

## **PART 4 TRAVEL MANAGEMENT MEASURES**

*Part 4 of the Transport Assessment contains Sections 16 - 18:*

**Section 16 - Travel Management Measures Overview**

**Section 17 - 2021 Transport Strategy**

**Section 18 - 2031 Transport Strategy**

## 16 Travel Management Measures Overview

### 16.1 Introduction

16.1.1 Part 4 of the Transport Assessment summarises the proposed measures to manage any transport effects of the Proposed Development above that of the Consented Development in a phased manner. The following scenarios are considered in greater detail in the following sections:

- i. the 2021 Key Phase 1 – Section 17; and
- ii. the 2031 Full Development – Section 18.

16.1.2 The West Cambridge Do Something option tests have been run incorporating the benefit of the Development Travel Demand Management Strategy summarised in Section 9 - incorporating the proposed public transport, pedestrian and cycle strategy, and the controlled car parking provision.

### 16.2 2021 Key Phase 1

16.2.1 Section 14 considers in detail the most likely outcome of the initial Key Phase 1 in 2021 in terms of trip generation and traffic impact in the context of current and planned conditions. The results from this 2021 Do Something assessment identified there is a minor residual impact on Madingley Road when compared to the Consented situation.

16.2.2 Section 17 therefore identifies an appropriate transport strategy to manage the likely transport effects from Key Phase 1.

### 16.3 2031 Full Development

16.3.1 Section 15 reports the outcome of the Full Development in 2031 in terms of trip generation and traffic impact in the context of current and planned conditions.

16.3.2 Whilst West Cambridge has been allocated within the Local Plan, this development is being brought forward within the context of wide-reaching transport planning uncertainty, including:

- the scale of local residential development identified in the Cambridge Local Plan 2018;
- the impact of the A14 Huntingdon – Cambridge Improvement Scheme - construction due to complete in a phased manner to the end of 2020;
- Highways England’s consideration of measures along the M11 – and the inclusion of the M11 Junction 13 is a “RIS3 Pipeline” Scheme for 2025 – 2030; and
- the impact of a series of other transport schemes – including the Oxford – Cambridge Expressway, and East-West Rail.

16.3.3 All of these would have a significant and substantial effect upon strategic and local movements of vehicles across the region, and would influence the future access and movement strategy of West Cambridge – particularly in the mid- to late phases of the Development.

16.3.4 For the purposes of deriving an appropriate strategy for managing the impacts of West Cambridge - which would then be used to assess the necessary Monitor and Manage Approach Transport Cap - a pragmatic and strategic management strategy has been formulated for West Cambridge. This strategy would:

- i. encourage greater use of public transport;
- ii. control and reduce vehicular trips across the network;
- iii. where necessary, provide measures to preserve and / or enhance capacity on particular links;
- iv. manage Development impact on some sensitive strategic links; and
- v. improve pedestrian and cyclist movement across the network.

16.3.5 Following discussions with the Joint Authorities, agreed developer contributions are being offered by the University to two area-wide strategic schemes - the Cambourne to Cambridge Mass Transit route, and to a Cycle Scheme along Madingley Road – to assist in their deliveries. To provide resilience, an independent transport strategy has also been identified in this Transport Assessment that would also adequately mitigate the transport impact of the Development in isolation should there be delays to the deliveries of these schemes. As such, the West Cambridge outline planning application does not rely on strategic proposals for mitigation.

16.3.6 Whilst this Strategy, reported in Section 18 is designed to manage the Development impact, it also provides the Joint Authorities the most flexibility in focussing the available finances in the future into the most beneficial measures to deliver real travel pattern change.

## 16.4 Management Strategy

16.4.1 Sections 17 and 18 provide further information about the management measures for each scenario.

16.4.2 These sections conclude that the overall effects of the proposed travel demand measures would:

- i. control the number of vehicle movements;
- ii. offset any additional non-car mode trips generated by the Proposed Development; and
- iii. provide sufficient financial support for a flexible management solution to manage demand from the Full Development within the context of significant planning and infrastructure uncertainty.

## 17 The 2021 Transport Strategy

### 17.1 Introduction

17.1.1 Whilst the traffic impact of the initial Key Phase 1 compared to that consented is limited, a transport strategy has been developed for 2021, the early phase of development. This transport strategy, compatible with the strategy for the Full Development, would increase accessibility to the site by all modes.

### 17.2 Summary of the transport management strategy

17.2.1 This section provides a summary of the transport management measures within Key Phase 1, the details are contained in Appendix 17.1.

17.2.2 These measures were formulated in order to:

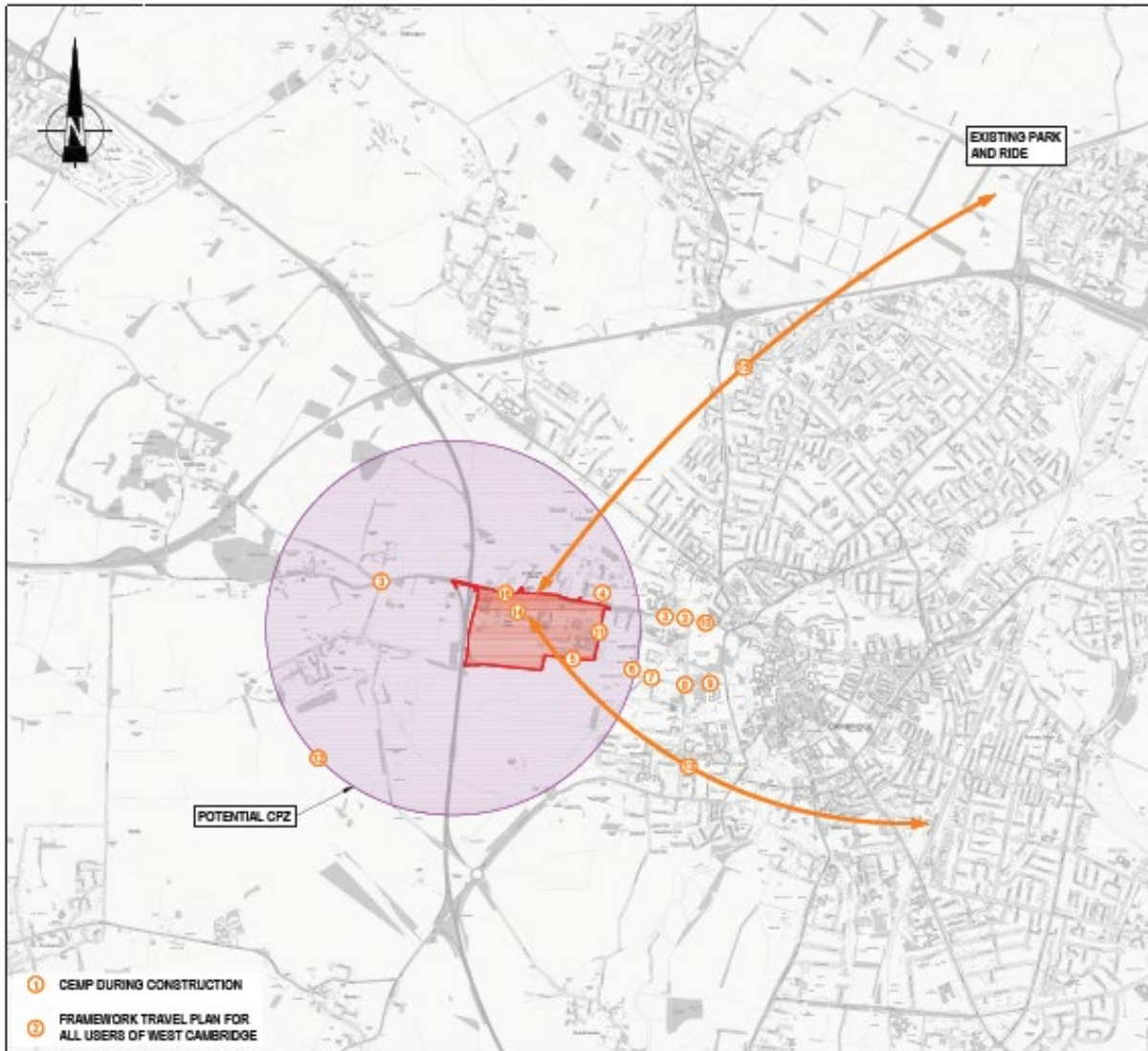
- i. decrease the journey to work trip distance across the Cambridge area by providing employment land-use within the City complementary to the existing and future residential land-uses;
- ii. taking advantage of the conveniently located facilities on North West Cambridge – the retail, the primary education and the community facilities - that would reduce the need to travel elsewhere during the working day;
- iii. provide regular bus services to popular destinations to provide for as many longer distance movements as possible – such as the residential areas around the north and west areas of Cambridge and the new Cambridge North (Chesterton) Rail Station, Cambridge Rail Station, and the University's facilities across town;
- iv. reduce and control the total vehicular trip generation associated with the Development.

17.2.3 As detailed in Section 12, Key Phase 1 of 2021 West Cambridge Do Something option test modelling already incorporates the benefit of the proposed West Cambridge travel demand management strategy (summarised in Section 9). The measures inherent in that assessment include:

- i. the new residential offer in the area - the new market housing being provided at Darwin Green (to the north of Huntingdon Road); as well as the additional units at the North West Cambridge Development, located immediately to the north of Madingley Road – with student accommodation, market housing, and Key Worker housing for University staff;
- ii. the proposed walking and cycling facilities;
- iii. the Framework Travel Plan (see separate document); and
- iv. the proposed public transport strategy summarised in Section 7.

17.2.4 The 2021 Transport Management Strategy is shown indicatively on Figure 17.1, reproduced in Plate 17.1.

Plate 17.1 – Illustrative 2021 Transport Management Strategy



17.2.5 The measures are summarised in Table 17.1 with the references to earlier locations in the document where the detail of the proposals is contained. It identifies a range of proposed measures to manage the development:

Table 17.1 – Summary of 2021 Transport Management Measures

Transport Objective:	Measure:
To control and reduce vehicle trip generation:	<ul style="list-style-type: none"> <li>• provision of appropriate levels of car parking on-site – Paragraph 8.3.25 and Appendix 8.2;</li> <li>• managing car parking provision on-site – Paragraph 8.3.24; and</li> <li>• management of car parking off-site – Paragraphs 8.3.21 - 8.3.23.</li> </ul>
To preserve conditions:	<ul style="list-style-type: none"> <li>• contributions to implement the reduced Madingley Road speed limit – Paragraph 6.7.14; and</li> <li>• promote three local road safety schemes – Paragraph 6.7.1 – 6.7.11.</li> </ul>

Transport Objective:	Measure:
To improve conditions for pedestrians and cyclists on-site:	<ul style="list-style-type: none"> <li>quality footway / cycleway infrastructure – <i>Sections 6.4, 6.5 and 6.6;</i></li> <li>high levels of conveniently located quality cycle parking – <i>Section 8.4;</i></li> <li>all major occupiers providing shower and changing room facilities – <i>Paragraph 6.4.7;</i> and</li> <li>managing cycle parking provision – <i>Paragraph 6.4.7 and Section 8.4.</i></li> </ul>
To improve conditions for pedestrians and cyclists off-site:	<ul style="list-style-type: none"> <li>providing remedial measures to assist in resolving existing road safety issues on two adjacent junctions, disproportionately affecting cyclists – <i>Paragraphs 6.7.1, 6.7.4 – 6.7.11 and Figure 6.3;</i></li> <li>improved crossing at Observatory Drive – <i>Paragraphs 6.8.4, 6.8.7 and Figure 6.4;</i></li> <li>new Cycling Zebra on Madingley Road – <i>Paragraphs 6.8.4, 6.8.11 and Figures 6.7, 6.6;</i></li> <li>improved facilities along the Corridor to the City Centre – along Coton Path, Adams Road and Burrell’s Walk – <i>Paragraphs 6.9.6 – 6.9.8, 6.10.8 – 6.10.13 and Figures 6.7, 6.9 and 6.11;</i> and</li> <li>contributions to the implementation of the reduced Madingley Road speed limit – <i>Paragraph 6.7.14.</i></li> </ul>
To enhance Public Transport on-site:	<ul style="list-style-type: none"> <li>provision of high quality bus stops – <i>Paragraphs 7.6.1 and 7.6.3 – 7.6.5;</i></li> <li>provide selected vehicle detection for buses through any traffic signal controlled junctions to provide bus priority – <i>Paragraph 7.6.6;</i> and</li> <li>provide information and incentives to the site occupiers – <i>Paragraphs 7.6.7 – 7.6.9.</i></li> </ul>
Enhanced bus services:	<ul style="list-style-type: none"> <li>Citi 4 - to be diverted into West Cambridge to provide links to the city centre and the A428 corridor – <i>Paragraph 7.3.2;</i></li> <li>Universal – maintain current 15 minute weekday frequency, and Saturday service – <i>Paragraph 7.3.1;</i> and</li> <li>Arc Service – operation of a new hourly orbital service from West Cambridge via North West Cambridge, Darwin Green and the Science Park to Milton Park and Ride – <i>Paragraph 7.3.3.</i></li> </ul>
Enhancing travel demand management	<ul style="list-style-type: none"> <li>locate further Car Club vehicles on-site – <i>Framework Travel Plan Paragraph 6.6.28 – 6.6.31;</i></li> <li>improve access to local car sharing data bases – <i>Framework Travel Plan Paragraph 6.6.32 – 6.6.35 and TA Paragraphs 2.8.4 and 9.2.2;</i></li> <li>consider cycling initiatives – including cycle pools, cycle buddy, training, discounted equipment – <i>Framework Travel Plan Paragraph 6.6.3 – 6.6.18 and 8.3.4</i></li> <li>marketing and promotion – <i>Framework Travel Plan Section 6.7.</i></li> </ul>
To preserve highway capacity, consider physical interventions	<ul style="list-style-type: none"> <li>review of the signal arrangements at the M11 Junction 13 Off Slip – <i>Section 14.4</i></li> </ul>

Transport Objective:	Measure:
	<ul style="list-style-type: none"> <li>acknowledging the assessment is worse case and does not include for the benefit from the transport solutions proposed by other developments, provide cyclic counting to monitor future conditions – <i>Paragraph 19.15 and Appendix 17.1;</i></li> </ul>

### 17.3 Summary

- 17.3.1 This Section summarises the proposed measures to manage any residual transport impacts of Key Phase 1 in 2021. It highlights that the University has developed a range of measures to manage the effects of Key Phase of development on the transport network, varying from “softer” to physical infrastructure improvements.
- 17.3.2 The Madingley Road Corridor assessment identifies that these junctions would better with the lower 2021 Do Something flows, especially should the benefit of transport strategies to be provided by others be achieved. A physical solution has been prepared which could respond to the conservative assessment of flows, but it is concluded that this would be unnecessary.
- 17.3.3 It is concluded that this suite of measures aimed at mode shift, demand management and improvement of conditions on the network would manage the transport effects of Key Phase 1.

## 18 The 2031 Transport Strategy

### 18.1 Introduction

- 18.1.1 This section provides information about the additional management measures to accommodate the Full Development of West Cambridge.
- 18.1.2 Transport measures have been identified to support the 2031 Full Development. These measures have primarily been identified to inform the assessment of the Transport Cap, needed to finance the necessary development mitigation.

### 18.2 The area-wide Strategic context

- 18.2.1 West Cambridge has been allocated within the Cambridge Local Plan 2018, and would be implemented within the context of the delivery of the Cambridge and South Cambridgeshire Local Plan expansion – further details are provided in Section 2.
- 18.2.2 The Transport Strategy for Cambridge / South Cambridgeshire identified that this area would have significant growth in jobs and population in the period between 2013 and 2031. Around 35,000 new dwellings will be built in and around the city, and 44,000 jobs are expected to be created at various sites, including those at the allocated West Cambridge development. It identifies that the transport network to support this growth would need to provide capacity to allow for the additional transport demands of new residents and workers, whilst protecting the area's distinctive character and environment.
- 18.2.3 To achieve this, sustainable transport capacity would need to be provided and enhanced in the city region between key economic hubs in and around the city, and to where people live and access services. The sustainable transport network will strengthen the links between employment hubs and high-tech clusters in Cambridge and South Cambridgeshire, and in the surrounding towns, by making movement between them straightforward and convenient. It identifies the need for:
- i. a high-quality passenger transport network of bus, guided bus and rail services;
  - ii. comprehensive pedestrian and cycle networks; and
  - iii. highways capacity enhancements to ensure that traffic can move efficiently in appropriate locations without interfering with passenger transport corridor in Cambridge and its fringes; and
  - iv. investment will be required to transform movement along corridors, by filling key gaps in the network and introducing high quality facilities.
- 18.2.4 The Cambridge Sub Regional Transport Model (CSRM) was used to model the transport impacts of development strategy options and the preferred strategy for the Cambridge and South Cambridgeshire Local Plans. The Proposed Submission Local Plans scenarios were tested together with a package of transport measures developed with CCC. CCC concluded that these measures would prove successful in managing demand for car-based travel and increasing use of sustainable modes such that any increase in average delay across the network would be minimal. As the intensification of West Cambridge was included within the Local Plan as an allocated site, West Cambridge would have been tested within the Local Plan Transport Study work. As such, the necessary infrastructure to facilitate the development would have already been identified within the Transport Strategy.
- 18.2.5 As well as the transport measures promoted by CCC to accommodate the Local Plan growth, there are further strategic transport interventions being promoted which will have an influence on the transport network, including:



- i. the A14 Huntingdon – Cambridge Improvement Scheme;
- ii. the A428 Black Cat to Caxton Gibbet Enhancement Scheme, details recently issued for consultation;
- iii. Highways England’s consideration of measures along the M11 - and the inclusion within the Department for Transport’s March 2020 Road Investment Strategy 2 statement that the M11 Junction 13 is a “RIS3 Pipeline” Scheme for 2025 - 2030; and
- iv. the impact of a series of other transport schemes – including - inter alia - the Oxford – Cambridge Expressway, and East-West Rail.

18.2.6 All of these would have a significant and substantial effect upon strategic movement of vehicles across the region, and would influence the future access and movement strategy of West Cambridge – particularly in the mid- to late phases of the Development. These impacts are compounded by the degree of variability in future projections (which can be attributed to a number of factors including fuel prices, Government policy etc).

18.2.7 As the outline planning application will be submitted prior to the detailed definition of these measures, as agreed with the Joint Authorities (Cambridge City Council – the planning authority, Cambridgeshire County Council – the local highway authority, and Highways England – the strategic highway authority), an “Adaptive, Phased Approach” has been adopted, incorporating:

- a graduated approach – the assessment process reflecting current transport planning policy where travel demand management measures are introduced first, followed by any necessary highway infrastructure measures to mitigate the residual traffic impact; as well as
- an adaptive approach – where, to maintain future flexibility, the proposed mitigation for later phases responds to the quanta of development within the individual phased proposals, the timescales for the delivery, changes in future travel behaviour patterns, emerging transport policy, and the current uncertainty relating to the area-wide transport enhancement proposals delivered by others.

18.2.8 For the purposes of deriving an appropriate strategy for managing the impacts of West Cambridge - which would then be used to assess the necessary Monitor and Manage Approach Transport Cap - a pragmatic and strategic management strategy has been formulated for West Cambridge. This strategy would:

- i. encourage greater use of public transport;
- ii. control and reduce vehicular trips across the network;
- iii. where necessary, provide measures to preserve and / or enhance capacity on particular links;
- iv. manage Development impact on some sensitive strategic links; and
- v. improve pedestrian and cyclist movement across the network.

18.2.9 The funding made available by the Monitor and Manage Approach could therefore be better focussed to where support is required and would be used to support the delivery of schemes more effective in resolving local issues.

### 18.3 Summary of the transport management strategy

- 18.3.1 This section provides a summary of the transport management measures to mitigate the Full Development in 2031, building upon the earlier 2021 strategy, the details are contained in Appendix 18.1.
- 18.3.2 As detailed in Section 15, the 2031 West Cambridge Do Something option test modelling already incorporates the benefit of the proposed Development travel demand management strategy (summarised in Section 9). The measures inherent in that assessment include:
- i. the new residential offer in the area - the new market housing being provided at Darwin Green (to the north of Huntingdon Road); as well as the additional units at the North West Cambridge Development, located immediately to the north of Madingley Road – with student accommodation, market housing, and Key Worker housing for University staff;
  - ii. the continuing delivery of the Framework Travel Plan (see separate document);
  - iii. the later elements of the phased public transport strategy summarised in Section 7. Particularly, this relates specifically to the Arc service providing regular connections between the Milton Park and Ride, and West Cambridge.
- 18.3.3 Any mitigation strategy for West Cambridge in 2031 has to be considered within the context of the Section 106 highway mitigation measures already delivered by the University for the Extant West Cambridge Development – as identified in Section 2.3 - and the likely 2031 flows identified in Section 13. This identifies that mitigation has already been provided for around 13% of the additional movements generated between the 2031 Do Minimum and Do Something scenarios.
- 18.3.4 West Cambridge has been allocated within the Cambridge Local Plan 2018. It forms a relatively small part of the emerging Cambridge Local Plan allocation, for which the Joint Authorities have developed strategic transport solutions to accommodate these movements. A coherent transport strategy for West Cambridge has to be considered within this context. West Cambridge cannot be expected to resolve these major issues independently, albeit that the University will assist in delivering part of this solution. Agreed developer contributions are being offered by the University to two Strategic schemes - the Cambourne to Cambridge Public Transport route, and to the Madingley Road Cycle Scheme – to assist in their deliveries.
- 18.3.5 Following discussions with the Joint Authorities, agreed developer contributions are being offered by the University towards area-wide strategic transport schemes to improve non-car movement in the Cambridge Sub-Region, especially towards a mass transit scheme along the A428 / A1303 Corridor. This mass transit scheme would not be required before the start of the second Key Phase. To provide resilience, should there be a delay to the delivery of this mass transit scheme these contributions could alternatively form part of a “Monitor and Manage” response to the necessary transport mitigation, funding an independent transport strategy as identified in this Transport Assessment. Notwithstanding, it is agreed that the A428 / A1303 Corridor mass transit scheme is the preferred response, and it would be made more certain by being aided by the financial support offered by the University.
- 18.3.6 The Bus Viability Assessment identifies the following trans-mode switch from private car to a bus serving park and ride sites along the following five strategic approach corridors shown in Table 18.1:

Table 18.1 – Additional traffic movements to West Cambridge

Corridor	AM / PM peak hour two-way flow	Most direct route into West Cambridge
A14 (North-West)	200 / 170	via Huntingdon Road and North West Cambridge
A14 (East) and A10 (North)	120 / 110	via Histon Road, Lady Margaret Road and Madingley Road (East)
East of Cambridge	100 / 40	via Grange Road and Madingley Road (East)
M11 (South)	190 / 190	via M11 Junction 13
A428 (West)	85 / 75	via Madingley Road and M11 Junction 13

18.3.7 To manage the potential additional vehicle movements along these Corridors, the University will work together with the Joint Authorities to deliver the following strategic solutions identified within the Cambridge Long-Term Transport Strategy:

Table 18.2 – Strategic management measures

Corridor	Measures
A14 (North-West)	Improved signage of existing Park and Ride sites along the A14, extension of Guided Busway services
A14 (East) and A10 (North)	Increase use of the existing Milton Park and Ride site, promotion of the new radial Arc bus services
East of Cambridge and M11 (South)	Promotion of extended Arc bus services to serve the future Barton Road Park and Ride site
A428 (West)	Development of the Madingley Mulch Park and Ride site, promotion of the new A428 / A1303 Corridor bus services

18.3.8 These strategic solutions would form part of the 2031 Transport Management Strategy. The potential measures that could form part of the Transport Management Solution are shown on Figure 18.1, and are reproduced on Plate 18.1:

Plate 18.1 – Summary of 2031 Transport Management Measures



18.3.9 These measures are summarised in Table 18.3:

Table 18.3 – Summary of 2031 Transport Management Measures

Transport Objective:	Measure:
To control and reduce vehicle trip generation:	<ul style="list-style-type: none"> <li>• offer contributions to a strategic Cambourne to Cambridge Mass Transit scheme, possibly aligned through West Cambridge utilising the existing Charles Babbage Road infrastructure – <i>Paragraph 7.6.5. and 2.8.7;</i></li> <li>• offer contributions to the West Cambridge public transport strategy to offer a quality alternative to car – <i>Section 7;</i></li> <li>• provision of appropriate levels of car parking on-site, with delivery phased to reflect development implementation – <i>Paragraph 8.3.25 and Appendix 8.2;</i></li> <li>• managing the on-site car parking provision – <i>Paragraph 8.3.24;</i></li> <li>• continue benefit of earlier off-site parking control measures – <i>Paragraphs 8.3.21 - 8.3.23.</i></li> </ul>
To preserve conditions:	<ul style="list-style-type: none"> <li>• offer contributions to the delivery of an extension of the speed limit along Madingley Road to reflect the new junction arrangements – <i>Paragraphs 6.7.12 – 6.7.14.</i></li> </ul>
To improve conditions for pedestrians and cyclists on-site:	<ul style="list-style-type: none"> <li>• quality footway / cycleway infrastructure – <i>Sections 6.4, 6.5 and 6.6;</i></li> <li>• high levels of conveniently located quality cycle parking – <i>Sections 8.4;</i></li> <li>• all major occupiers providing shower and changing room facilities – <i>Paragraph 6.4.7;</i> and</li> <li>• managing cycle parking provision – <i>Paragraph 6.4.7 and Section 8.4.</i></li> </ul>
To improve conditions for pedestrians and cyclists off-site:	<ul style="list-style-type: none"> <li>• offer contributions towards a Madingley Road Cycle Scheme – which would enhance movements to the north as well as to the north of the City Centre – <i>Paragraph 7.6.5. and 2.8.7;</i></li> <li>• offer contributions to a strategic Cambourne to Cambridge scheme, for its associated cycling infrastructure – <i>Paragraph 7.6.5. and 2.8.7;</i></li> <li>• improved crossing at Eddington Avenue – <i>Paragraph 6.8.1;</i></li> <li>• improved facilities along the Corridor to the City Centre – along Grange Road, West Road, Queen’s Green and Silver Street – <i>Paragraph 6.10.4 – 6.10.7 and Figure 6.6;</i></li> <li>• offer contributions to the delivery of an extension of the speed limit along Madingley Road to reflect the new junction arrangements – <i>Paragraphs 6.7.12 – 6.7.14.</i></li> </ul>
To enhance Public Transport on-site:	<ul style="list-style-type: none"> <li>• offer contributions to the West Cambridge public transport strategy to offer a quality alternative to car – <i>Section 7;</i></li> </ul>

Transport Objective:	Measure:
To enhance Public Transport on-site (Cont'd):	<ul style="list-style-type: none"> <li>• provide selected vehicle detection for buses through traffic signal controlled junctions to provide bus priority – <i>Paragraph 7.6.6</i>; and</li> <li>• provide information and incentives to the site occupiers – <i>Paragraphs 7.6.7 – 7.6.9</i>.</li> </ul>
Enhanced bus services:	<ul style="list-style-type: none"> <li>• Citi 4 - increased frequency to every 10 minutes – <i>Paragraph 7.4.2</i>;</li> <li>• Universal – increase to 10 minute service, and possibly introduce an extended orbital service to Addenbrooke's Hospital – <i>Paragraph 7.4.1</i>;</li> <li>• Arc Service – increased frequency, and possibly extend service further to the potential Barton Road Park and Ride and towards South Cambridge – <i>Paragraph 7.4.3</i>; and</li> <li>• review a new variation of the Service B on the Guided Busway – <i>Paragraph 7.4.4</i>.</li> </ul>
Enhancing travel demand management:	<ul style="list-style-type: none"> <li>• locate further Car Club vehicles on-site – <i>Framework Travel Plan Paragraph 6.6.27 – 6.6.30</i>;</li> <li>• review cycling initiatives – including cycle pools, cycle buddy, training, discounted equipment – <i>Framework Travel Plan Paragraph 6.6.3 – 6.6.18</i>; and</li> <li>• marketing and promotion – <i>Framework Travel Plan Section 6.7</i>.</li> </ul>
To preserve local highway capacity, consider physical interventions:	<ul style="list-style-type: none"> <li>• provide localised highway enhancement to accommodate the new Western Access Road junction – <i>Paragraph 8.5.2 and Figure 8.1</i>;</li> <li>• consider further highway mitigations, if required – <i>Paragraph 18.3.4</i></li> </ul>
To preserve strategic highway capacity, consider Corridor interventions:	<ul style="list-style-type: none"> <li>• work together with the Highway and Planning Authorities to deliver interventions strategically – <i>Paragraphs 18.2.7 – 18.2.9</i>.</li> </ul>

## 18.4 Summary

18.4.1 This Section summarises the proposed measures needed to support the 2031 Full Development. This strategy has been provided primarily to inform the assessment of the Transport Cap, needed to finance the necessary development mitigation.

18.4.2 It is concluded that this suite of measures aimed at mode shift, demand management and improvement of conditions on the network would manage the transport effects of the Development.

- 18.4.3 A strategy to manage these worst-case increased movements along Madingley Road by physical measures has not been considered:
- i. it would require significant additional infrastructure;
  - ii. to increase the physical scale of the Madingley Road carriageway would be contrary to any enhanced urban design aspirations for this area;
  - iii. it would result in a poorer environment for pedestrians and cyclists.

## **PART 5 CONCLUSIONS**

*Part 5 of the Transport Assessment contains the Conclusions*



## 19 Conclusions

- 19.1 This report sets out the results of the Transport Assessment undertaken to accompany the application for outline planning permission by the University of Cambridge develop land at West Cambridge.
- 19.2 It relates to a Local Plan allocation for the intensification of development on the existing West Cambridge Development for academic and commercial research, and various associated facilities.
- 19.3 An existing masterplan for West Cambridge was granted an approval in 1999, and this consent forms the basis of the current development on the Site. This consent envisaged 248,272m<sup>2</sup> of development - of academic, research institute and commercial research, as well as ancillary use shared facilities, sports, and residential uses.
- 19.4 The Cambridge Local Plan 2018: Policy 19 promotes the intensification of the existing West Cambridge through a revised masterplan, subject to a number of conditions. It is within this context that the University of Cambridge has produced a new masterplan for the Site which significantly increases the amount of development to approximately 500,280m<sup>2</sup>.
- 19.5 Whilst any development of this scale could have a significant traffic impact if not managed effectively, the University already has a proud reputation throughout the City for promoting its travel demand management strategy, and has always been proactive in delivering improvements to it. This philosophy will be continued at West Cambridge.
- 19.6 The Development accords well with national transport policy and guidance to deliver sustainable development:
- i. its sustainable location within Cambridge, and the incorporation of employment well located adjacent to residential land-uses reducing the need to travel - supporting the stated aspirations and objectives of paragraph 103 of the National Planning Policy Framework; and
  - ii. by promoting ways to reduce the traffic impact of this development and the University's other activities within Cambridge, and by "managing down" traffic generation, the Development supports the policy of the Department for Transport's Circular 02/2013.
- 19.7 The Development also accords with important local transport and planning policy requirements and strategies:
- i. of Policy 19 of the Cambridge Local Plan - by including a comprehensive transport strategy for the site, incorporating a sustainable transport plan to minimise reliance on private cars, as well as enhancing links for walking, cycling and public transport (including access for all) to the city centre, railway station(s), other principal educational and employment sites, and other key locations within the city to support sustainable development;
  - ii. by offering significant-sized developer contributions to two area wide strategic schemes:
    - to a Cambourne to Cambridge Mass Transit Route, to deliver quality bus and cycle connectivity between the west, through the Site to the City; and
    - to the Madingley Road Cycle Scheme, to provide quality pedestrian and cycle connectivity to the City;

- iii. by improving the local footpath and cycleway network as an integral part of a wider transport system – thus improving access to the surrounding countryside – according with the Cambridgeshire Rights of Way Improvement Plan; and
  - iv. of the measures identified within the Cambridge Long-Term Transport Strategy, the public transport strategy would deliver enhanced public transport services.
- 19.8 Whilst West Cambridge has been allocated within the Local Plan, this development is being brought forward within the context of wide-reaching planning uncertainty – including:
- i. the scale of local residential development identified in the Cambridge Local Plan 2018;
  - ii. the changes in the highway network conditions as a consequence of the A14 Huntingdon – Cambridge Improvement Scheme, due to complete in 2020;
  - iii. the timing of the delivery of elements of the Cambridgeshire Cambridge Long-Term Transport Strategy;
  - iv. Highways England’s consideration of measures along the M11; and
  - v. the impact of a series of other transport schemes – including the Oxford – Cambridge Expressway, and East-West Rail.
- 19.8 These would have a significant and substantial effect upon the strategic movements of vehicles across the region, and influence the future access and movement strategy of West Cambridge – particularly in the mid- to late phases of the Development.
- 19.9 As the outline planning application will be submitted prior to the detailed definition of these measures, as discussed with the Joint Authorities (Cambridge City Council – the planning authority, Cambridgeshire County Council – the local highway authority, and Highways England – the strategic highway authority), a Monitor and Manage Approach has been adopted, incorporating:
- i. a graduated approach – the assessment process reflecting current transport planning policy where travel demand management measures are introduced first, followed by any necessary highway infrastructure measures to mitigate the residual traffic impact; as well as
  - ii. an adaptive approach – where, to maintain future flexibility, the proposed mitigation for later phases responds to the quanta of development within the individual phase proposals, the timescales for the delivery, changes in future travel behaviour patterns, emerging transport policy, and the current uncertainty relating to the area-wide transport enhancement proposals delivered by others.
- 19.10 As such, this Transport Assessment provides a detailed assessment of the trip generation of an indicative Key Phase 1 only, relating to the 2021 scenario, and the associated mitigation strategy. The vehicular trip generation from West Cambridge is compared against that arising from the Extant Consent for this site, and shown to be lower.
- 19.11 Further information relating to the traffic impact, highway capacity assessment and mitigation relating to later phases of West Cambridge (i.e., for 2021 onwards) will be provided subsequently in the context of further clarity being reached.
- 19.12 Within the context of an assessment of Key Phase 1 in 2021 with relatively small development impact, it was agreed that a more local approach to the assessment of impact was appropriate. A methodology was therefore agreed with the Joint Authorities, based upon Stantec’s Transport Modelling.

- 19.13 The results from the 2021 modelling show:
- i. the original assessment of vehicle trip generation of the original 1997 West Cambridge application – and upon which the delivered highway mitigation strategy was derived - is 7% higher than the equivalent Do Minimum assessment derived from Stantec's analysis; and
  - ii. the reduction in car parking provision within the Key Phase 1 proposals results in a reduced trip generation from West Cambridge.
- 19.14 As such, when compared to the 2019 Base flows, the percentage increases in link flows for the 2021 Do Something Development will be less than for the 2021 Do Minimum scenario.
- 19.15 The 2021 traffic impact assessment concluded that:
- i. the differences between the 2019 Base Year and 2021 Do Minimum scenarios (i.e., With the Consented Development) indicate that the network will experience significant increases in peak hour flows;
  - ii. the differences between the 2021 Do Minimum and 2021 Do Something scenarios (i.e., the impact of the Proposed Development) would be minimal. There are only a limited number of links that experience flow increases locally, mainly due to the proposed Development car parking access strategy;
  - iii. the 2021 junction capacity assessment identified that the Madingley Road Corridor would operate over capacity without the additional trips from the Proposed Development. Whilst an enhancement solution has been identified, it is responding to a worst-case assessment - one that is unrealistic. Whilst a proposed cyclic survey has been proposed to monitor this situation – and implement measures if agreed to be necessary - the proposed strategy including for enhanced non-car modes is considered more appropriate.
- 19.16 The comparison between the 2019 and 2031 Do Minimum model peak hour flows (i.e., the impact of the background growth on the network without any of the additional trips generated by the Proposed Development) identifies that all links experience increases in the peak hour flows, reflecting the additional flow generated by the Local Plan allocation sites.
- 19.17 As there may be a degree of variability in future projections (which can be attributed to a number of factors including fuel prices, Government policy etc), a pragmatic Transport Management Strategy has been developed in consultation with the Key Stakeholders for West Cambridge which is designed to be resilient to change. This strategy would:
- i. control vehicular trips across the network;
  - ii. where demonstrated to be necessary, provide physical measures to preserve and / or enhance capacity on particular links;
  - iii. manage Development impact on some sensitive strategic links;
  - iv. improve pedestrian and cyclist movement across the network; and
  - v. provide flexibility moving forward, to enable the proposed measures to be amended by agreement to respond to identified issues.
- 19.18 The proposed transport strategy responds to emerging junction capacity issues along Madingley Road Corridor by relying upon strategic solutions, within the context of the existing local transport policy. A strategy to manage completely these worst-case increased movements along Madingley Road by physical measures has not been developed as:

- i. the necessity for it reflects the University responding to a conservative assessment - which is unlikely to materialise;
- ii. such a scheme requiring significant additional infrastructure would be contrary to policy;
- iii. to increase the physical scale of the Madingley Road carriageway to respond to peak hour conditions would be contrary to any enhanced urban design aspirations for this area; and
- iv. it would result in a poorer environment for pedestrians and cyclists.

19.19 Indeed, any other response to junction capacity issues along Madingley Road Corridor would be contrary to the advice contained in the CIHT “Better planning, better transport, better places” guidance that concludes that “...local highway authorities should not ‘double count’ the level of transport provision expected from development. It is not appropriate to seek high levels of highway-based mitigation based on worst-case transport model forecasts and also seek high levels of sustainable transport provision as, once the highway capacity is delivered, sustainable travel targets are unlikely to be met.”

19.20 In summary:

- i. the Development accords well with national and local transport policy;
- ii. the Development also accords with important local transport and planning policy requirements;
- iii. as the outline planning application will be submitted in the context of uncertainty relating to local development and infrastructure mitigation, that the adopted Monitor and Manage Approach provides a reasonable manner of assessment, in a flexible manner;
- iv. that a detailed assessment of the vehicular trip generation of an indicative Key Phase 1 of development shows that when compared to the traffic impact of the consented – and mitigated – West Cambridge Development, that the impact of the Development proposals is minimal;
- v. as there may be a degree of variability in future projections (which can be attributed to several factors including fuel prices, Government policy etc), the traffic management strategy formulated for West Cambridge is pragmatic, and is designed to be resilient to change; and
- vi. the overall transport strategy for the Development responds to a number of important national regional and local objectives.

19.21 As such, there are no transport-based reasons why planning consent should not be granted for the West Cambridge Development.