would be used to the east of Cambridge Road, then along Bridleway, Coton Road to meet up with the proposed Haslingfield Greenway or along an alternative path around Grantchester on the Baulk Path. The routes will be split between sections that are:

- Quiet Roads a route on the carriageway that could have speed limits reduced to 20mph;
- Shared-use Paths A 3-meter wide path with a 2-metre grassy strip running parallel; and
- Protected Paths a 3-metre wide path with features that separate cyclists and pedestrians.

The proposals would create a direct route into the city centre, whilst providing further connections to Barton and Grantchester, helping the site to promote attractive walking and cycling routes into Cambridge. This will assist in reducing the mode share majority away from private car use. The segregated routes are likely to be well received for users that feel less comfortable cycling on-road.



Figure 10 – Proposed Barton Greenway Route

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Barton Road		
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

COMBERTON GREENWAY

The Comberton Greenway is a proposed route to enable cyclists, walkers and equestrians to travel safely and sustainably from Comberton into Cambridge. A public consultation was held in 2018 and analysis is now underway to determine how to progress the project forward; a decision is expected in 2020. The route will begin in Comberton and travel north towards Hardwick, and north-westerly through Coton, cross along Adams Road and into Cambridge.

A link is proposed from the existing M11 overbridge bridge and a protected path along the north of the site boundary and then connect with Adams Road. The options consulted would also see a link created along the current eastern site access. **Figure 11** below shows the route of the proposed Greenway.



Figure 11 – Proposed Comberton Greenway Route



TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Barton Road		
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

The greenway route would further connect the site to the wider countryside, such as Comberton and Coton and create an attractive walking and cycling route for future residents.

PROPOSED INTERNAL WALKING AND CYCLING NETWORK

The site masterplan for pedestrian and cyclist access (**Figure 12**) would connect the proposed greenway route and link together the walking and cycling internal network, which ensures the greatest use by residents. The development seeks to establish a pedestrian route connecting the northern and southern portions of the development. The plan shows the proposed internal network for cyclists, with routes chosen to make cycling a desirable mode, due to the ease and speed of travel



Figure 12 – Proposed Pedestrian & Cycling Links

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Barton Road		
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

CAMBOURNE TO CAMBRIDGE

The Cambourne to Cambridge Better Public Transport project, or 'C2C', spearheaded by the Greater Cambridge Partnership, will introduce a reliable and sustainable public transport link to western Cambridge. The project is made up of three key elements:

- A public transport link between Cambourne and Cambridge;
- A new Park & Ride facility off the A428 / A1303 to supplement Madingley Park & Ride; and
- New cycling and walking facilities.

A Phase Two consultation was held between 4th February and 31st March 2019, to discuss the route from Madingley Mulch to Cambourne, were almost 1,000 people responded. The results showed that 48% of respondents would prefer Option 1, an off-road option, shown in **Figure 13**.



Figure 13 – Phase Two Madingley Mulch to Cambourne CAM Route

The responses towards the location of the temporary Park & Ride facility, showed that people preferred Option A, to have the facility at Scotland Farm due to its proximity to Cambourne and Bourn Airfield, and so wold provide better access for users.

The GCP highlighted that 80% of respondents felt that the provision of walking, cycling and equestrian routes were important, and so there is a need to extend sustainable transport links to the west.

The Phase One consultation was held in 2017 and a recommended route was published in December 2018, showing how the route should cross grange Field and proceed down the Rifle Range track, past the rugby ground (**Figure 14**).

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Barton Road		
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray



Figure 14 – Phase 1 Recommended Route Alignment (December 2018)

Since the December 2018 announcement, concerns have been raised regarding the potential impact on the green belt, and so engagement is underway to revisit potential use of Adams Road (**Figure 15**).



Figure 15 – Phase 1 Amended Route Alignment, September 2019

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Barton Road		
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

The agenda for the Greater Cambridge Partnership Joint Assembly has now been published ahead of the meeting on Thursday 30th January 2020. Included in Chapter 10, Figure 16, is the final scheme proposal for the route, which aligns on Adams Road to the east of Land North of Barton Road, as shown in **Figure 16** below.



Figure 16 – Recommended Route Alignment, January 2020

The route proposed through the development, is shown below, although further engagement is still needed to refine the route to a single option to be taken forward, **Figure 17**.

12 buses are envisaged to operate per hour during peak periods, with a 'turn-up-and-go' standard of service during the rest of the day. The route through the Land North of Barton Road development would be a tunnel portal towards Grange Road. The minimum land take for this option would be approximately 100m by 10m, with the West Cambridge stop likely to be above ground to reduce costs.

The Cambridgeshire Autonomous Metro would take over the C2C, following on the same route, so planning ahead for the future is essential.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	arton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray



Figure 17 – Proposed alignment through the Land at Barton Road development

The proposed development seeks to include the future CAM link in the site masterplan to ensure that sustainable travel with be the mode of choice for residents. The link would provide users with a fast route into the city centre and train station making the location attractive to commuters.

CAMBRIDGESHIRE AUTONOMOUS METRO

The Cambridgeshire & Peterborough Combined Authority has commissioned a feasibility study into an autonomous metro system (CAM), with routes that would cover 88 miles, connecting to keys areas in and around Cambridge (**Figure 18**) as soon as 2021.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Barton Road		
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray



Figure 18 – Cambridgeshire Autonomous Metro

A Strategic Outline Business Case (SOBC) was submitted in February 2019 by the Cambridgeshire and Peterborough Combined Authority and the Greater Cambridgeshire Partnership, examining the feasibility of the scheme. The SOBC report found that the CAM can help to fulfil the Combined Authority's ambition of modal shift in transport, away from the private car, to move sustainable modes. An Outline Business Case (OBC) is now being developed, following receipt of £1.7 million in funding from the Cambridgeshire and Peterborough Combined Authority.

It is envisaged that a potential CAM interchange will be located to the north, just beyond the site boundary, which will enable sustainable travel for future residents, which will provide future residents will a variety of transport options available to reduce reliant on the private car.

How do the C2C and CAM projects interact?

Outlined on pages 110 and 111 of Greater Cambridge Partnership Joint Assembly, published ahead of the meeting on 30th January 2020, explains how the C2C is part of a comprehensive package of measures to tackle congestion, as part of the GCP's Transport Programme. In October 2018, an independent review of the alignment between the C2C and the Cam was undertaken to show:

The C2C would be reclassified as a CAM route;



TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Barton Road		
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

- The route must continue to be designed to align with the overarching CAM network, providing high quality public transport on dedicated routes;
- The route is connected into a tunnelled CAM network; and
- The C2C scheme should be progressed as an essential first phase of developing proposals for the CAM.

CAMBRIDGE SOUTH EAST TRANSPORT

The project is a priority for GCP, which will ease congestion, offer sustainable travel choice and provide greater connectivity for the wider Cambridge area.

- The project consists of a new travel hub near the A11 / A1307 / A505;
- A new public transport link between the A11 and the Cambridge Biomedical Campus; and
- New shared use paths.

The project includes linkages to the CAM, with ambitions to extend CAM to Haverhill in the future.

The proposals make the site much more accessible by sustainable and offer residents travel flexibility, by modes other than private vehicles.

CAMBRIDGE SOUTH STATION

The proposed location is to the west of the Cambridge Biomedical Campus, which is expected to create 3,750 new jobs over the next four years, alongside an estimated housing growth of 4,000 homes.

The future growth is expected to place significant pressures on the rail network and so, as part of the Cambridge South Infrastructure Enhancement Project, plans are being made for a new station.

DfT has provided £10 million to Network Rail to develop detailed proposals for Cambridge South station, with plans for a public consultation for the outline designs in 2020. The station is expected to be completed in 2025 and the proposed location is shown in **Figure 19**. Public consultations on the proposed station locations will begin on 20th January 2020 to comment on the early design for the station

The new station would be accessible within a 15-20-minute cycle journey, which would be closer than both Cambridge and Cambridge North Stations, making rail travel more attractive for future residents. Rail travel could then be used for onward journeys, both leisure and commuting purposes allowing residents to have greater flexibility in their travel patterns.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Barton Road		
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray



Figure 19 - Cambridge South Railway Station (January 2020)

CAMBRIDGE'S FUTURE NETWORK

The Greater Cambridge Partnership have released their vision of Cambridge's future transport network for 2030-2050, adding in future technologies and infrastructure such as the CAM and Cambridge South station. The output of their vision is included in **Figure 20**.

The map shows that the proposed development, here illustrated as the 'West Cambridge' site, is in a brilliant location for access to the CAM, Greenways and Cambridge West P&R. Furthermore, the closer proximity to Cambridge South Station will make rail travel more attractive to future residents.

The future network plan shows that the proposed development is ideally located to provide a range of sustainable travel modes of residents. Residents will be able to walk, cycle or use public transport, encouraging greater use of sustainable modes and a shift away from private vehicle use. The internal street layout of the masterplan shows that the design aims to discourage private vehicle use, by providing sustainable mode priority and restricting car movements to deter rat running.

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Ba	arton Road	
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray



Figure 20 – Cambridge's Future Network 2030 – 2050, Greater Cambridge Partnership

\\Sp

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Barton Road		
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

5. NEXT STEPS

In promoting the potential development site on land north of Barton Road, we will seek to deliver a sustainable form of development, which reduce the need to travel and minimises the impact of the development upon the local highway network.

The potential scale of development will necessitate a Transport Assessment which will demonstrate that the proposed development would not have an adverse impact of the local highway network.

It is likely that construction could begin as soon as 2027, with and expected completion date of 2041 (approximately 14 years).

Cambridgeshire County Council will be consulted in relation to the local highway network, and mitigation measures will be considered where concerns are highlighted in relation to the proposed site accesses, and the impact of the development on the local highway network and where mitigation is reasonably related to the impact of the proposed development.

Discussions will need to be held with the Combined Authority in due course, in respect to the provision of a CAM interchange to the north of the site boundary, which the site can assist with bringing forward.

CONCLUSION

This Note has been prepared to highlight the ideal location of the proposed development in relation to existing transport links and proposed improvements. The development will create a strong cyclable and walkable neighbourhood to the west Cambridge, with an internal layout that discourages private vehicle due to the ease of access by sustainable options.

Bus stops are proposed to serve residents with 400m or a 5-minute walk, meaning that residents will always have access to a reliable form of transport with good egress to the city centre. The development will seek to retain and improve current public rights of way and ensure that connections with proposed walking and cycling routes, allowing for greater accessibility to the countryside.

The C2C/Cambridge Autonomous Metro to the northern site boundary furthers the site's sustainable travel credentials and will allow for greater journey flexibility for residents.

Against this background, the development of between 2,500 and 2,800 dwellings, a local centre and a primary school on the site is deliverable in transport terms (ref: para 108 of the NPPF):

 The opportunities for sustainable travel can be appropriately taken up, with associated improvements to the Public Rights of Way network, local bus services and the provision of the CAM interchange that can be delivered in conjunction with the development – it is a sustainable location for new housing;

TECHNICAL NOTE 1

DATE:	17 February 2020	CONFIDENTIALITY:	Public
SUBJECT:	South West Cambridge: Land North of Barton Road		
PROJECT:	70062442	AUTHOR:	H Gibbs
CHECKED:	G Murray	APPROVED:	G Murray

- Safe and acceptable access can be provided for all users the proposed site accesses will provide suitable and safe access for the new homes and facilities with opportunity to link with existing pedestrian and cycle links over the M11 and into Central Cambridge; and
- The impact on the transport network (in terms of capacity and congestion), and on highway safety, will be reviewed with detailed capacity testing the additional traffic generated by the development will be addressed by appropriate highways mitigation scheme and/or contributions to schemes that will resolve existing issues.