



Brookgate Land Limited
Land North of Cambridge North Station, Cambridge

Appellant

Proof of Evidence of Mark Nettleton
BEng (Hons) MCIHT

Transport

APPEAL REF: APP/W0530/W/23/3315611

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PJA Project Code: 05425

PJA
Nine Hills Road
Cambridge
CB2 1GE
UK
pja.co.uk



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I Introduction

I.1 Qualifications and Experience

1.1.1 I am the Joint Managing Director of PJA, a consultancy specialising in the provision of transport planning, engineering and placemaking advice. I hold an Honours Degree in Civil Engineering and I am a Member of the Chartered Institution of Highways and Transportation. I have 24 years' experience in the field of transport planning.

1.1.2 The evidence which I have prepared and provide for this appeal reference APP/W0530/W/23/3315611 in this Proof of Evidence is true and I confirm that the opinions expressed are my true and professional opinions.

Mark Nettleton

9th May 2023

I.2 Background Information

1.2.1 Prior to the submission of the planning application PJA had positive dialogue with officers of Cambridgeshire County Council (CCC) as Local Highway Authority (LHA), and National Highways (NH) as the highway authority with responsibility for the Strategic Road Network (SRN). The scope of the transport assessment and methodology was agreed and the submitted documents accord with these discussions.

1.2.2 Subsequent to the submission of the planning application, PJA engaged in positive and constructive discussions with highways officers to provide further information and to address outstanding queries.



1.2.3 All outstanding transport matters have been resolved, subject to a Town and Country Planning Act (1990) S106 Agreement. A highways and transport Statement of Common Ground has therefore been prepared with agreement of officers from CCC's Transport Assessment team.

I.3 Statement of Matters

1.3.1 South Cambridgeshire District Council's (SCDC) Statement of Case contains eight putative reasons for refusal. None of these reasons specifically relate to highways or transport. However, where Reason 3 regarding design and Reason 4 regarding comprehensive development refer to transport related matters, these are addressed comprehensively elsewhere within Proofs of Evidence prepared by other expert witnesses.

1.3.2 This proof addresses the suitability of the site for development given its sustainable transport attributes; presents the car parking provision; and presents the impact of the development on the local and strategic highway networks.

I.4 Format of the Proof

1.4.1 My proof contains the following sections:

- Section 2 - Sustainable Development
- Section 3 - Trip Generation and Development Impacts
- Section 4 - Draft s106 Obligations
- Section 5 - Summary and Conclusions



2 Sustainable Development

2.1 Overview

2.1.1 This section of my proof will demonstrate how the site is suitable for development, given its sustainable transport attributes; and that the proposed development creates the opportunity for future sustainable development to the north and west of the site; and that car parking has been adequately considered.

2.1.2 It is my view that the transport issues here have been properly considered¹ in that:

- a the potential impacts of this development on transport networks have been addressed, as described in the Transport Assessment and subsequent documents which presented evidence to demonstrate that the impact of the development on the transport network is not significant;
- b the opportunities presented by transport infrastructure at this location are realised and that the scale and density of the development are appropriate and can be accommodated in highways and transport terms;
- c opportunities to promote walking, cycling and public transport use have been identified and opportunities to maximise the opportunity are being pursued; and that
- d patterns of movement, streets, parking and other transport considerations have been integral to the design of this scheme, and a high quality place will be created.

2.1.3 PJA has developed the Transport Assessment and subsequent assessments in consultation with officers of the planning and highway authorities, and have demonstrated that² this development has been managed in line with these objectives. It is generally agreed that this development is focused on a location which is highly sustainable and accessible, and can be made more sustainable,

¹ National Planning Policy Framework Paragraph 104

² NPPF Paragraph 105



through limiting the need to travel with a good mix of land uses and its genuine choice of transport modes.

2.1.4 Working with the developer on this planning application, it is clear to me that a concerted effort has been made³ to:

- a give priority first to pedestrian and cycle movements, both within the scheme and in neighbouring areas; and to facilitate access to high quality public transport, with layouts that maximise the catchment area for bus and other public transport services, and this development offers additional appropriate facilities that encourage public transport use;
- b address the needs of people with disabilities and reduced mobility in relation to all modes of transport in the design of the street and location of car parking;
- c create a place that is safe, secure and attractive by minimising the scope for conflicts between pedestrians, cyclists and vehicles, by avoiding unnecessary street clutter, by and responding to local character and design standards;
- d allow for the efficient delivery of goods, and access by service and emergency vehicles; and
- e be designed to enable charging of plug-in and other ultra-low emission vehicles in a safe, accessible and convenient location.

2.1.5 I will go on in this section to demonstrate these points and show how the proposed development fully complies with the National Planning Policy Framework and how there is no shortfall that requires mitigation.

³ NPPF Paragraph 112



2.2 Attributes of the Site for Active Travel

2.2.1 Whilst the baseline transport conditions are presented within Section 3 of the Transport Assessment⁴, this section will discuss further the attributes of the area for people choosing to walk and cycle.

2.2.2 The context here is that the site is located directly adjacent to Cambridge North Railway Station, and is therefore afforded the same level of connectivity as the station itself.

Pedestrian Network

2.2.3 The site is at the centre of a network of walking routes to:

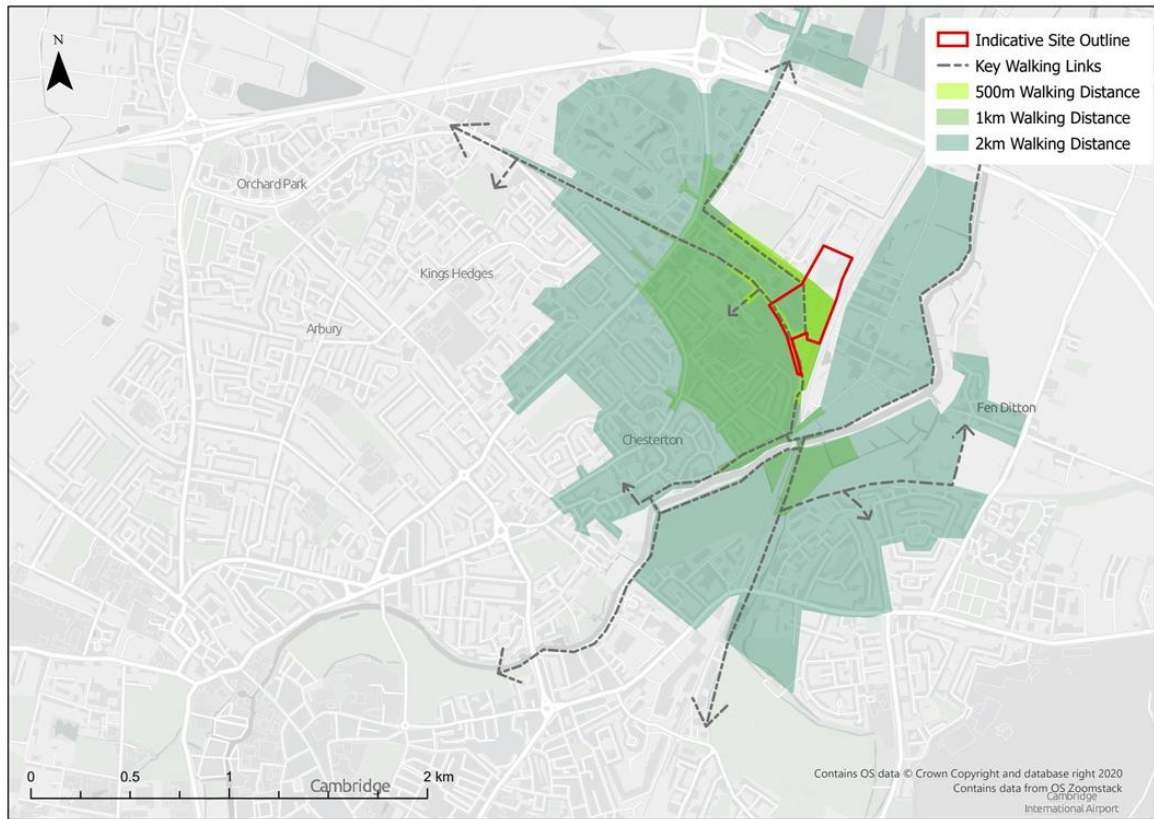
- Cambridge Business Park and Science Park along Cowley Road;
- Cambridge Science Park along Chesterton Way (which here forms the Cambridgeshire Guided Busway);
- The area of Chesterton via Moss Bank;
- Cambridge Retail Park and Ditton Fields via the Chisolm Trail Bridge over the River Cam;
- Caravan Parks via Fen Road.

2.2.4 The existing infrastructure, presented in Section 3 of the Transport Assessment, overcomes severance presented by the railway lines and the River Cam in the vicinity of the site. This means that routes are direct and convenient, and, in the main, are overlooked with passive surveillance.

⁴ CD1.54, PJA Cambridge North – Phase 2 Transport Assessment, 27 May 2022



Figure 2-1: Existing infrastructure for pedestrians



2.2.5 ‘Providing for Journeys on Foot’⁵ suggests that in terms of commuting on foot, walk distances of up to 2km can be considered as a preferred maximum with ‘desirable’ and ‘acceptable’ distances being 500m and 1000m, respectively. In respect of walking for day-to-day needs, Planning for Walking⁶ states, “Walking neighbourhoods are typically characterised as having a range of facilities within 10 minutes’ walking distance (around 800 metres),” which echoes the guidance in Manual for Streets (MfS).

⁵ CIHT Providing for Journeys on Foot, 2000

⁶ CIHT Planning for Walking, 2015



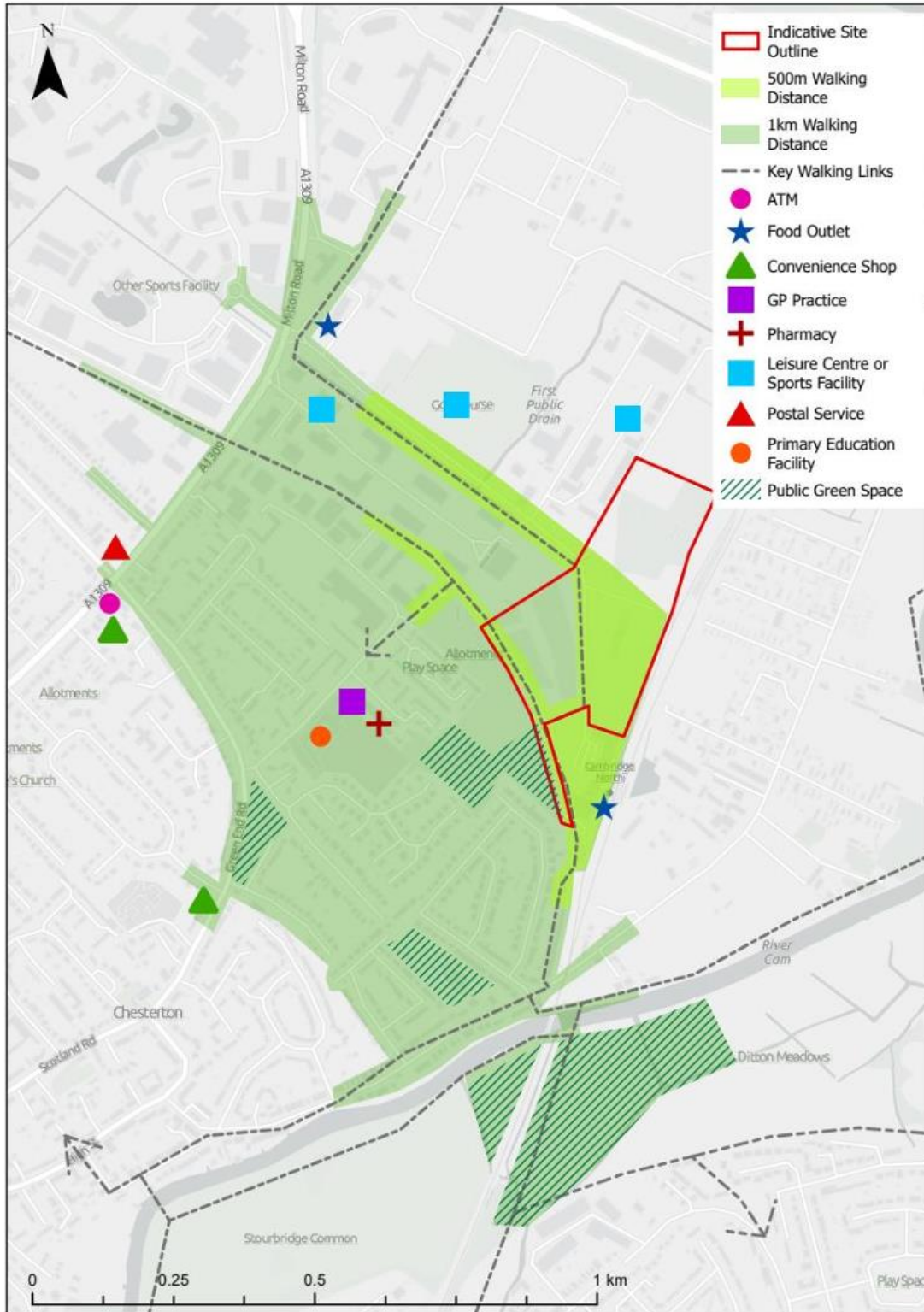
2.2.6 The Transport Assessment demonstrated⁷ that there is a range of existing services and facilities within a 1km walking distance measured from the centre of the proposed development site including a GP practice and pharmacy, a primary school⁸ and a convenience shop.

⁷ CD1.54, PJA Cambridge North – Phase 2 Transport Assessment, 27 May 2022 Section 3.2

⁸ CD3.26, County Council infrastructure contributions, 16 September 2022, Page 4 “Primary Provision” establishes that there is capacity in local primary schools.



Figure 2-2: Amenities within walking distance





2.2.7 The proposed development will add a range of uses on the site, to add to the coffee shop and hotel already in use at the Station, that are envisaged to include retail, community and/or commercial services.

2.2.8 At present there are a number of residual constraints in the current environment for pedestrians and those that are mobility impaired. This development has made a concerted effort to recreate the site as a place for people and for onward movement from the Station. In this way the very essence of the development represents strategic transport infrastructure that enables further development in the NECAAP area:

- The site is currently impermeable in that pedestrians are unable to take direct routes to external connections. This development has corrected this issue and following the approach of Manual for Streets⁹ has created networks of new streets that provide permeability and connectivity to main destinations and a choice of routes;
- The large open surface car park offers little in the way of passive surveillance and placemaking. The purpose of this proposal is to use the development to consolidate the existing parking into a contained and multi-use space, that has the potential to offer architectural value to the street, increased passive surveillance, and shorten walk distances to new buildings.
- Milton Avenue is the primary route to Cambridge North Railway Station and passes through the centre of the site. At present it is not difficult to cross due to low traffic volumes, but has little in the way of formal crossing provision and measures to reduce traffic speed. Within the masterplan a wild play area is proposed on the northern side of Milton Avenue, and therefore the development will alter the road to offer new formal and informal crossing facilities from the

⁹ Manual for Streets 1, Section 1.3.1.

residential area. There are no highway related reasons not to make these positive changes to Milton Avenue.

- Cowley Road is the primary walk and cycle route to Cambridge Science Park, but the route for pedestrians is of poor quality with no passive surveillance or visibility from the road. This development will improve this walking and cycle route all the way to Milton Road to the frontage of the Science Park through a S106 financial contribution towards a scheme of enhancements.

Figure 2-3: Improved permeability with new streets

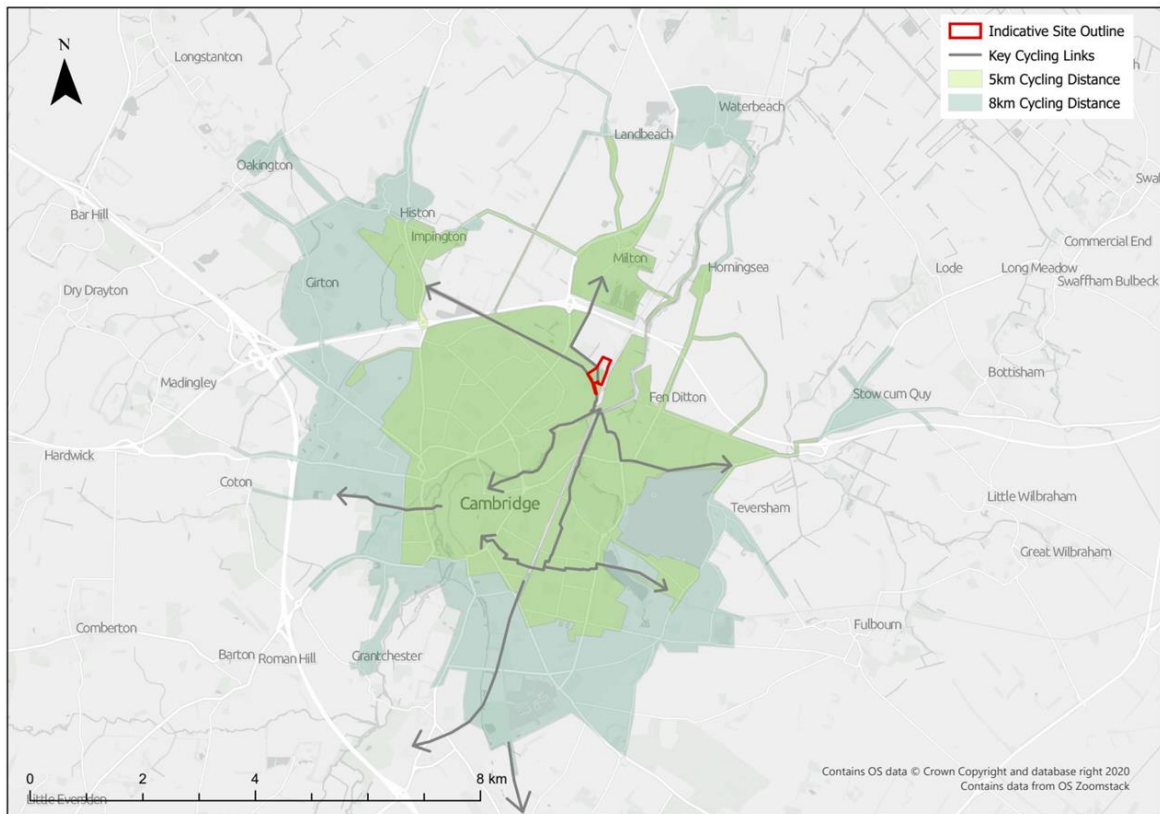


2.2.9 It is my view that this site has taken the opportunity to promote and maximise walking; that patterns of walking on the streets are integral to the design of this scheme; that a high quality place will be created; and that priority has been given to pedestrians by providing crossings on Milton Avenue.

Cycle Network

2.2.10 The existing cycle network provides direct and off-road routes to Cambridge Science Park, Cambridge Town Centre, Milton to the north and areas further afield.

Figure 2-4: Existing Cycle Routes



2.2.11 The site sits at the fulcrum of a number of important cycle routes:

- The Chisholm Trail which provides a mostly traffic free connection between Cambridge North Railway Station and Cambridge Railway Station;
- The River Cam with National Cycle Network (NCN) Route 11, which provides a direct route into Cambridge City Centre and north to Waterbeach. From the City Centre there are routes to Eddington to the West and Trumpington to the South;
- The Cambridgeshire Guided Busway with NCN Route 51, which provides a shared use path to the Science Park, Histon and Impington to the west and Bottisham and Newmarket to the East.



- Along Cowley Road is a cycle route that provides direct access between Cambridge North Railway Station and the Science Park and Milton.

2.2.12 Given that NPPF Paragraph 112a places the same priority on cycling as on walking, it is also positive to note that the whole of the City of Cambridge is within cycling distance of the site.

2.2.13 It is critical to see then, that the proposed development has been designed in recognition of its strategic location on the cycle network. In order to take up the opportunity presented by the cycling infrastructure, the patterns of these movements have been integral to the design of this scheme. A concerted effort has been made to give priority cycle movements, both within the scheme and in neighbouring areas and to minimise the scope for conflicts between pedestrians, cyclists and vehicles.

2.2.14 The five core design principles listed in LTN 1/20 represent the essential requirements to achieve more people travelling by cycle or on foot, based on best practice both internationally and across the UK. The advice here¹⁰ is that cycle networks and routes should be Coherent; Direct; Safe; Comfortable and Attractive.

2.2.15 Using this guide, improvements are proposed that provide clear cycle routes through the scheme connecting Cambridge North Railway Station to future developments and places such as Milton and Cambridge Science Park:

- Chesterton Way, alongside the Cambridgeshire Guided Busway, will have new traffic calming, raised tables and new surface treatments to reinforce the residential character of the street. Further, two new informal crossings will be provided to access the development;

¹⁰ Local Transport Note 1/20 Cycle Infrastructure Design 2020, Section 1.5.1.

- Milton Avenue, leading to Cowley Road, will have raised tables and new surface treatments, and the existing cycle route will be widened to conform with current standards;
- Station Row, which will provide a new route to service future developments to the north; and,
- Milton Walk, which will provide permeability between Chesterton Way and Milton Road and into the site.

Figure 2-5: Masterplan showing the cycle connections through the site (a repeat of Figure 2-3)



2.2.16 Furthermore, improvements are proposed to upgrade Cowley Road between the site and Milton Road and to Cambridge Science Park, which will improve surfacing and increase passive surveillance from passing traffic.



- 2.2.17 Over 1000 cycle parking spaces are provided at Cambridge North Railway Station, and over 2000 more will be provided within the development itself.
- 2.2.18 With respect to cycle parking Policy TI/3 of the South Cambridgeshire Local Plan details the cycle parking requirements for new development in the district, referring to Figure 11 of the Local Plan for the standards. In the preparation of the scheme, reference was also made to standards in the Cambridge Local Plan 2018, and National guidance contained within Table 11-1 of LTN1/20¹¹.
- 2.2.19 The proposed level of cycle parking for the commercial development is consistent with the level of provision contained within the South Cambridgeshire Local Plan standards. All cycle parking for the commercial uses is accommodated within covered and secure spaces within the buildings. The provision comprises parking accommodated at ground floor level for both standard and non-standard cycles and within the building basements, proposed to be accessed via ramps with wheel assist. Overall, 10% of spaces would be provided for non-standard cycles and 20% of the provision would be met through use of Sheffield stands, with the remainder provided in two-tier parking. The commercial buildings would also accommodate showers, changing and drying facilities and locker provision for the benefit of, and to facilitate, future employees choosing active modes of travel to work.
- 2.2.20 Visitor cycle parking is proposed across the site through the provision of Sheffield stands, for both standard and non-standard cycles, located close to building entrances, and in overlooked positions. 414 visitor spaces are proposed across the site which exceeds the level of provision outlined in LTN1/20¹².

¹¹ Local Transport Note 1/20 Cycle Infrastructure Design 2020, page 134

¹² Local Transport Note 1/20 Cycle Infrastructure Design 2020, page 134



- 2.2.21 For the proposed residential development, cycle parking is proposed at a rate of one space per bedroom, consistent with LTN1/20 and Local Plan standards. Cycle parking would be provided within dedicated, secure stores with direct access from the street and central garden.
- 2.2.22 It is my view that the site is highly accessible by bicycle, and that the opportunity has been taken to promote and maximise cycling; that patterns of cycling are integral to the design of this scheme; that a high quality place will be created; and that priority has been given to cyclists.

Mixed-Use Development

- 2.2.23 Whilst there is a range of existing services and facilities accessible within the local area, the development proposals include a mix of uses at ground floor level across the site. These units, within the flexible 'E' and 'F' use classes, would provide a range of amenities for future occupiers, and those travelling through the proposed development to other destinations. These facilities will add to the vitality of the area, and reduce the need to travel off site for a range of day-to-day needs, further supporting the sustainability of the proposed development.

2.3 Attributes of the Site for Public Transport Connectivity

- 2.3.1 Cambridge North Railway Station is a transport interchange between trains; buses on the Cambridgeshire Guided Busway; conventional bus services; cycling and walking.
- 2.3.2 Guidance from the Institution of Highways and Transportation is clear that development should be located so that public transport trips involve a walk distance of less than 400m from the nearest bus stop^{13 14} or for core bus corridors with two or more high-frequency services less than 500m¹⁵. However, the guidance also notes that the quality of the walking route may affect people's

¹³ Planning for Public Transport in New Development, Institution of Highways and Transportation, 1999, para 5.21

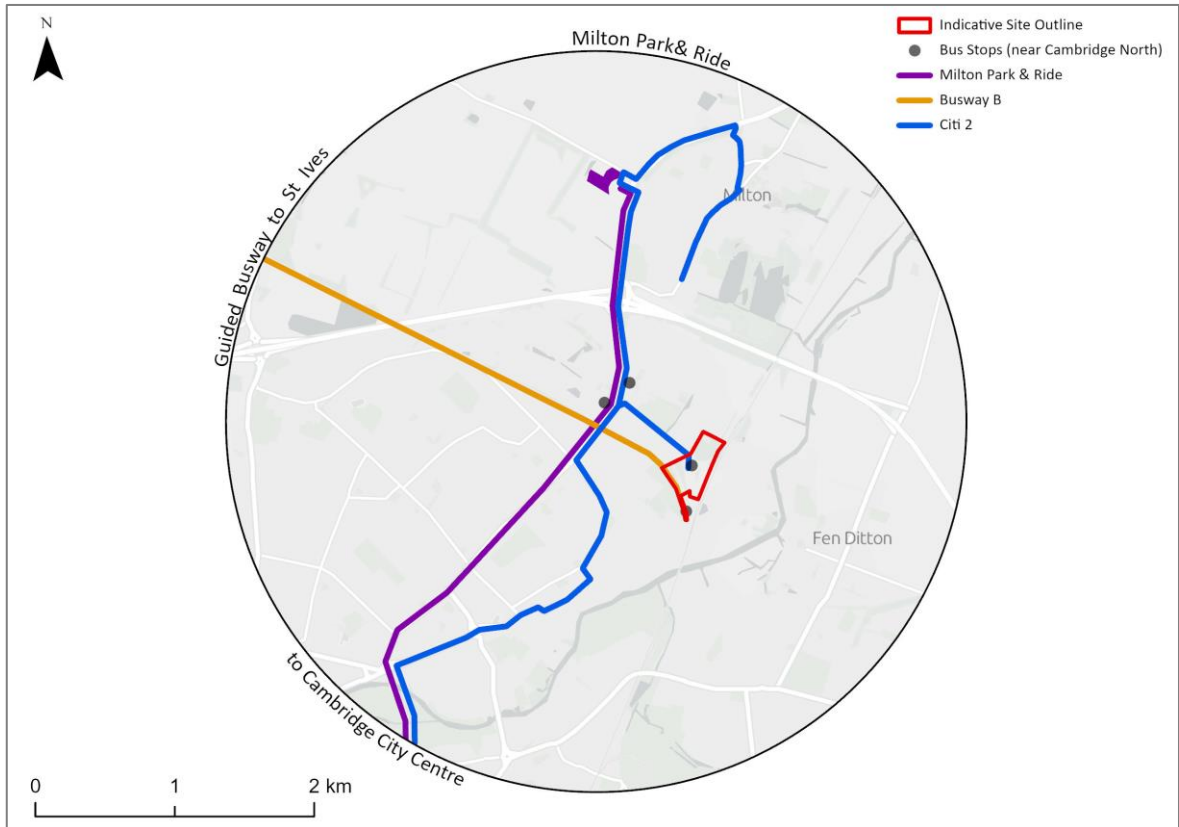
¹⁴ CIHT Planning for Walking, 2015

¹⁵ CIHT Buses in Urban Developments, 2018, p18 Table 4



judgement of an acceptable distance, with safe, well overlooked routes with visual interest being perceived as less onerous. This development falls wholly within a 400m radius of the existing bus stops adjacent to Cambridge North Station.

Figure 2-6: Bus routes serving the proposed development



2.3.3 The bus stops at the Cambridge North interchange are served by the Busway B and the Citi 2 services, both with a weekday daytime frequency of every 20 minutes. Both of these services operate throughout the week and into the evenings until 22:00 for the Citi 2 and 23:20 for the Busway B service. The Citi 2 operates at a 20-minute frequency on Saturdays and 30-minute frequency on Sundays. The Busway B service operates at a 20-minute frequency on Saturdays and two services per hour on Sundays. The Busway B service connects Cambridge City Centre to Huntingdon via St Ives, Cambridge North Railway Station and Cambridge Science Park. The Citi 2

service connects Milton to the north of Cambridge with Addenbrookes in the south, via the city centre.

2.3.4 In terms of rail connections Planning for Walking¹⁶ states that, *"The power of a destination determines how far people will walk to get to it... People will walk up to 800 metres to get to a railway station, which reflects the greater perceived quality or importance of rail service [in comparison to bus services]."* Cambridge North railway station is well within an 800m walk of the proposed development and serves a number of local, regional and national destinations. For the majority of routes, rail services call at Cambridge North at least every 30 minutes with key services towards Waterbeach, Cambridge and Ely for interchange purposes available approximately every 15 minutes.

2.3.5 A concerted effort has been made to maximise the opportunities presented by the bus and rail network and to facilitate access to high quality public transport, as follows:

- The layout of the masterplan maximises the catchment area for bus and other public transport services. The shape of the site, and the alignment of routes mean that pedestrian routes between the proposed buildings and the existing bus stops and train station are direct.
- Furthermore, the high quality public realm proposed would provide a network of routes along landscaped streets and spaces that are well overlooked by a mix of land uses with active frontages that are pleasant to walk through, thereby encouraging the use of the public transport interchange to the south of the proposed development site.
- The development will deliver a new Mobility Hub, which will contain:
 - Parking and facilities for a car club

¹⁶ CIHT Planning for Walking, 2015



- Bike and e-scooter hire
- Public transport information displays

2.3.6 Extended bus shelter provision at Cambridge North station is also proposed.

2.3.7 It is my view that access to the public transport network is of high quality and that the layout maximises the catchment area for bus and other public transport services, both for this development and others in the area. The mobility hub offers additional facilities that will encourage public transport use.

Transit Oriented Development

2.3.8 The site, being located directly adjacent to the transport interchange at Cambridge North railway station and guided busway, forms a key gateway for the redevelopment of the wider north-east Cambridge area. The preceding sections have clearly demonstrated how the network of routes proposed within the masterplan radiate out through the proposed development site from the interchange to the south, and would provide a network of routes for onward connection to the north and north-west. As a result, the infrastructure proposed within the masterplan is considered of strategic benefit to north-east Cambridge by virtue of the location of the proposed development site in a key position at the confluence of the networks of walking, cycling and public transport routes.

2.4 Car Parking Provision on the Site

2.4.1 The proposed development will provide 1,206 parking spaces, but 573 of these are a reprovision of existing parking spaces associated with existing development and the Railway Station and a further 194 are to provide resilience for the growth of passenger numbers using the station. 439 parking spaces are allocated to the development itself.

**Table 2-1: Car Parking Provision**

Land use	Existing	Proposed
Cambridge North Railway Station	428	428
Novotel	20	20
One Cambridge Square	125	125
Proposed Commercial	-	417
Proposed Residential	-	22
Cambridge North Railway Growth	-	194
Total	573	1,206

Table 2-2: Car Parking Standard

	Standard	Provided
Cambridge North Railway Station	-	-
Novotel	13 spaces per 10 rooms	1 space per 10 rooms
One Cambridge Square	1 space per 30sqm	1 space per 78sqm
Proposed Commercial	1 space per 30sqm	1 space per 156sqm
Proposed Residential	2 space per dwelling	1 space per 19 dwellings
Cambridge North Railway Growth	-	-

2.4.2 Car parking is provided in line with the car parking budget set out within the Transport Evidence Base (TEB) supporting the emerging North East Cambridge Area Action Plan (NECAAP). 4,800 car parking spaces are proposed overall and 873 employment parking spaces are assigned to development at Cambridge North. The proposed provision is less than this figure and is made up of the following:

- 22 car parking spaces for the residential element, dedicated as accessible bays, and available for lease by those that require them. The residential development is expected to effectively function as car-free development. Electric vehicle charging points would be provided for each of the car parking spaces accessible to residents;
- 417 car parking spaces for the commercial element, a mix of basement provision, on-street accessible bays, and spaces within the basement of the mobility hub. This level of provision equates to a rate of 1 spacer per 155m² GIA, which is well below the South Cambridgeshire Adopted Local Plan 2018, that presents a parking standard of 1 space per 30m² and the



Cambridge Local Plan 2018, that presents a standard of 1 space per 40m². This level of provision is comparative to space provided in the CB1 area of Cambridge, adjacent to Cambridge Railway Station where the completed commercial buildings achieve an average rate of 1 space per 172m². Each bay within the car parks associated with the commercial element would be provided with an EV charger.

- 145 car parking spaces related to the existing development of the Novotel and One Cambridge Square.

2.4.3 It has been agreed by CCC that Station Parking is not counted within the NECAAP parking budget, but even if the additional 194 car parking spaces for passenger growth is included, the site is still well within the budget, and the spaces could feasibly be used in a more flexible manner, as discussed further below.

2.4.4 In order to ensure that the development car parking functions as is intended, it is proposed that a car park management plan is prepared, and actively implemented and enforced by the future management company with responsibility for the estate. Furthermore, the draft S106 agreement includes a monitoring requirement for off-site on-street car parking to ensure that the proposed development does not create unwanted demand in local residential areas and, if necessary, a contribution towards implementing a residents parking scheme is included in the draft S106 agreement.

2.4.5 It is my view that, with the restrictive car parking provision combined with the sustainable transport options and the location of the development, that the trip making potential by car can be contained and trips by sustainable modes can be maximised.



Rail related parking

- 2.4.6 Rail related car parking for Cambridge North Station currently provides 428 at-grade car parking spaces.
- 2.4.7 The location of the car park was previously moved, as part of the redesign of the Station, in order to free up land for development around the station. Also a specific and defined part of the rationale for the Station itself and the car park was to make room for expanding the car parking provision in the form of a decked car park to meet any future growth.
- 2.4.8 Similarly in this planning application the removal of the surface car park is beneficial to make room for development and to ensure a good placemaking solution for the new development, and this approach has been supported by the LPA.
- 2.4.9 Of course, in constructing a new purpose-built facility, the potential growth in passengers using the station has to be accommodated and therefore built in from the outset. So, as part of the redevelopment of the site, it is proposed that the existing 428 spaces are relocated into the multi-storey mobility hub. However in addition, it is proposed that an additional 194 spaces are provided to provide resilience for a possible growth in passenger demand. Prior to the submission of the planning application, discussions were held with the rail industry regarding the safeguarding of future long-term growth. The proposed increase of circa 194 spaces was discussed by the developer, Network Rail and Abellio Greater Anglia (AGA), and AGA held direct discussions with the Department for Transport (DfT) who gave its approval to the increase in spaces and to the limitation of expansion beyond this ceiling that would be imposed by the development. The DfT was also content to give AGA the flexibility for the additional 194 spaces to be used by commercial uses until such time as the capacity was required by future rail passengers. Regulatory approvals for the proposed arrangements have been obtained.



- 2.4.10 The option for future rail-related parking provision is currently available by adding a decked car park in the future, but this proposal secures the option for future rail-related parking provision, which otherwise might be prohibited by this development.
- 2.4.11 The rail industry has indicated that retaining the flexibility to provide further parking for passengers is important to them. However, the time period over which passenger demand might grow, and hence trigger the potential need for additional spaces, is uncertain. The Network Rail Strategic Business Plan of 2018¹⁷ reported that UK passenger numbers are expected to increase by around 40% by 2040. Passenger numbers at Cambridge North did grow from 488,876 passengers per annum after opening in 2017 to 949,550 by 2020¹⁸, which then reduced significantly throughout the Corona Virus lockdown to 252,404. Nevertheless these figures and the recovery figures in 2022 (601,582) indicate that the station is a popular access point to the railway network.
- 2.4.12 Whilst the spaces are safeguarded for potential rail-use in the longer term, it is proposed that these additional 194 spaces are used flexibly in the meantime, (this has also been agreed by the rail industry):
- Initially, the additional spaces would be used by early tenants of buildings proposed in the current appeal proposal; and,
 - As future phases of development at Cambridge North come forward, the use of those spaces would be de-allocated from current users and reallocated to future occupants.
- 2.4.13 At no time, however, would this parking exceed the County Council’s aspirational car parking levels for this area within the emerging AAP. This has been agreed with the County Council.

¹⁷ Network Rail [Strategic-business-plan-high-level-summary.pdf \(networkrail.co.uk\)](https://www.networkrail.co.uk/strategic-business-plan-high-level-summary.pdf)

¹⁸ Office of Rail and Road [“Table 1415 - Time series of passenger entries and exits and interchanges by station”](#)



Park and Ride

- 2.4.14 It is considered that people accessing the development are unlikely to use the Park and Ride provision for Cambridge given the Interchange Penalty. This is the time and monetary cost of interchange at a Park and Ride, which ideally needs to be comparative to the time and cost of making the same journey by car. This consists of the time taken to: divert into the P&R; find a parking space; park the car and exit; walk to the bus stop, and then wait for the bus; and, then the cost of £3 return. Certainly the Milton Park and Ride facility is the only one in Cambridge that has a direct bus service to Cambridge North, the Citi2, and therefore has the potential to serve people using the site. However the main purpose of the Park and Ride and its dedicated bus service is for people travelling into Cambridge City Centre and therefore the bus stops only on Milton Road, a 10 minute walk from the site. It is my view that whilst the site is a beneficiary of the Park and Ride with the Citi 2 bus service, it will not play a significant role in the peoples journeys to the site, and further that the development will not detrimentally affect the function of the Milton Park and Ride.
- 2.4.15 Cambridge North station itself does not perform a Park and Ride role for the city. The station mainly serves commuters for onward travel beyond Cambridge, and therefore does not detrimentally affect the function of Milton Park and Ride. The additional parking provision will ensure resilience for future growth in rail passenger numbers as prescribed by the rail industry.

2.5 Access for Servicing

- 2.5.1 The servicing needs of the proposed uses has been taken into consideration in the development of the masterplan to provide appropriate servicing and turning facilities where necessary. Vehicle swept path analysis has been undertaken¹⁹ to demonstrate the manoeuvring and turning of vehicles

¹⁹ CD1.137, CD1.141, CD1.142, CD1.143



required for serving the proposed uses on site. Swept path analysis of the masterplan has also been undertaken for a fire tender²⁰ and for refuse collection²¹.

2.6 Conclusion

2.6.1 I can conclude that the proposed development has met the requirements of NPPF, and that no further actions need to be taken to ensure that the scheme becomes a sustainable development.

²⁰ CD1.140

²¹ CD1.143



3 Trip Generation and Development Impacts

3.1 Introduction

3.1.1 A process was undertaken with the highway authorities in advance of the planning application being made to provide a travel plan and a transport assessment so that the impacts of the proposal could be assessed, in accordance with NPPF²².

3.1.2 I will set out in this chapter that this planning application has been prepared in accordance with NPPF Paragraph 113, and that the residual cumulative impacts on the road network would not be severe in accordance with Paragraph 111.

3.2 Alignment with NECAAP Trip Budgets

3.2.1 The Transport Assessment was subject to extensive pre-application discussion with CCC as LHA. Their requirement was to prepare the TA within the context of the NECAAP Transport Evidence Base²³ (TEB). This document established overall peak hour vehicle trip and car parking budgets which have been disaggregated across the various development sites within North East Cambridge Area. The TEB refers to the vehicular trip budget as being, *“a vehicular trip budget level for the study area within which development expansion could take place without creating a severe impact on local highway conditions.”*²⁴ It continues that, *“If the above development trip budget is not breached with future development scenarios, there should be no requirement for further off-site highway mitigation schemes beyond the committed schemes.”*²⁵

3.2.2 Therefore, peak hour vehicle arrivals and departures were calculated based upon the level of car parking proposed for each of the land uses on site, drawing upon existing data from the TEB, local

²² NPPF Paragraph 113.

²³ CD5.19 Mott MacDonald, North East Cambridge Area Action Plan Transport Evidence Base, 20 September 2019

²⁴ CD5.19 Mott MacDonald, North East Cambridge Area Action Plan Transport Evidence Base, 20 September 2019, p3

²⁵ CD5.19 Mott MacDonald, North East Cambridge Area Action Plan Transport Evidence Base, 20 September 2019, p86, para 5.52



survey data on trip accumulation, mode share and Census data. CCC's TA team confirmed its agreement to the methodology within its consultation response dated 22nd February 2023.

3.2.3 The assessment was updated further given a change in the parking strategy for the site, as part of the October 2022 amendment pack. This was presented in a Technical Note²⁶ which demonstrated that the proposed development is forecast to continue to operate within the peak hour vehicle trip budgets assigned to Cambridge North. As a result, the conclusions of the impact assessment within the TA remained unchanged and in accordance with the NECAAP TEB, the development impacts should not be considered to result in a severe residual cumulative impact on the highway network.

3.3 Traffic Impact Assessment

3.3.1 Although we had agreement with CCC to present the trip budgets in this way we were mindful of the limited weight attributable to the NECAAP prior to its full consultation and examination. Therefore an additional traffic modelling exercise was undertaken to test the development in the usual way, following NPPF paragraph 110 d) and paragraph 111. An assessment was carried out to consider the impact of the proposed development traffic on the Milton Road corridor, including the Milton Interchange at the A14.

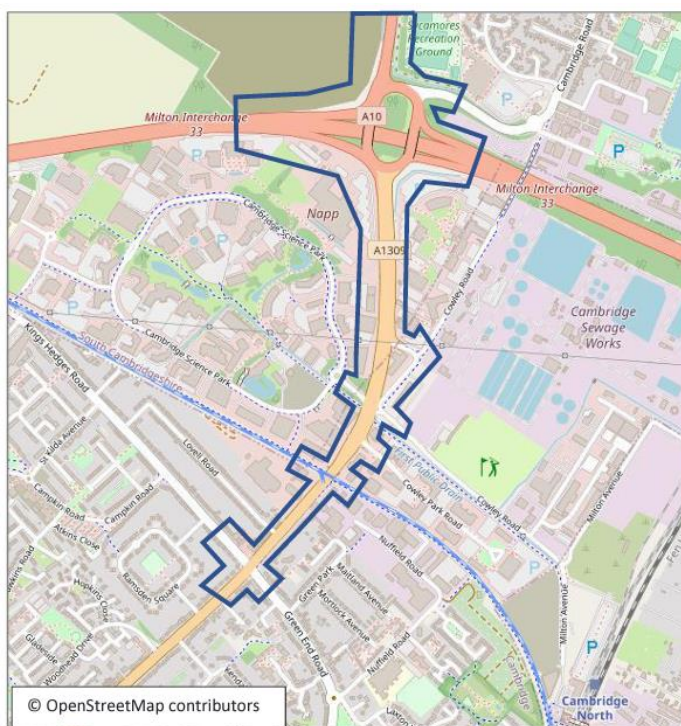
3.3.2 It is worth noting that CCC had agreed at pre-application stage that by according with the NECAAP peak hour vehicle trip budgets, traffic modelling was not required, and this was confirmed in its consultation responses dated 7th September 2022 and 22nd February 2023. The traffic modelling was progressed to assist with the determination of the S106 agreement despite not being considered necessary by either CCC or NH in order for officers to provide a positive recommendation. This was submitted to CCC on 13th March 2023.

²⁶ CD2.01 PJA Technical Note, Response to Cambridgeshire County Council Highway Comments, October 2022

The Traffic Model

3.3.3 The traffic model used is a LinSig network model, originally used to inform the TEB, updated to reflect network changes and revised traffic flow data collected in June 2022. This model has been reviewed by CCC.

Figure 3-1: Traffic Model Extents



Trip Generation and Distribution

3.3.4 The proposed development traffic has been distributed in accordance with the assessment of trip origins and destinations presented within PJA’s Technical Note²⁷ accompanying the October 2022 amendment pack. The analysis demonstrates that, for vehicle trips, 6% of trips are forecast to arrive from Milton Road to the south of Cowley Road in the AM peak, and 94% from the Milton Interchange to the north. The PM peak has been assumed to mirror this directional split with people returning home from work.

²⁷ CD2.01 PJA Technical Note, Response to Cambridgeshire County Council Highway Comments, October 2022



3.3.5 The 6% of trips on Milton Road to the south of Cowley Road amounts to 10 additional vehicle trips arriving in the AM peak, and 11 departures in the PM peak. Milton Road to the south of the Cowley Road junction was shown in the June 2022 surveys to carry around 1,500 vehicles in each of the peak hours. In this context, we considered the level of additional trips to be negligible.

3.3.6 To the north, the forecast level of development trips through the Milton Interchange is summarised in Table 3-1 against the corresponding base flows established from the June 2022 traffic surveys.

Table 3-1: Forecast Peak Hour Development Vehicle Trips at Milton Interchange

		Cambridge Rd		A14 East arm (westbound)		A14 West arm (eastbound)		A10		Milton Road	
		From	To	From	To	From	To	From	To	From	To
AM Peak (08:00-09:00)	June 2022 Surveys	402	377	908	769	1391	715	1155	1029	922	1888
	Forecast Dev Flows	6	1	40	6	92	14	17	3	24	155
PM Peak (17:00-18:00)	June 2022 Surveys	603	640	663	775	716	1319	1012	1158	1657	759
	Forecast Dev Flows	1	6	7	42	15	97	3	18	164	26

3.3.7 The highest development flows on the A14 arms of the junction occur on the eastbound off-slip in the AM peak, with 92 vehicles, equivalent to an average of 1.5 vehicles per minute. On the basis of a circa 60 second cycle time of the signals, this would be two additional vehicles joining the back of the observed queue each cycle. The two-lane section of this slip road is circa 475m in length, and the average observed peak hour queues from the June 2022 surveys total 29 vehicles (equivalent to 174m based upon an assumed 6m vehicle length and all vehicles using the same lane) across both lanes. Therefore, I consider that an additional two vehicles queuing would comfortably be accommodated on the existing slip road, without any blocking back to the A14 mainline.

3.3.8 On the westbound off-slip, 40 additional trips are forecast in the AM peak hour, an average of less than one per minute across the peak hour. The westbound off-slip comprises three lanes for 60m,



and two lanes for circa a further 230m. The average observed queue across the three lanes in the June 2022 AM peak hour surveys was 33 vehicles (equivalent to 198m assuming a 6m vehicle length, and all vehicles using the same lane). Again, the queue survey results demonstrate that queues remain well within the slip lane length, and the additional vehicle per minute could be accommodated without detriment to the safe operation of the A14 mainline.

- 3.3.9 This information was shared with National Highways officers who, in response, lifted their holding objection to the application, subject to planning conditions.

Traffic Model Results

- 3.3.10 The Traffic Modelling exercise presented to CCC was based upon an assessment of a sensitivity test scenario presented within the TA. This scenario adopted a higher and alternative trip profile for the proposed lab uses, with a more concentrated level of peak hour arrivals in the AM peak and departures in the PM peak, and is therefore considered to be a robust assessment.

- 3.3.11 PJA's Technical Note presenting the results of the modelling²⁸ concludes that the proposed development is shown to have a modest impact on the Milton Road corridor. Specifically the results show:

- A14 Milton Interchange. The impact on the A14 slip roads is shown to be marginal, supporting the trip analysis presented above that no mitigation is required here and that the development can comfortably be accommodated. There is a moderate increase in queues and delays on the A10 and on Cambridge Road, but only in the morning peak hour and they do not extend beyond link lengths, down slip roads, or across junctions in an unsafe manner. Around the rest of the junction queue increases are marginal. Working with the model it is found that small changes to

²⁸ CD8.0 PJA Technical Note, 2022 Milton Road Corridor Modelling Results, March 2023



the signal timings allow the junction to manage the additional development traffic easily. It was concluded that no further off-site highway mitigation is required here.

- Milton Road junction with Cowley Road and Science Park. The junction operates within capacity and there is a marginal change in queues on the Milton Road.
- Milton Road junction with Cowley Park. The junction operates within capacity and there is no material increase in queues with the development.
- Milton Road junction with Cambridgeshire Guided Busway. The junction operates within capacity and there is no material increase in queues with the development.
- Milton Road junction with Kings Hedges Road and Green End Road. This junction has recently been subject to an upgrade to include new cycle facilities, which increases cycle times and reduces its capacity. The junction operates at capacity, and there is a marginal change in queue lengths.

3.3.12 Appendix A provides a summary of the worst performing parts of the network in tables, which show that the impact on the network is modest. It is concluded, as agreed with CCC, that the residual impact can be mitigated through the mitigation package proposed in Section 4, and that no further highway mitigation is required.



4 Draft S106 Obligations

- 4.1.1 Discussions have progressed with CCC regarding S106 obligations, and I have outlined below the package of transport measures that have been agreed to ensure that the site is accessible by sustainable transport modes, and that the residual impact of the development can be appropriately mitigated. The transport measures that will be delivered to support this development comprise a package of £4.5m.
- 4.1.2 A first part of the strategic transport package will be delivered by the developer, for the benefit of this development and the wider North East Cambridge area, and will include the following measures amounting to £2,645,000:
- a Cycle Routes through the development between Cambridge North Railway Station and the north of the site along Milton Avenue and Station Row, and between Milton Avenue and Chesterton Way;
 - b Environmental enhancements to Chesterton Way (forming the route of Cambridgeshire Guided Busway) including widening and segregation of the cycle/footway, and interventions to slow vehicle speeds on the approach to the station;
 - c Wayfinding in the vicinity of the Railway Station to direct visitors to the development and wider North East Cambridge Area;
 - d A Mobility Hub, which will support non-car travel modes including a car club, e-bike hire, scooter hire, charging points, cycle parking and integrated travel information; and,
 - e Extended bus stop waiting facilities adjacent to the Railway Station.



- 4.1.3 A second part of the package of strategic transport measures can be delivered by CCC via a financial contribution from the development of £235,000:
- a (£100,000) Safety, lighting and overall amenity improvements to the shared cycle/footpath alongside Cowley Road;
 - b (£35,000) Provision of publicly accessible screen for real time public transport information; and,
 - c (£100,000) Removal of vehicle traps on Cambridgeshire Guided Bus Way.
- 4.1.4 A third and final part of the £4.5m package of strategic transport measures will be delivered by CCC via a financial contribution of up to £1.62m from the development, which will be subject to a monitor and manage condition. A monitoring regime will be used to observe the peak hour vehicle trips to a. determine whether the development will remain within the agreed trip budget, and b. to identify where residual impact of the development occurs. Should the development remain within the agreed trip budget, then this contribution will not become payable. If the monitoring regime identifies an exceedance of the trip budget, it is agreed with CCC that this strategic transport contribution will be allocated as determined by the steering group, to mitigate the residual impact of the development.
- 4.1.5 The Framework Travel Plan will be implemented on site for the benefit of future occupiers.
- 4.1.6 The development will undertake to consolidate surface parking for the railway station and the development into a new multi-deck mobility hub, which will house the mobility hub accommodation and facilities including parking for bicycles, car club and disabled users.
- 4.1.7 The development will provide safety improvements to Milton Avenue in the form of pedestrian crossings on Milton Avenue between the proposed residential development and the wild play area, one of which will be a formalised crossing.



- 4.1.8 Monitoring of local car parking will be undertaken as follows:
- a The developer will undertake a baseline survey of car parking on the area bounded by Long Reach Road, Bourne Road and Cheney Way and Moss Bank prior to the commencement of development to establish a baseline. A follow-up survey would be undertaken upon notice from the County Council.
 - b Should the on-street parking monitoring reveal that people park on Long Reach Road and Moss Bank to access the development, then a financial contribution of up to £75,000 will be made to assist with the implementation of appropriate interventions.
- 4.1.9 The monitor and manage condition referred to in paragraph 4.1.4 above will ensure that people are travelling in the way intended and that the impact of the development is managed appropriately, therefore:
- a The developer will undertake to monitor cars parking at the development in accordance with an agreed monitor and manage scheme.
 - b Should the peak hour vehicle trips exceed the agreed trip budget, then the financial contribution of up to £1.62m (or a part) will be allocated as determined by the steering group, to mitigate the residual impact of the development.
- 4.1.10 In summary it is my view that appropriate measures have been taken to ensure that the development is accessible by non-car modes, and that the impact of the development will be mitigated.



5 Summary and Conclusions

5.1.1 The Following is a summary of this Proof of Evidence:

- The development is at the centre of a good pedestrian network, and a range of amenities are available nearby. Improvements will be made to make the development permeable; to improve the sense of place and personal safety of people; to provide new road crossings on Milton Avenue; and to improve walking routes along Cowley Road.
- The development is at the centre of a good network of cycle routes and all of Cambridge is within cycling distance of the site. Improvements will be made to routes along Chesterton Way, Milton Avenue, Station Row and Milton Walk, which will increase the number of people that choose to travel by bike. Sufficient cycle parking will be provided.
- The development represents a good example of Transit Oriented Development, with strong rail and bus connections. Improvements will include the provision of a Mobility Hub, which will offer car clubs, bike and e-scooter hire and real time information displays. Improved bus stops will also be provided at the station for onward travel.
- Car parking provision is less than the local standards, and less than the budget allocated in the NECAAP evidence base.
- The development has a trip generation that is less than the budget allocated in the NECAAP evidence base, nevertheless the highway network has been tested using a traffic model. The results of the model show that the cumulative impact of the development is not severe and that any increase in queues are moderate.
- It is agreed with CCC that any residual impacts can be mitigated through the mitigation package proposed.



5.1.2 Given the significance of the location of this development with respect to the walking, cycling and public transport opportunities offered with it, the travel choices available to people are wide and comprehensive. The development has maximised the opportunity to ensure that it can be a sustainable development. Further, any residual impact on the highway network can be adequately mitigated through the mitigation package proposed. I therefore conclude that the proposed development should not be prevented or refused on highways grounds, because: there would not be an unacceptable impact on highway safety or capacity; the residual cumulative impacts on the road network would not be severe; and, the effect of the scheme will be neutral given the transport benefits offered to the North East Cambridge Area overall.