

# P3 Eco (Bicester) Limited & A2Dominion Group

## NW Bicester Eco Development

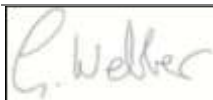
### Draft Travel Plan – Exemplar Site v2

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# CONTENTS

1	Introduction .....	1
1.1	Background .....	1
1.2	The Site .....	1
1.3	Policy Context.....	1
1.4	Scope of this Report .....	3
1.5	Report Structure .....	3
2	Existing Situation .....	4
2.1	Existing Site Audit.....	4
2.2	Baseline Trip Patterns .....	4
2.3	Baseline Modal Share .....	9
2.4	Baseline Carbon Emissions.....	11
3	Development Proposals .....	13
3.1	Proposed Development .....	13
3.2	Sustainable Travel Measures .....	13
3.3	Baseline Anticipated Total Person Trips.....	14
4	Aims and Targets .....	15
4.1	Travel Plan Aims .....	15
4.2	Targets .....	15
5	Travel Plan Strategy and Measures .....	19
5.1	Introduction.....	19
5.2	Limiting the Need to Travel.....	19
5.3	Promoting Sustainable Travel Choices.....	20
5.4	Providing High Quality Public Transport .....	29
5.5	Providing High Quality Walking and Cycling Infrastructure.....	31
5.6	Impact of Measures .....	34
5.7	Impact Commentary .....	36
5.8	Conclusion.....	38
6	Management.....	39
6.1	Travel Plan Co-ordinator.....	39
6.2	Travel Plan Group .....	40
7	Monitoring and Review .....	42
7.1	Overview.....	42
7.2	Monitoring Timeframe.....	42
7.3	Monitoring Mechanisms.....	43
7.4	Monitoring & Reporting.....	45
7.5	Remedial Actions.....	45
8	Action Plan .....	47

## **FIGURES (in Appendix)**

**Figure 1.1:** Site Location

**Figure 2.1:** Existing Walking and Cycling Network

**Figure 2.2:** Existing Bus Routes

**Figure 2.3:** Employment & Business Destinations

**Figure 2.4:** Education Destinations

**Figure 2.5:** Shopping Destinations

**Figure 2.6:** Leisure Destinations

**Figure 2.7:** Visiting Friends & Relatives Destinations

**Figure 2.8:** Historical trends of vehicle km, MtCO<sub>2</sub> and gCO<sub>2</sub>/km for cars (1990-2008)

**Figure 3.1:** Exemplar Site Accessibility

**Figure 3.2:** Site Layout (North and South)

**Figure 5.1:** Maximum Parking Accumulation, 2016

**Figure 5.2:** Maximum Parking Accumulation, 2026

**Figure 5.3:** Proposed Bus Route

**Figure 5.4:** Population within 400m of Proposed Bus Route

**Figure 5.5:** Transport Proposals Plan

## **TABLES**

**Table 2.1:** Trip Purposes of Bicester Residents

**Table 2.2:** All Households Main Trip Destinations

**Table 2.3:** Employment & Business Trips Main Destinations

**Table 2.4:** Education Trips Main Destinations

**Table 2.5:** Shopping Trips Main Destinations

**Table 2.6:** Leisure Trips Main Destinations

**Table 2.7:** Visiting Friends & Relatives Trips Main Destinations

**Table 2.8:** Summary of Distance Travelled to Work – Resident Population

**Table 2.9:** 2007 Bicester Household Diary Surveys Modal Share

**Table 2.10:** 2007 Bicester Household Diary Surveys Modal Share for Each Journey Purpose

**Table 2.11:** Summary of Method of Travel to Work – Daytime/ Working Population

**Table 3.1:** Baseline Total Person Trip Generations (TRICS-derived)

**Table 4.1:** Summary of Mode Share Targets – Exemplar Site, 2016

**Table 4.2:** Summary of Mode Share Targets – Exemplar Site, 2026

**Table 5.1:** Estimated Containment of Trips within Exemplar Site

**Table 5.2:** Non Residential Parking Provision

**Table 5.3:** Cycle Parking Standards – Cherwell DC

**Table 5.4:** Non Residential Cycle Parking Provision

**Table 5.5:** Potential Total Trip and Modal Share Impact of Measures

**Table 5.6:** Exemplar Site Anticipated Modal Share

**Table 5.7:** Comparative Journeys to Bicester Town Centre

**Table 5.8:** Comparative Journeys to Other Bicester Destinations

**Table 8.1:** Travel Plan Action Plan

# 1 Introduction

## 1.1 Background

Hyder Consulting has been commissioned by P3 Eco (Bicester) Limited and A2Dominion Group to prepare this Draft Travel Plan in support of their proposals for the 'Exemplar Site' at Home Farm, Bicester, the first phase of the NW Bicester Eco Development. The document forms part of the planning submission for the proposed development. The Draft Travel Plan has been revised for re-submission as part of revisions to the proposed development and thus this document supersedes the version produced in November 2010.

The Exemplar Site spans approximately 21.1 hectares (or 5.1%) of the overall 416 hectare NW Bicester Site. It is considered that the Exemplar Site would act as a catalyst for creating an Eco Development at the NW Bicester Site, which presents an exciting opportunity to build a new form of sustainable community within Cherwell District and to extend the benefits of this community to the existing town of Bicester.

The NW Bicester Site aims to deliver an Eco Development that could eventually comprise up to 5,000 homes and provide 5,000 jobs, with 3,000 of the homes and associated jobs and development by 2026. The 'Exemplar Site' aims to deliver 393 homes (30% of which will be affordable), a primary school, Eco business centre, Eco pub, local shops, children's nursery, community centre and biomass energy centre by 2016.

## 1.2 The Site

The site is located to the west of the B4100 Banbury Road on the north west side of Bicester and is shown in [Figure 1.1](#).

The town of Bicester lies approximately 24km to the north east of Oxford and 28km to the south east of Banbury. The M40 lies 2km to the south west, with access to the town from Junction 9 via the A41.

Bicester has two railway stations: Bicester North and Bicester Town. Bicester North is served by Chiltern Railways services between Birmingham Snow Hill and London Marylebone. Bicester Town, located to the south of the town, has a branch line service to Oxford via Islip which follows the old Varsity Line track between Oxford and Cambridge. The exemplar site is located to the north west of Bicester, approximately 2.5km from the town centre.

The site comprises agricultural land and woodland. The villages of Bucknell and Caversfield are located to the north and east of the site respectively.

## 1.3 Policy Context

It is important to establish the policy context within which this Draft Travel Plan has been produced as this defines the vision for the area, what is achievable in terms of modal share and identifies travel planning measures that will work within the proposed mixed-use development. This Draft Travel Plan supports the overarching aims for Bicester as published in the Oxfordshire County Council Local Transport Plan and Bicester Integrated Transport Strategy.

The NW Bicester Eco Development is proposed in the Annex to Planning Policy Statement 1 on sustainable development. The supplement specifically sets out a range of minimum standards for Eco-towns, with NW Bicester identified as one of the four Eco-town locations. The document

states that many of the principles and standards are more challenging and stretching than would normally be expected for new development (i.e. for transport those included within PPG 13), with the aim of acting to ensure that Eco-towns are exemplars of good practice and provide a showcase for sustainable living.

Section ET11 – Transport sets out the standards to be achieved for transport. In particular, the guidance states in ET 11.2 and ET 11.3 as below:

**ET 11.2 Planning applications should include travel plans which demonstrate:**

- (a) How the town's design will enable at least 50 per cent of trips originating in eco-towns to be made by non-car means, with the potential for this to increase over time to at least 60 per cent**
- (b) Good design principles, drawing from Manual for Streets<sup>1</sup>, Building for Life<sup>2</sup>, and community travel planning principles<sup>3</sup>**
- (c) How transport choice messages, infrastructure and services will be provided from 'day one' of residential occupation, and**
- (d) How the carbon impact of transport in the Eco-town will be monitored, as part of embedding a long term low-carbon approach to travel within plans for community governance.**

**ET 11.3 Where an eco-town is close to an existing higher order settlement, planning applications should also demonstrate:**

- (a) Options for ensuring that key connections around the eco-town do not become congested as a result of the development, for example by extending some aspects of the travel plan beyond the immediate boundaries of the town, and**
- (b) Significantly more ambitious targets for modal share than the 50 per cent (increasing to 60 per cent over time) mentioned above and for the use of sustainable transport**

This Draft Travel Plan aims to address the standards set out in the guidance and at the same time respond to the wide body of research and best practice such as identified in the DfT guidance 'Making Travel Plans Work', the Smarter Choices report and the 'Good Practice Guidance for Travel Plans'.

The draft Travel Plan has been developed in close consultation with Oxfordshire County Council and Cherwell District Council. The document seeks to establish a framework to finding lasting solutions to creating a community that people want to live in and where sustainable modes of transport are incorporated into every aspect of the design from the outset. It will also form the basis for coordinating the aspirations of the local authorities, the site developer and the future residents and users of the development. As a consequence the Draft Travel Plan for the Exemplar Site will form the basis of a consensus between stakeholders and interested parties promoting this development. Whilst it specifically addresses measures for the proposed development, a number of measures will also bring sustainable travel benefits for parts of the town close to the Exemplar Site and/ or the town as a whole.

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<sup>1</sup> Manual for Streets – Department of Transport – <http://www.dft.gov/pgr/sustainable/manforstreets/>

<sup>2</sup> Building for Life – <http://www.buildingforlife.org/>

<sup>3</sup> See Building Sustainable Transport into New Developments (DfT 2008) and Good Practice Guidelines: Delivering Travel Plans through the Planning Process (DfT/CLG 2009)

It is recognised that it is challenging for the Exemplar development as a stand-alone development to fully achieve the Government standards and that the proposals need to be seen in the context of the future Masterplan for 5,000 homes, jobs and associated development. Once the larger Masterplan is underway, the opportunities for changing travel behaviour and providing all of the necessary physical infrastructure will be available and the stretching target of more than 50% modal share (rising to 60%) by non-vehicle modes could be delivered.

## 1.4 Scope of this Report

The Draft Travel Plan complements the Transport Assessment for the development and is based on the same approach to achieving a high/ exemplary modal share by sustainable modes of travel.

Whilst travel plans are typically organisation specific and cover all key user groups and operations of an organisation, it is common practice for mixed-use or multiple occupier sites, particularly where these are large and/or complex, to prepare a common (umbrella or site-wide) Travel Plan Framework.

A good site-wide travel plan should clearly set out an integrated approach to travel planning activities for the development that enables economies of scale to be achieved (and therefore removal of expensive repetition) and ensures that a coordinated approach is adopted across the site.

Preparation of a site-wide travel plan is often in acknowledgement that certain aspects of development and travel planning cannot be undertaken until final occupiers are known. Where necessary, the framework sets the key parameters for the future creation of individual Travel Plans and the timelines for these. In the context of the NW Bicester Eco Development, the development mechanism gives a greater degree of control over travel planning activities than many mixed used sites. As such this is Travel Plan is not just a framework, but provides details of measures for each of the proposed land-uses.

This document identifies the measures to be implemented with the aim of achieving the target mode shares through the setting of an overall travel strategy and including the main travel planning aspects for each of the main elements of the proposed development in support of this strategy. The Draft Travel Plan addresses the main elements of the development but recognises that over time detailed travel plans will be required for the primary school, Co-operative foodstore, Eco business centre and children's nursery within this framework.

The draft Travel Plan is for the Exemplar Site development. A travel plan will be developed for the overall masterplan site during 2011.

## 1.5 Report Structure

The draft Travel Plan follows the structure identified below:

- Chapter 2** – Existing Situation
- Chapter 3** – Development Proposals
- Chapter 4** – Objectives and Targets
- Chapter 5** – Travel Strategy and Measures
- Chapter 6** – Management
- Chapter 7** – Monitoring and Review
- Chapter 8** – Action Plan

## 2 Existing Situation

### 2.1 Existing Site Audit

Site audits of existing conditions have been undertaken to assess the potential for the provision of effective travel planning measures. Comprehensive details of the existing conditions and a review of the accessibility of the proposed development site are included within [Chapter 3](#) and [6](#) of the Transport Assessment.

The site currently has limited accessibility to walking, cycling and bus routes at present given that it is a previously undeveloped site. Moreover, whilst there are walking and cycling routes through the town side development, notably Bure Park, there is a recognised need (LTP3 consultation, BicLUTS2 etc) to improve the attractiveness of routes in this part of Bicester. In addition, bus services on Banbury Road and Bure Park, which would be closest to the site, are infrequent at present. The development proposals, as set out in [Chapter 3](#), aim to provide a high quality bus, walking and cycling network not only for the Exemplar Site, but which will benefit residents in the wider town.

[Figure 2.1](#) illustrates the existing walking and cycling network, together with proposals for improvements by Oxfordshire County Council. [Figure 2.2](#) shows existing bus routes in the town.

### 2.2 Baseline Trip Patterns

#### 2.2.1 Bicester Household Travel Diary Data (2007)

Data on the existing trip patterns of Bicester residents has been derived from the 2007 Household Diary Surveys undertaken as part of the development of the Central Oxfordshire Transport Model (COTM). Household surveys have since been undertaken (October 2010) but data is not yet available, thus the 2007 data is the most recently available.

The 2007 Travel Diary Survey recorded each household making an average of [9.78](#) trip stages over the day, of which a proportion are between other off site origins and destinations (e.g. someone going to Oxford for work and shopping on the way home). [Table 2.1](#) shows the percentage of all the resident trips made by each main purpose. It can be seen that work related journeys account for 37% of all trips, with shopping and education the next most significant activities.



**Table 2.1: Trip Purposes of Bicester Residents**

Trip Purpose from Household	Percentage of Total Trips (2007 Bicester Travel Diary Survey)	Average Number of Trips per Day per Household
Place of work	28	2.74
On employers business	9	0.88
Educational attendance	17	1.66
Shopping	18	1.76
Other services	8	0.78
Visiting friends/ relatives	9	0.88
Recreation/ leisure	11	1.08
<b>Total</b>	<b>100</b>	<b>9.78</b>

Source: 2007 Bicester Household Travel Diary Surveys

The 2007 Bicester Household Travel Diary survey data has been analysed to establish the destinations of Bicester residents for each trip purpose. The main destinations for all trips and each purpose are shown in [Tables 2.2 to 2.7](#) below. The zone boundaries, together with the trips to each zone are shown spatially in [Figures 2.3 to 2.7](#). It should be noted that the Travel Diary data is missing a large number of destination postcodes (with purpose and mode completed, thus actual recorded trip numbers are relatively low).

With regards to the main destinations for all trips in total, some 22% of trips are within 2km (walking distance), and 48.7% are within 5km (cycling distance).

**Table 2.2: All Household Trips Main Destinations**

Zone	District/ Ward Name	Distance from Exemplar (to zone centre) Km	% of Trips
43	Bicester Town Ward	3	18.9
35	Oxford District (B)	19	9.0
41	Bicester East Ward	2	8.7
36	Kidlington Wards	15	7.8
42	Bicester South Ward	4	7.8
44	Bicester West Ward	2	6.8
45	Bicester North Ward	1	6.5
37	Wards South and West of Bicester	8	4.7
27	South Oxfordshire District	34	3.4
38	Wards North and West of Bicester	7	3.0
24	South Northamptonshire District	26	2.4
25	West Oxfordshire District	26	2.4
29	Banbury	20	2.3
	<b>Total to Main Destinations</b>		<b>83.7</b>

**Table 2.3** shows the main destinations for work based trips, highlighting that Oxford is a key destination, followed by Kidlington. Trips to the east of Bicester (to the industrial estates) and the town centre are also significant. Work based trips are however the most dispersed out of Bicester of the journey purposes, illustrating that the majority of Bicester residents currently commute out of the town for employment.

**Table 2.3: Employment and Business Trips Main Destinations**

Zone	District/ Ward Name	% of Trips
35	Oxford District (B)	9.8
36	Kidlington Wards	9.5
41	Bicester East Ward	9.5
43	Bicester Town Ward	9.5
37	Wards South and West of Bicester	6.9
27	South Oxfordshire District	6.4
38	Wards North and West of Bicester	4.9
24	South Northamptonshire District	4.6
25	West Oxfordshire District	4.1
33	Aylesbury Vale District (South)	3.6
	Total to Main Destinations	68.9

The majority of education related trips made by Bicester households are within Bicester, as shown in **Table 2.4**, totalling 81%. These trips are generally within walking or cycling distance of homes and thus have a high propensity for sustainable travel.

**Table 2.4: Education Trip Main Destinations**

Zone	District/ Ward Name	% of Trips
43	Bicester Town Ward	19.6
44	Bicester West Ward	19.0
45	Bicester North Ward	17.9
41	Bicester East Ward	14.7
42	Bicester South Ward	9.8
35	Oxford District (B)	5.4
29	Banbury	3.8
36	Kidlington Wards	2.7
	Total to Main Destinations	92.9

As shown in **Table 2.5**, shopping trips are concentrated (61%) into the Town Ward and Bicester South (the town centre, Tesco store and Bicester Village) or are likely to be local centre trips (13% to Bicester North, East and West). The town centre is likely to increase as a proportion following the proposed redevelopment including a Sainsbury's store.

**Table 2.5: Shopping Trip Main Destinations**

Zone	District/ Ward Name	% of Trips
43	Bicester Town Ward	40.9
42	Bicester South Ward	19.7
36	Kidlington Wards	10.2
41	Bicester East Ward	5.1
35	Oxford District (B)	4.4
45	Bicester North Ward	4.4
29	Banbury	3.6
44	Bicester West Ward	3.6
37	Wards South and West of Bicester	2.9
	Total to Main Destinations	94.9

**Table 2.6** shows the destinations of the majority of leisure trips, with the town centre and other parts of Bicester accounting for 54% of trips. Areas to the south and west of Bicester, and Oxford, are also popular destinations.

**Table 2.6: Leisure Trip Main Destinations**

Zone	District/ Ward Name	% of Trips
43	Bicester Town Ward	33.3
44	Bicester West Ward	12.5
37	Wards South and West of Bicester	11.1
35	Oxford District (B)	8.3
36	Kidlington Wards	8.3
42	Bicester South Ward	5.6
26	Vale of White Horse District	4.2
39	Fringford Ward	4.2
45	Bicester North Ward	2.8
	Total to Main Destinations	90.3

The data on destinations for people visiting friends and family as shown in **Table 2.7** shows strong social linkage to Oxford, with Oxford District accounting for 22% of trips. However, 43% of visits were to people also living in Bicester.

**Table 2.7: Visiting Friends and Family Trip Main Destinations**

3	District/ Ward Name	% of Trips
35	Oxford District (B)	22.0
42	Bicester South Ward	13.4
43	Bicester Town Ward	12.2
38	Wards North and West of Bicester	7.3
45	Bicester North Ward	7.3
36	Kidlington Wards	6.1
44	Bicester West Ward	6.1
41	Bicester East Ward	3.7
	Total to Main Destinations	78.0

## 2.2.2 Journeys to Work (2001 Census)

The 2001 Census provides information on the distance travelled to work, which is shown in **Table 2.8** for the wards local to the Exemplar Site (Bicester North and Caversfield) compared to Cherwell, the South East Region and England.

**Table 2.8: Summary of Distance Travelled to Work – Resident Population**  
(Source: 2001 Census)

Distance Travelled to Work	UV35 – Resident Population				
	Bic North Ward	C'field Ward	Cherwell Non Met Dist	South East Region	England Country
Works mainly at or from home	8%	12%	10%	11%	10%
Less than 2km	19%	7%	26%	22%	21%
2km to less than 5km	7%	16%	14%	19%	21%
5km to less than 10km	6%	20%	14%	16%	19%
10km to less than 20km	23%	17%	15%	14%	16%
20km to less than 30km	16%	15%	8%	7%	6%
30km to less than 40km	4%	4%	4%	4%	2%
40km to less than 60km	8%	4%	4%	4%	2%
60km and over	9%	6%	5%	4%	3%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

It is apparent from reference to **Table 2.8** that in total 34% in Bicester North, 35% in Caversfield and 40% (Caversfield Ward) and 50% (Cherwell District) worked either at home or less than 5km from their place of residence at the time of the 2001 Census.

It should be noted that the trip patterns are those for site residents, whereas the site will also draw employees, shoppers, visitors and school pupils.

The data presented above is from the 2001 Census, however other data sources point to significant increases in the proportion of people working from home since 2001. The 2009 Labour Force Survey, shows the following rates for the '*% of the workforce who works at or mainly from home*': UK – 12.8%; Rural SE – 21.0%; Urban SE – 13.5%. It would thus be expected that the percentage working from home in Bicester is currently in the range of 13.5% to 21.0%, and the conservative estimate of 13.5% is assumed for the purposes of this travel plan.

## 2.3 Baseline Modal Share

The baseline modal share for Bicester provides the starting point for developing realistic yet stretching targets and a basis for measuring the success of the travel plan. Overall modal share for the Exemplar site will be the result of modal shares achieved for the various journey purposes. The main source of data on the baseline modal share has been extracted from the 2007 Household Diary Surveys. The data for households within Bicester has been analysed and a total modal share derived for all trip purposes, as shown in [Table 2.9](#). The modal share is based on the PPS1 terminology of 'car' and 'non-car' and for clarification, the 'car' category includes light goods vans and heavy goods vehicles. All other modes of travel are included in the 'non-car' category.

It can be seen that in the baseline, 67.5% of all trips by households were made by car or goods vehicle. Of non-car modes, walking has the largest share at 23.3%. The baseline for bus, rail and cycle use is low as a proportion of all trips.

**Table 2.9: 2007 Bicester Household Diary Survey Modal Share**

Mode of Travel	% by Each Mode	Summary Totals by Car, Goods Vehicle and Non-Vehicle Modes
Car driver	47.40%	64.40%
Car passenger	17.00%	
Light goods van	2.90%	3.10%
Heavy goods vehicle	0.20%	
Bus passenger	3.50%	32.50%
Train passenger	0.50%	
Motorcycle	0.40%	
Bicycle	3.40%	
Walk	23.30%	
Taxi	0.50%	
Coach passenger	0.20%	
School bus	0.70%	
Community transport	0.00%	
Total	100%	100%

[Table 2.10](#) shows the modal share of car versus more sustainable modes for each journey purpose. It can be seen that at present journeys to work or for business have a very high private vehicle usage, whereas for education, 73.5% of journeys are already made by other modes.

**Table 2.10: 2007 Bicester Household Diary Surveys Modal Share for Each Journey Purpose**

	Car	Non-Car
Work	81.5%	18.5%
Business	92.7%	7.3%
Education	26.5%	73.5%
Shopping	66.6%	33.4%
Other services	68.0%	32.0%
Visit friends	73.7%	26.4%
Recreation	70.5%	29.5%

It should be noted that the mode share given in the above table is for all trips made by residents, whereas for example, those using rail will leave the site by other means, either walking, cycling, bus or car. This will need to be taken into account in setting targets, to ensure that the focus is not just on mode share from the site, but takes into account the distance travelled by that mode.

In addition to household data, 2001 Census data provides a modal share of journeys to work in the Bicester North and Caversfield Wards compared to Cherwell District and the South East Region and England as a whole (daytime population). The data is shown in [Table 2.11](#).

It can be seen that approximately 78% of work journeys to the vicinity of the proposed development are made by car, compared to only 68% for the Cherwell District and 61% for England as a whole.

**Table 2.11: Summary of Method of Travel to Work – Daytime/Working Population (Source: 2001 Census)**

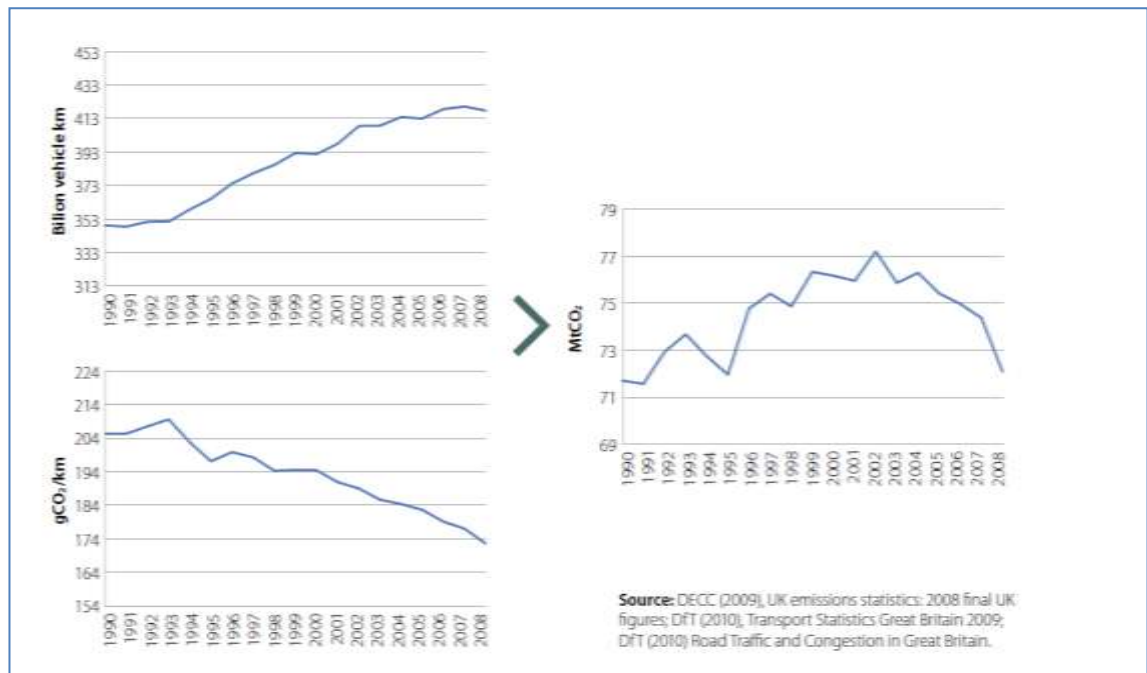
Method of Travel to Work	UV37 - Daytime Population				
	Bic North Ward	C'field Ward	Cherwell Non Met Dist	South East Region	England Country
Works mainly from home	8%	11%	10%	10%	9%
Underground	0%	0%	0%	0%	3%
Train	3%	2%	2%	6%	4%
Bus, minibus or coach	3%	2%	5%	4%	8%
Taxi or minicab	0%	0%	0%	0%	1%
Driving a car or van	71%	73%	61%	59%	55%
Passenger in a car or van	6%	6%	7%	6%	6%
M'cycle, scooter or moped	1%	1%	1%	1%	1%
Bicycle	3%	2%	4%	3%	3%
On foot	6%	4%	11%	10%	10%
Other	0%	0%	0%	1%	0%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

## 2.4 Baseline Carbon Emissions

In order to be able to monitor the carbon impact from travel and transport of the Eco development, it is important to understand existing data and past trends in carbon emissions. Data is available at a national level showing the trend in vehicle kilometres, carbon intensity per vehicle and overall emissions from various types of vehicles.

Figure 2.8 is extracted from a report by the Department of Energy and Climate Change (DECC)<sup>4</sup> showing the historical trends in car kilometres, million tonnes of carbon and carbon per kilometre for the UK from 1990 to 2008. There has been a 3% reduction in carbon emissions from passenger cars between 1990 and 2009, from 73.1 MtCO<sub>2</sub>e to 70.9 MtCO<sub>2</sub>e (although it peaked in 2002 to more than 77 MtCO<sub>2</sub>e and then fell again).

**Figure 2.8: Historical trends of vehicle km, MtCO<sub>2</sub> and gCO<sub>2</sub>/km for cars (1990-2008)**



Source: Department of Energy and Climate Change (DECC)

Vehicle standards per vehicle have improved substantially over this period in terms of gCO<sub>2</sub>/km, however vehicle kilometres has significantly increased. The report states that “*between 1990 and 2008 emissions intensity of cars fell by 16% from 205 gCO<sub>2</sub>/km to 173 gCO<sub>2</sub>/km, whilst distance travelled increased by 20% from 350 billion km to 418 billion km*”. The baseline average intensity per vehicle for Exemplar Site residents is thus taken as 173 gCO<sub>2</sub>/km. Carbon intensity per new vehicle was said to be 150gCO<sub>2</sub>/km in 2009.

UK vehicles do an average of 14,723 kilometres per year, based on total car registrations in the UK and billion vehicle kilometres. This average will thus be taken as the baseline for Exemplar Site residents.

<sup>4</sup> The Fourth Carbon Budget - reducing emissions through the 2020's - 7 December 2010, DECC

BioRegional have estimated the carbon emissions per capita from private transport in Cherwell District, based on a population proportion of UK figures. It is estimated that GHG Footprint (tonnes CO<sub>2</sub>eq/capita) for private vehicle use in terms of direct fuel is 1.47, representing 8.4% of residents overall carbon footprint.



## 3 Development Proposals

### 3.1 Proposed Development

The proposed development which forms this application, in summary comprises:

- 393 residential units (including 30% affordable units);
- A 135 pupil primary school (including nursery unit);
- A Co Operative Foodstore, Pharmacy, Hairdressers and Post Office (770 m<sup>2</sup>);
- Offices above shops (1,100 m<sup>2</sup>);
- A 40 place children's nursery (350 m<sup>2</sup>);
- Community centre (350 m<sup>2</sup>);
- An Eco Pub (190 m<sup>2</sup>);
- An Eco Business Centre (1,800 m<sup>2</sup>); and
- Biomass Energy Centre (400 m<sup>2</sup>).

### 3.2 Sustainable Travel Measures

The intention of the mix of uses is that a significant proportion of residents needs will be met within the site thus reducing the need to travel. The level of containment for all trip purposes has been estimated (in agreement with OCC) as 17.4%. This is discussed later in [Chapter 5](#). The accessibility to key services and facilities by walking and cycling from the site has been calculated and is shown on [Figure 3.1](#).

The site layout plan is shown in [Figure 3.2](#). In relation to encouraging sustainable travel, the following elements are included within the development:

- The two parts of the site will be linked by a bus, cycle, taxi, emergency and refuse vehicle only link. This will discourage residents in the northern part of the site from making very short journeys by car to the shops and services in the southern part. This will mean that the northern access from Banbury Road will serve 227 residential properties and the southern access will serve 166 residential properties and the non-residential uses;
- A bus route will be provided through the site with three stops – dropping off on Banbury Road close to the southern access, one in close proximity to the primary school and one in the northern residential area;
- Cycle stands and storage will be provided in accordance with standards set out in the Code for Sustainable Homes and outside each of the non-residential uses to a level above the CDC/ OCC standards;
- A walking and cycling route will be provided from the site southwards along both sides of Banbury Road, with a Toucan crossing on Banbury Road linking the development to Caversfield and also on Lord's Lane linking to the existing cycle network on Lord's Lane/ Banbury Road;
- There will be a network of segregated walking and cycling routes providing direct links north to south within each part, and west to east between the two parts in the northern fields; and
- The main road link is designed as a 20 mph route with appropriate surfacing and calming features. Connecting residential streets are designed as 15 mph streets. Throughout the

development, walkers, cyclists and pedestrians will be afforded a high level of priority through the street design.

The development proposals have been developed to promote and accommodate sustainable travel. The proposals provide the walk, cycle and public transport infrastructure that will support the travel plan measures for the site. In addition, the proposed parking for both residential and non-residential uses is below the maximum CDC standards, as discussed in more detail in Chapter 5. The intention is to provide adequate parking to meet requirements whilst not unduly encouraging car use.

### 3.3 Baseline Anticipated Total Person Trips

The trip generation of the proposed land uses has been estimated as total person trips and is summarised in **Table 3.1**. This gives a total of 973 trips in the AM peak hour and 675 in the PM peak hour, by all modes. It should be noted that these have been updated since the assessment work contained in the Transport Assessment, to revise the floorspace of the local shops and community hall to lower figures. The figures in Table 3.1 represent the latest proposed floorspace.

Whilst the emphasis of the PPS1 guidance is on ensuring a mode share by non-car modes of more than 50%, achieving a reduction in overall person trips compared to normal expectations (for the same level of community/ economic activity) would also have significant benefits for the Eco Development and thus measures to reduce overall trips are included within the travel plan measures.

**Table 3.1: Baseline Total Person Trip Generations (TRICS-derived)**

Land Use(s)	Calculation Factor			Units / pupils / sq.m	Morn Peak (8-9am)			Evening Peak (5-6pm)		
					Arr	Dep	Tot	Arr	Dep	Tot
Residential - Privately Owned	Per	no of	units	270	62	224	<b>286</b>	161	92	<b>254</b>
Residential - Affordable Housing	Per	no of	units	123	23	82	<b>104</b>	59	34	<b>92</b>
Primary School	Per	no of	pupils	135	172	35	<b>207</b>	4	7	<b>11</b>
Local Shops	Per	100	sq.m	770	113	104	<b>217</b>	70	73	<b>143</b>
Eco Pub	Per	100	sq.m	190	0	0	<b>0</b>	21	13	<b>34</b>
Community Hall	Per	100	sq.m	350	4	2	<b>6</b>	6	3	<b>10</b>
Children's Nursery	Per	100	sq.m	350	18	8	<b>26</b>	6	18	<b>24</b>
Eco Business Centre/ offices	Per	100	sq.m	2,900	118	9	<b>128</b>	11	98	<b>109</b>
<b>Total</b>	<b>N/A</b>			<b>N/A</b>	<b>509</b>	<b>463</b>	<b>973</b>	<b>337</b>	<b>338</b>	<b>675</b>

## 4 Aims and Targets

### 4.1 Travel Plan Aims

The Draft Travel Plan aims guide the development of the travel strategy. The aims have been developed in accordance with good practice for Travel Plans and support the specific requirements of the Annex to PPS1. The overarching aim for the development is to:

***“Reduce the need or desire to travel through integrated design and provide sustainable travel choice options that have less reliance on private cars and seek to relieve congestion.”***

The specific aims are:

- 1 To create a high quality place in which people want to live and work
- 2 To reduce the need to travel whilst ensuring access to a full range of facilities and services
- 3 To provide people with information on travel choices
- 4 To promote the use of non-car modes – walking, cycling and public transport
- 5 To reduce single occupancy vehicle trips
- 6 To reduce the travel related carbon impact of the site
- 7 To manage traffic to reduce vehicle speeds and give priority to pedestrians, cyclists and public transport over cars
- 8 To ensure there are no undue congestion impacts on the wider town and road network arising from the development
- 9 To provide a mechanism for the ongoing development and implementation of the Travel Plan

### 4.2 Targets

#### 4.2.1 Overall Targets

The Travel Plan aims to address all types of trips made by residents of the site and those travelling to the site for school, shopping, work or other purposes. The overarching target for the Travel Plan for the Exemplar Site is:

**T1: By 2026, 50% of all trips originating from the Exemplar Site will be by non-car modes.**

It is recognised that the Annex to PPS1 seeks a more stretching target of 60% for the Eco Development but the difficulties of achieving the target as a standalone development are recognised, particularly the lower level of employment relative to households for the Exemplar Site. The overall Eco Development aims to provide some 5,000 jobs on site or in the surrounding area and meet other employment needs within Bicester as a whole and thus the 60% target will be appropriate for the overall masterplan travel plan.

In addition, an interim target is proposed for 2016, recognising that the modal share of walking and cycling will increase for the Exemplar Site as further phases of the development take place, delivering a greater range of facilities within walking distance and off road cycle connections to the town centre:

**T2: By 2016 (three years post first occupation), 45% of all trips originating from the Exemplar Site will be by non-car modes.**

It is assumed that whilst there will be particular changes (i.e. the development of a greater range of services and walking and cycling connections) which may bring a step up in modal share by sustainable modes, there would be an average increase in non-car modal share of 0.5 percentage points per annum (e.g. in 2020 47% of trips would be by non car modes).

These targets relate to the overall trips. The primary school on site is a key influence on overall modal share, thus a separate target is set for trips by pupils. This can be compared to the average for pupils to Bicester primary schools of 25% arriving by car:

**T3: By 2016, no more than 20% of pupils will arrive at school by car on a typical school day.**

In addition to the target for non-car modes, the following target is proposed for reducing work trips through working from home:

**T4: By 2016 (3 years post first occupation) 16% of working adults are to be working from home on a typical work day**

The emissions from transport are a large component of people's carbon footprint and the Exemplar Site development needs to meet the guidance in the Annex to PPS1, which requires a demonstration of "how the carbon impact of transport in the Eco-town will be monitored, as part of embedding a long term low-carbon approach to travel within plans for community governance." The emerging Oxfordshire LTP3 also has the objective to "*Reduce carbon emissions from transport*". Overall, the UK has CO<sub>2</sub> reduction targets of 80% by 2050 (from 1990 levels), and a 34% reduction by 2020 (from 1990 levels). These national (all sectors) targets basically suggest an annual average reduction of 3.3% over the next 40 years. However between 1990 and 2008 emissions from cars fell by only 3% across the period.

Legislation adopted by the EU in 2009 created the requirement for manufacturers to ensure that the average emissions of all the new cars sold in Europe to be "*less than 130 gCO<sub>2</sub>/km by 2015, less than 95g by 2020 and less than 80gCO<sub>2</sub>/km by 2030*" (DECC as above). Conventional car efficiency is targeted to be 110gCO<sub>2</sub>/km by 2020. The DECC extended ambition:

- Recommends that by 2020 around 5% of all cars and 16% of new cars should be battery electric and plug in hybrid.
- Targets biofuels to account for 8% of total liquid fuel consumption (by energy) in 2020.
- Aims to encourage smarter choices such as car sharing, working from home and use of public transport, in order to achieve a reduction in car km of around 5-7%.

For the Eco development, it would be appropriate to seek both a reduction in overall vehicle kilometres driven in private cars by residents and in emissions per kilometre of those vehicles, leading to an overall reduction on UK per capita figures for residents of the Eco development. The average per resident will implicitly take account of those who do not own a car. Two targets are set in order for overall carbon emissions from residents car travel to be measured:

**T5: By 2020, average vehicle emissions for cars owned by Exemplar Site residents will be less than 110gCO<sub>2</sub>/km by 2020.**

**T6: By 2020, average annual vehicle kilometres by private cars owned by Exemplar Site residents will be 10% lower than the 2008 UK average of 14,723.**

## 4.2.2 Mode Share Targets by Land use

Additional targets in order to achieve the overarching non-vehicle mode target are proposed for the peak hours in 2016 and 2026 for each of the land uses in the Exemplar Site, as shown in **Table 4.1** and **Table 4.2**. It should be noted that the overall modal share for the primary school is 30% vehicles (not the 20% as set out in T3) as it includes trips by staff and visitors whereas the 20% is for parent/ pupil journeys. The targets have been set for each land use having regard to the current mode shares and the potential for change. For example, mode share by non-car modes for journeys to work is currently 81.5% for Bicester households, and a reduction to 70% is proposed.

The mode share targets are of total trips generated by each land use. Each land use generates varying levels of trips, as shown previously in Table 3.1. Of the total trips, 40% are anticipated to be generated by the residents, 22% by the local shops, 21% by the primary school and 13% by the Eco Business Centre. Thus the modal share of the highest generating uses makes the most difference to overall modal share. When the modal shares are applied to trips from each land use, this arrives at an overall modal share of 55:45 in 2016 and 50:50 in 2026.

**Table 4.1: Summary of Mode Share Targets – Exemplar Site, 2016**

Land Use(s)	Morn Peak (8-9am)			Evening Peak (5-6pm)		
	Car	Non-Car	Tot	Car	Non-Car	Tot
Residential - Privately Owned	60%	40%	100%	60%	40%	100%
Residential - Affordable Housing	60%	40%	100%	60%	40%	100%
Residential - Care Home	60%	40%	100%	60%	40%	100%
Primary School	30%	70%	100%	30%	70%	100%
Local Shops	50%	50%	100%	50%	50%	100%
Eco Pub	0%	0%	0%	45%	55%	100%
Community Hall	50%	50%	100%	50%	50%	100%
Children's Nursery	70%	30%	100%	70%	30%	100%
Eco Business Centre	70%	30%	100%	70%	30%	100%

**Table 4.2: Summary of Mode Share Targets – Exemplar Site, 2026**

Land Use(s)	Morn Peak (8-9am)			Evening Peak (5-6pm)		
	Car	Non-Car	Tot	Car	Non-Car	Tot
Residential - Privately Owned	55%	45%	100%	55%	45%	100%
Residential - Affordable Housing	55%	45%	100%	55%	45%	100%
Residential - Care Home	60%	40%	100%	60%	40%	100%
Primary School	30%	70%	100%	30%	70%	100%
Local Shops	40%	60%	100%	40%	60%	100%
Eco Pub	0%	0%	0%	45%	55%	100%
Community Hall	40%	60%	100%	40%	60%	100%
Children's Nursery	70%	30%	100%	70%	30%	100%
Eco Business Centre	65%	35%	100%	65%	35%	100%

# 5 Travel Plan Strategy and Measures

## 5.1 Introduction

This chapter outlines the travel plan strategy and a range of measures that will be commenced and implemented prior to or during the development build-out phase. This approach has the objective of encouraging people to adopt sustainable travel patterns from the time they take occupation at the Exemplar Site in line with research undertaken to support the DfT documents 'Smarter Choices – Changing the Way we Travel' and 'Making Travel Plans Work' which indicate that travel behaviour change can most effectively be achieved at a time of other lifestyle change (e.g. moving house or job).

The strategy to achieve the objectives and targets for the Travel Plan, as set out in Chapter 4, has four main strands:

- **Limiting the need to travel;**
- **Promoting sustainable travel and vehicle choices;**
- **Providing high quality public transport; and**
- **Providing high quality walking and cycling infrastructure.**

## 5.2 Limiting the Need to Travel

### 5.2.1 Land Use Containment

It is recognised that the Exemplar Site, as the first phase of the Eco Development, will not include a full range of employment to 'contain' trips within the site, in comparison to the full masterplan. Nevertheless, alongside the residential development will be a primary school, children's nursery, foodstore, pharmacy, public house, community centre/ multi faith centre, allotments, public open space, offices and an Eco business centre. Many of the day-to-day needs of residents will thus be met within the site. Whilst people will still 'travel' to them, these trips will have a high modal share on foot or cycle given the provision of attractive links through the site (as well as personalised travel planning and other promotional measures) and the majority will not take place on the external road network.

The level of likely containment of household trips has been estimated for each journey purpose according to the land uses provided on site and proportioned for total trips made per household in a day. The overall containment level for the exemplar site is estimated as 17.4%. It should be noted that containment is anticipated to be significantly higher for the overall NW Bicester Eco Development given the greater provision of employment, secondary school and range of community, recreation and health facilities. A total of 30% has been assumed in initial transport modelling.

The level of containment proposed for the site can be compared to that overall for Bicester (from the travel diary survey) as shown in the final column. This demonstrates that a conservative approach has been taken to containment within the Exemplar.

**Table 5.1: Estimated Containment of Trips within Exemplar Site**

Trip Purpose from Household	Proportion of Total Trips (2007 Bicester Travel Diary Survey)	Level of Containment (Estimated)	Bicester Existing Containment
Place of work	0.28	5%	19%
On employers business	0.09	0%	-
Educational attendance	0.17	30%	81%
Shopping	0.18	30%	74%
Other services	0.08	30%	-
Visiting friends/ relatives	0.09	10%	43%
Recreation/ leisure	0.11	20%	54%
<b>Total</b>	<b>1.00</b>	<b>17.4%</b>	

## 5.2.2 Working from Home

A high level of broadband provision, together with the flexibility for homes to provide workspace, would maximise the numbers of residents working from home, either full or part time. This would reduce the volume of out commuting trips and particularly reduce the longer distance trips to work as it is such workers that home working has the highest time and cost benefits. The 2001 Census recorded 8% of people working from home in North Bicester and 11% in Caversfield wards and the data from the 2009 Labour Force Survey suggests that current home working is at least 13.5% in the SE Region. It would be realistic with travel plan initiatives (and recognising growth in home working) to achieve at least 16% of people working from home for the exemplar site.

Moreover, the site is to include an Eco Business Centre and it is proposed to include a hub facility within the building. This would be for residents to use as a local alternative to working from home, with a facility to rent a desk space and thus access to the necessary range of office facilities. This would bring the additional benefit of social interaction for home-workers and savings in energy costs by sharing the building space rather than potentially heating and lighting the home for work use.

## 5.3 Promoting Sustainable Travel Choices

### 5.3.1 Branding and Marketing

The Travel Plan would be appropriately branded. This would assist in raising awareness of the TPG, its mission, role and vision. Branding is required to assist in raising awareness of the importance and benefits of travel planning and in obtaining buy-in to a sustainable travel ethos.

The brand should be designed to be popular and instantly recognisable. It should be one of which residents and other occupiers can recognise. It should be a single brand which represents Bicester as an Eco Development.

Marketing the travel plan and sustainable travel opportunities and benefits is not just about branding. It is also about the establishment of effective channels of two way communication between those who are responsible for delivery (Travel Plan Co-ordinator and Group) and those who benefit from the implementation of the Travel Plan (i.e. future residents, employers and employees).



The provision of information in accessible and varied formats, able to reach all residents and occupiers, is an important sub-set of measures within the travel planning package. A key element will be the provision of a home information system that would include real time bus and rail information and maps of walking and cycling routes, for example.

Individual Travel Plans would highlight the materials and marketing channels available and how they would practically support the Travel Plan Framework through the dissemination of materials to their own employees / customers.

The probable communication and marketing channels that would be employed (as a minimum) are as follows:

- Exemplar Site Travel Plan and TPG website – providing ordered and accessible links to valuable travel resources (e.g. journey planners, timetables etc);
- Car share website through the Oxfordshire lift share scheme;
- Paper information including mode specific travel guides and maps;
- Travel information / advice available from the TPC (by telephone and also face to face);
- Email dissemination via the TPC; and
- On-site marketing events, to tie into local and national promotions.

Development of high quality travel information for the development across multiple formats (paper, electronic and 'interactive'/ web-based/ in-home information systems based) must be complete, accurate and thoroughly tested prior to the first phases of occupation. The information strategy would also seek to minimise the provision of printed material to reduce paper requirements.

Where applicable resources available from third parties (e.g. public transport timetables and fares information, promotional materials and leaflets etc) would be used to supplement travel plan specific materials and disseminated via the above streams, provided they are fit for purpose. Where possible the TPG would seek to work in partnership with organisations to ensure tie-in of their materials, with Travel Plan branding. Travel information would be regularly reviewed.

In addition, the following channels would be explored and employed (where appropriate):

- Newsletters for residents and employees;
- Seminars, focus groups or other formal or informal local or educational events run by the TPG;
- Marketing via branded merchandise;
- Timely press releases and features on local radio or in the local press; and
- Email distribution lists for different land uses.

## 5.3.2 Travel Awareness

The travel plan co-ordinator would be responsible for promoting travel awareness initiatives to site residents and business occupants such as Walk to School Week, Step Up, and Liftshare Week etc. This would be in conjunction with the OCC Travel Behaviour team.

### 5.3.3 Personalised Travel Planning

Personalised travel planning has proved particularly effective when targeting residential populations and has been shown to reduce modal share by between 3 and 6%. Each new household and employee within the exemplar site is proposed to be offered a personalised travel plan at the point of property handover or job induction. This will continue to be in place for new households or employees.

The personalised travel plan will involve the completion of a questionnaire by each member of the household/ employee identifying their main travel needs. A personalised information pack will then be produced showing local walking and cycling routes; details of bus/ train services providing access to their place of work/ education; and information on the public transport providers (links to websites etc). Discounts will be provided within the pack, tailored to the household/ employee requirements. These are proposed to include a choice of options including the provision of a 3-month bus taster ticket and a voucher towards bicycle purchase.

### 5.3.4 Promoting Cycling

One of the most effective ways in which the site can achieve modal shift targets is to provide a good quality offer for cyclists on the Exemplar. In the short term, cycling is the main viable mode of transport that can offer an attractive alternative to the car and get residents to where they need to be quickly and cheaply (both destinations within Bicester and to train stations that can take them to Oxford and London). Bicester is a very cycle-able town already with the majority of journeys under 5 kilometres.

The targets for modal shift are recognised as ambitious, aiming to increase modal share from 3.5% to 7% by 2016 and 9% by 2026. Delivering this level of modal share requires a focussed and enthusiastic approach and the developer is committed to attracting as many cyclists to the Exemplar as possible in order to achieve a much higher than average cycling population as well as then promoting cycling as a mode for residents and employees. The following initiatives are put forward:

- Quality cycle paths, cycle storage at the homes and cycle parking facilities at the hub;
- Strong cycling identity incorporated into the town: streets named after cycling themes e.g. Brompton Rd, Dawes Lane, Derailier Avenue;
- Public art at key locations featuring bicycle themes;
- Menu of freebies for all new residents to choose from including free bikes, free folding bikes, free bike servicing, free high visibility waterproofs, free bike lights or locks, free panniers;
- Promotion of electric bikes through link up with local bike shop offering supply and maintenance;
- Investigation of potential for a cycle rickshaw business;
- Governance body to set up a cycling club and a programme of events such as sponsored rides raising money for local Bicester charities, "Pimp my bike" sessions; and
- Best practice in cycle promotion through cycle to work schemes, cycle to school schemes, Bikeability programme, taking advantage of all the best practice learnt by Sustrans and the Cycling Demo Towns.

In addition, the site marketing strategy will involve the following:

- Advertise and produce articles for cycling magazines such as CTC magazine, 'Cycling' magazine etc
- Sales team to be fully clued up on all the cycling provision and offers, to be familiar with the cycle routes around the town (travel plan co-ordinator to be part of the sales team);
- At the onsite sales office, there should be at least one sales person who is knowledgeable about cycling, has bikes at the sales office and is happy to take prospective buyers into town by bike to demonstrate how cycle friendly the town is;
- Offering of incentives that are cycling related, such as tickets to the Olympic cycling events for purchasers
- Development launch by well-known cyclists.

In addition to all these measures, A2 Dominion Group and P3 Eco are committed to ensuring that as much S106 money as possible is directed towards cycle improvements in the town and improved cycle storage facilities in the town centre, at stations, Bicester Village and at key employment locations, recognising their importance in meeting modal share targets. In particular, the developer would like to ensure that the cycle link between the exemplar site and the town centre via Banbury Road is upgraded and will consider delivering this improvement as a net contribution to transport if it is programmed to be put in place by OCC prior to the first occupation of the site.

All of these cycling measures are within the context of the overall Travel Plan. The reason for this specific focus on cycling is that cycling offers so much potential in the Bicester context.

### 5.3.5 Non-Residential Travel Plans

Alongside the travel plan for the exemplar site, each of the non-residential aspects of the development will develop a travel plan. The non-residential travel plans will include:

- The Primary School;
- Co-operative Store;
- Eco Business Centre;
- Children's Nursery;
- Eco Pub; and
- Community Centre.

#### Primary School

The primary school is anticipated to have 135 pupils during the Exemplar phase (subject to discussions with Oxfordshire CC), although this will rise to 420 following development of land to the south as part of the full masterplan. A full travel plan will be prepared for the primary school as part of the detailed design process and submission for full planning permission. This will set detailed targets for modal share and identify specific travel measures to be incorporated in the school from the outset. The travel plan will then be reviewed following the set up of the school and evaluation of outcomes in terms of modal share.

It is proposed that the aims of the travel plan for the new school on site would be to:

- Maximise travel to school by staff and pupils by sustainable means;
- Give priority to pedestrian safety, particularly in the vicinity of the school entrance;
- Facilitate access to the school by coach and for visitors; and

- Avoid causing a congestion/ road safety issue in adjacent areas.

Modal share data for journeys to school is compiled annually by Oxfordshire CC and various schools in Bicester have prepared travel plans. The starting point is that on average the modal share for pupils to school is 57% walking, 9% cycling and 9% by bus, with a relatively low 25% travelling by car.

An appropriate target is to seek a modal share of pupils to school by car of no more than 20%. The key influencing factor would be the catchment area for the school. At the outset the school may draw from a wider catchment and thus have a higher car modal share, but this would reduce over time as the wider masterplan is developed.

The school travel plan is anticipated to include the following measures:

- Walking bus (from the northern part of the Exemplar Site to the school);
- Child-friendly route marking of safe routes to school;
- Cycle proficiency/ road safety training provided to all pupils;
- Provision of covered cycle and scooter storage (assuming 10% of children cycle) and storage facilities for helmets/ reflective jackets etc;
- Staff car share spaces and promotion of initiatives; and
- Engagement with national/ OCC initiatives such as 'Walk to School Week'

The development of an effective travel plan will also help the school to achieve the Eco-Schools awards, which would be an appropriate aim for the school.

## Other Non-residential Uses

A travel plan will be prepared for each of the other non-residential uses, namely the Co-operative store, eco business centre, children's nursery and Eco Pub. Each travel plan will be prepared by the building occupants prior to opening, with the assistance of the travel plan co-ordinator. The travel plans are anticipated to include the following specific measures:

- Personalised travel plans for each new employee;
- Provision of secure cycle storage;
- Provision of showers and lockers (agreements may be reached to share showering facilities provided in the Eco Business Centre);
- Promotion of car sharing – including provision of car sharing spaces and a guaranteed lift home scheme;
- Provision of 3 month bus taster tickets; and
- Timing of deliveries and use of electric vehicle fleets, or in the case of the Co-operative store, using cycles for home deliveries.

In addition to the travel plans for the individual site uses, the Travel Plan Co-ordinator will need to engage with education and service providers within the town to ensure that residents can access sites using sustainable modes. This will include the secondary schools and healthcare facilities.

### 5.3.6 Parking Strategy

The approach to parking in each aspect of the development requires a careful balance between meeting the needs of residents/ businesses and not unduly encouraging car use. Whilst Eco Development good practice recommends a much reduced provision of parking over standard developments, it is recognised that the NW Bicester site is in a predominately rural County where car ownership levels are (often by necessity) high.

#### Residential Car Parking Provision

The parking strategy for residents recognises that the majority of households will own at least one car. It therefore seeks to ensure that the residential development does not significantly under-provide for parking and then suffer from problems of inappropriate/ overspill parking but does not encourage car use by providing parking immediately in front of every household's front door.

The Cherwell DC standards set a **maximum** level of providing 1 space per dwelling for 1 bed properties, 2 spaces for 2, 3 or 4 bed properties plus an optional garage. With the anticipated mix of properties, the maximum would give rise to an average of **2 spaces** per property plus garages.

For the exemplar site, it is proposed that there is an average of **1.51 spaces** per property plus garages at a ratio of **0.53** per property. The parking for residential accommodation is as follows:

##### PRIVATE ACCOMMODATION:

- 2b housing: 2 parking spaces, one allocated, one unallocated;
- 3b housing: 2 parking spaces, or one space and a single garage;
- 4b detached housing: 1 parking space and 1 single garage or 2 parking spaces;
- 5b detached housing: 2 parking spaces and 1 double sized garage, half of which will be storage area.

##### SOCIAL ACCOMMODATION:

- 1 parking space to 1b and 2b flats;
- 2b housing: 2 parking spaces, one allocated, one unallocated;
- 3b housing: 2 parking spaces or one space and a single garage;
- 2 parking spaces to disabled bungalows. Bungalows to have on plot parking whilst parking facilities to social houses provided in parking courts;
- 4b detached housing: 1 parking spaces and 1 single garage or 2 parking spaces;
- 5b detached housing: 2 parking spaces and 1 double sized garage, half of which will be storage area.

Garages are being provided for 5 bed detached units and some of the 3 and 4 bed units. The single garages will be of the standard size 6m x 3m to accommodate a car and bicycle storage. The size of the garages for the 5 bed units will be double sized, but with a single garage door, thus providing additional storage area for the property. External parking spaces are to be provided in accordance with Oxfordshire CC standards.

The analysis of the Exemplar Site layout demonstrates that of the parking spaces for the 393 units, 32.5% of spaces are on-plot, 39.5% off street to the front or side and 28.0% in rear courts.

Visitor spaces are to be provided in parking bays within the street design, primarily in Home Zone B (access streets) with a maximum of 87 spaces provided across the development, representing one space per 4.5 residential units.

## Non-Residential Parking

Parking provision for other uses recognises the level of trips that will be on foot, cycle or by bus. Cherwell DC maximum parking standards for food and non food shops are 1 per 14 m<sup>2</sup> and 1 per 20m<sup>2</sup> respectively, although this relates to larger units, and 1 per 30m<sup>2</sup> for office space. Guidance is not provided for primary schools or children's nurseries. The allowance for places of assembly or leisure has been used for the community centre.

Discussions have confirmed that OCC expect school parking provision to be only one space per teacher/ head teacher plus a small number of parking spaces for visitors. A coach parking bay is also required but no spaces are to be provided for drop off/ pick up parking. [Table 5.2](#) shows the provision of parking for each of the non-residential uses on site.

**Table 5.2: Non Residential Parking Provision**

Land Use	Pupils/ Floorspace	Parking Provision	Maximum Provision in CDC Standards
Primary School	135	9* see note	9
Eco Business Centre	1,800 m2	20	60
Community Centre	550 m2	14	26
Children's Nursery	350 m2	Shared with above	Unspecified
Co-operative Foodstore	550m2	22	39
Non Food Shops	370 m2	Shared with above	19
Offices	1,100 m2 offices	Shared with above	37
Eco Pub	190 m2	5	18
<b>Total</b>		<b>70</b>	<b>206</b>

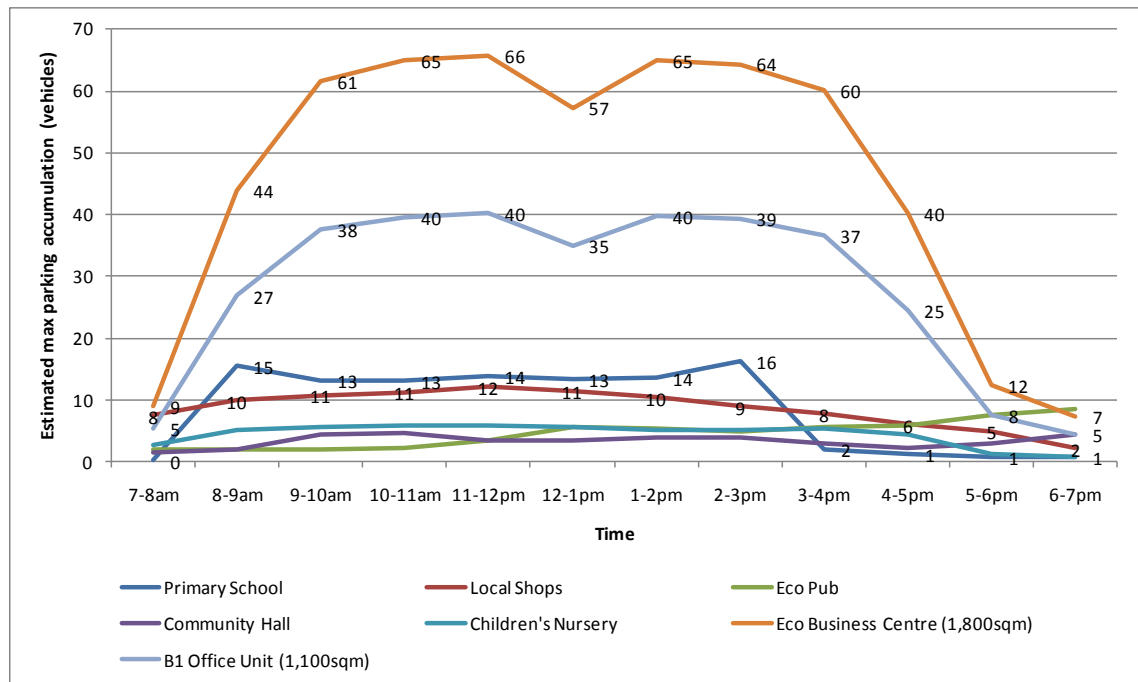
*Note: for phase one. Additional 14 spaces are shown for phase two expansion.*

It can be seen that the overall provision is well below the maximum standards with the aim of discouraging car use to the non-residential elements of the development. A parking accumulation analysis based on trip profiles to the development land uses (shown in [Figures 5.1](#) and [5.2](#)) shows that the parking provision should accommodate demand for the majority of uses in 2016 and 2026.

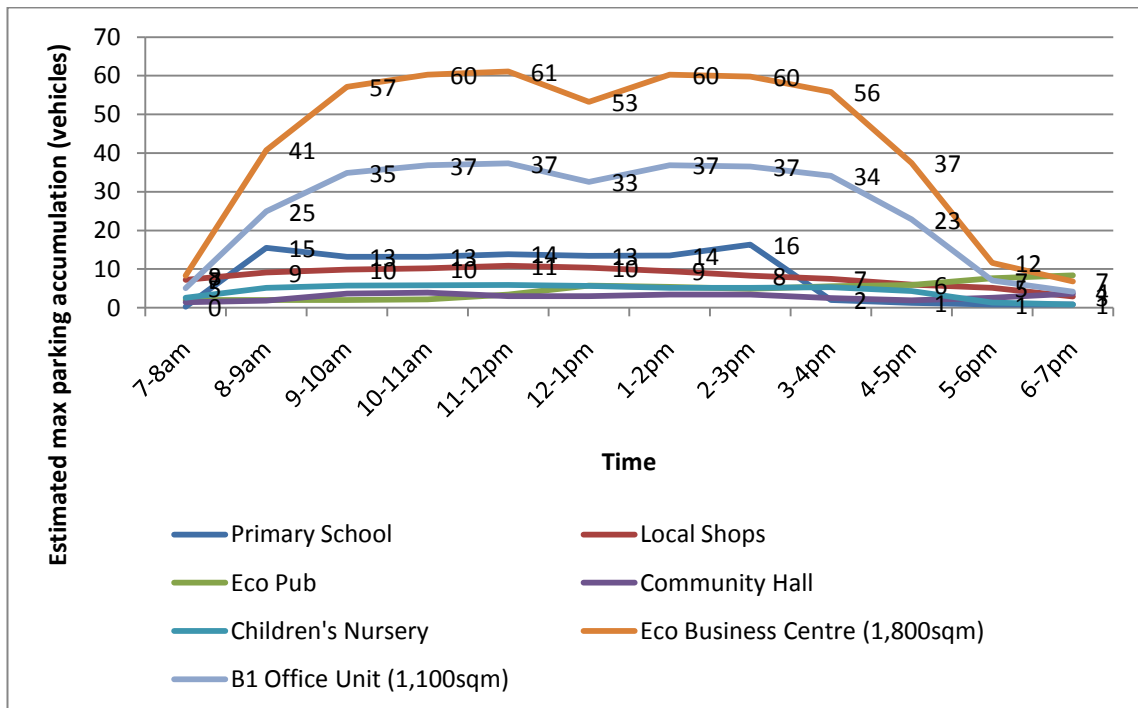
The parking supply for the office uses is below that for maximum demand, thus demonstrating that there will be a need for a strict parking management regime for the site as the development opens including measures related to the individual travel plans for these uses, which for example for the Eco-business centre, might only provide parking for those car sharing or blue badge holders. The foodstore and retail unit spaces will require management to ensure the spaces are not occupied all day but are available for shoppers needs. A '2 hours free' regime would be appropriate.

The relatively low number of parking spaces may lead to overspill parking in the residential streets. It is envisaged that initial strong enforcement of such inappropriate parking would assist in establishing appropriate behaviour.

**Figure 5.1: Maximum Parking Accumulation, 2016**



**Figure 5.2: Maximum Parking Accumulation, 2026**



### 5.3.7 Car Club

It is proposed to establish a car club for Exemplar Site residents. This could later be expanded to the masterplan site or indeed the town as a whole. The car club could involve purchase and adaptation of cars (potentially in the longer term electric cars) which would be parked centrally within the site and accessed by car club members. Research reviewed by Hyder has shown that



typically a car club requires 50 members per car and that they are effective in reducing second car ownership.

Following exploration by A2 Dominion, interest has been shown by the community run Common Wheels Car Club (operating in other parts of Oxfordshire) in getting involved in the Exemplar site. The establishment of a car club will require from the developer:

- provision of marked and branded parking bays;
- marketing and promotion of the car club to home buyers and businesses; and
- a financial contribution towards the running costs.

The cars provided as part of the car club could be electric given that technology has moved on such that this would now be possible. In the past, the charging time for electric cars ruled them out for car clubs but now with the right infrastructure, cars can be charged in 15 minutes.

It is proposed that four parking bays are provided, one in each of the four residential zones. These will be identified on street within the home zones. Cars would ideally be placed in highly visible locations, near to as many homes as possible but not in a place that feels like a private area for any particular home.

It will be important for the car club to be established close to the outset in order that people can join at an appropriate time (for example when the car tax or insurance runs out) to provide people with choice and establish positive travel habits.

### 5.3.8 'Eco' Vehicles

It is recognised that vehicles will be owned by residents and required by businesses and there should be promotion and incentives to encourage use of 'Eco-friendly' vehicles. Initiatives as part of the development include:

- Electric car charging points to be installed for any residents requesting them (a mix of on-plot and communal);
- Potential for providing free electricity for charging electric vehicles currently under discussion;
- Special deals to purchase electric cars and scooters under discussion with manufacturers; and
- The use of hybrid buses (or vehicles of equivalent or less emissions) to serve the site and encouragement of use of electric/ hybrid delivery vehicles and site service vehicles.

The travel plan co-ordinator would have a role in promoting electric/ hybrid options and low emission vehicles, both cars and scooters/ mopeds.

### 5.3.9 Lift Sharing

The travel plan co-ordinator will promote lift sharing amongst residents travelling to or from the site for work. The co-ordinator will direct people towards existing car sharing websites, such as 'Oxfordshire car share' <https://oxfordshire.liftshare.com/>. Whilst this would not help achieve the PPS1 target of 50% by non car modes, it has significant benefits in reducing traffic as well as travel costs. Each non-residential use travel plan will include for the promotion of car sharing for employees, including the provision of car sharing spaces and a guaranteed lift home scheme.



## 5.4 Providing High Quality Public Transport

### 5.4.1 Bus Services and Infrastructure

A bus service of 15 minutes frequency will be provided by the developer from the occupation of the 200<sup>th</sup> unit of the development. From the occupation of the 50<sup>th</sup> unit to the 200<sup>th</sup> unit, a half hourly frequency bus service is proposed. From first occupation, either a responsive mini bus service will be provided (managed by the travel plan co-ordinator) or a half hourly bus service will be operated (currently subject to funding discussions). The bus service will link the site via Banbury Road to:

- Bicester North Station;
- Town centre/ bus station; and
- Bicester Town Station.

The proposed bus route is shown in **Figure 5.3**. It is proposed that the bus route is one way in an anti-clockwise direction, entering the site at the northern access from Banbury Road, travelling through the spine route and exiting via the southern access to Banbury Road.

The bus route will not only serve the development site, but provide a new bus service for residents in the Banbury Road area of Bicester. The population of the town living within 400 metres walking distance of a proposed bus stop is shown in **Figure 5.4**, and is estimated as some 11,000 people. These residents will benefit from the 15 minute frequency service which connects to the rail stations and the town centre.

The bus route is proposed in two phases, with the first going from the site to Bicester North Station and the town centre (prior to 2013 when the new Chiltern service is anticipated to open) and then post the new service, re-routing to the town centre and Bicester Town Station, with early morning and late evening connections to Bicester North to serve the London trains. The services will be integrated in timetable with the existing Bicester North Station services and the proposed enhanced rail services from Bicester Town Station.

Four stops are proposed to serve the development:

- A drop off location on Banbury Road north of the access junction, with a bus lay-by. This stop will serve the proposed bus route but also allow residents to board existing bus services on Banbury Road to Silverstone and Brackley (the X88);
- In the northern residential area, located on the spine route and adjacent to the public open space;
- In the village green area, located on the spine route to the north of the junction with the access road heading south west which will eventually serve the later development phases; and
- A temporary stop in the village square, close to the Eco Business Centre, which will serve the site until such time as the bus services go south from the village triangle to serve latter phases of the development.

In the initial phase of the development, which will begin by building units in the southern part of the site and thus the spine road will not be in place through to the northern access, bus services would enter and leave the site through the southern access, with a turning area provided at the western end of the spine road.

These bus stops provide access within 400 metres to all parts of the development. Each bus stop will have a shelter and real time information. The proposed hours of operation of the bus service are as follows:

- Monday to Friday 07:00 to 19:00 inclusive; and
- Saturday 08:00 to 18:00 inclusive.

It is proposed that the bus service will be provided by a hybrid vehicle or a vehicle of equivalent or lesser emissions.

It is recognised that the provision of a 15 minute frequency service across the day and a service in the evenings and weekends including Sundays, would significantly raise the potential of buses to meet travel needs and the target modal share. Frequency is the key influencing factor in patronage and if services are 15 minutes, people do not need to know the timetable. The developer is committed to providing the 15 minute service at 200<sup>th</sup> unit occupation. If funding support were to be available, the 15 minute service could be introduced at 50<sup>th</sup> unit occupation. Moreover, the service could be extended to begin at 06:30 and end at 19.30 to better provide for rail commuters, also subject to external funding support. As later phases of the Eco Development take place it is likely that the bus service will re-route within the Exemplar to maintain access but also serve adjacent developments.

Once operational, the option of also linking to the industrial estate will also be considered.

The services will be branded for the Bicester Eco Development and other possibilities to be considered include;

- Using 'zero-carbon' electric ;
- Using Smartcard ticketing;
- Offering integrated ticketing with the rail services.

Achieving the modal share for bus use will require attention to priority for buses in the town centre to ensure that using the bus is an attractive option compared to the car for connections to the rail stations and the town centre. Oxfordshire County Council are currently investigating the potential for bus priority schemes at Bucknell Road and Banbury Road as part of the County Council's LTP3 strategy work. There is also a need to address priority for buses entering and circulating around the town centre, but this will need to form part of the masterplan travel strategy and the Bicester wide measures as proposed in LTP3. Nevertheless, the developers of the Exemplar Site will be supportive of measures to assist bus movements through their proportionate contributions to transport in Bicester.

## 5.4.2 Rail Services and Infrastructure

The implementation of Evergreen3 would lead to a significant improvement in rail services from Bicester Town Station, with the existing services from Bicester North to and from Birmingham and London remaining of key importance. It is recognised that the Exemplar Site properties will be attractive to those who commute longer distance and thus the travel strategy aim is to encourage use of rail for these trips. The site developer will make a contribution towards improving the Oxford to Bicester rail service and link, towards establishing an hourly service, proportionate to the number of dwellings (393) proposed.

It will be important to maximise the use of sustainable travel modes to link to rail services by:

- Linking the bus services to the two stations (as proposed both physically and in timetable);
- Providing sufficient cycle and motorbike storage at the stations;

- Providing direct cycle and walking links.

The latter two points will be contributed to as part of the overall transport contribution and are assumed to be implemented in conjunction with Chiltern Railways and Oxfordshire County Council.

## 5.5 Providing High Quality Walking and Cycling Infrastructure

### 5.5.1 Walking and Cycling Routes

Good quality walking and cycling routes are provided throughout the site using the network of streets and a number of segregated routes making shorter connections between areas. Routes are:

- Segregated from other traffic where possible;
- Well lit and under natural surveillance;
- Where possible provide more direct connections compared to the same journey by car;
- Signed with information on journey times and with route maps at regular intervals;
- Given due priority where there is a traffic route to cross (these crossing points have been combined with traffic calming features to give the pedestrian route priority);
- Provide a high level of permeability through the site.

Specifically, the following is proposed for the exemplar site:

- A link between the northern and southern parts of the site which will be for buses, taxis, emergency and refuse vehicles only and thus will give priority to cycling and walking (due to very low traffic flows);
- A network of segregated walking and cycling routes providing direct links north to south within each part, and west to east between the two parts in the northern fields and on road routes through the development, with surfacing and features designed to discourage traffic speed;
- A segregated walking and cycling shared route adjacent to both sides of Banbury Road between the southern site access junction and the ring road;
- A toucan crossing on Banbury Road linking the site to Caversfield via the footway on the eastern side of the carriageway; and
- A toucan crossing on the ring road connecting to the cycle network into Bicester.

It is recognised that there is a need to improve the walking and cycling connections to routes to the town centre – notably along Banbury Road and through Bure Park. The Banbury Road improvement is a priority for Oxfordshire County Council and is expected to be delivered through the Travel Behaviour Project, which is welcomed given its importance for the Exemplar Site. The developer will consider delivering this improvement as a net contribution to transport if it is programmed to be put in place by OCC prior to the first occupation of the site.

There is also a need to improve the provision of cycle parking and storage in the town centre and at the key destinations such as the rail stations. The developer is willing to make an appropriate contribution towards such improvements which would deliver a high modal share for walking and cycling from the Exemplar Site.

The transport proposals including the main walking and cycling connections from the site to join existing infrastructure are shown in **Figure 5.5**.

## 5.5.2 Cycle Parking

The residential units will have cycle storage provided in accordance with the Code for Sustainable Homes (assuming the second option of storage for 1 cycle for 1 bed homes, 2 for 2 and 3 bed, and 4 for 4 or more bed homes). Cycle storage will be in an enclosure with 'Sheffield' stands. The criteria for achieving COSH credits is shown below.

Criteria	Credits
Where either individual or communal cycle storage is provided that is adequate, safe, secure and weather-proof (as defined in <i>Relevant Definitions</i> below) for the following number of cycles:	
Studio or 1 bedroom dwelling - 1 cycle for every two dwellings (only applicable to communal storage)	1
2 and 3 bedroom dwellings - storage for 1 cycle	
4 bedrooms and above - storage for 2 cycles.	
OR	
studios or 1 bedroom dwellings - storage for 1 cycle	
2 and 3 bedroom dwellings - storage for 2 cycles	
4 bedrooms and above - storage for 4 cycles.	2

The non-residential uses will have cycle parking for staff and visitors provided over and above the Cherwell DC standards, which are shown in **Table 5.3**. With regard to the primary school, the Cherwell DC standards do not include a standard for cycle parking at schools. For comparison, cycle parking guidelines for Transport for London give 1 space per 10 pupils which corresponds closely to the potential 10% of pupils that may cycle to school (9% in Bicester at present). A space allowance should also be made for children's scooter parking.

**Table 5.3 Cycle Parking Standards – Cherwell DC**

	Residential	Food Retail	Non Food Retail	B1 - Offices	D2 Assembly and Leisure	A3 - Restaurant/ pubs
<b>Long stay/ employee/ resident</b>	1 bed - 1 space; 2+ beds - 2 Spaces	1 stand per 12 staff *	1 stand per 6 staff *	1 stand per 150 sq.m	1 stand per 12 staff **	1 stand per 12 staff **
<b>Visitor</b>	1 stand per 2 units where more than 4 units	1 stand per 200sqm	1 stand per 200sqm	1 stand per 500 sq.m	1 stand per 20 sq.m	1 stand per 20 sq.m of public space

The indicative provision for each land-use is shown in **Table 5.4**. Stands will be of 'Sheffield' type and will be located in well lit, accessible locations. Storage for staff will be provided in covered secure shelters close to building entrances. Additional space surrounding the stands will be provided for the community centre and shop unit cycle parking to accommodate cycle

trailer parking. In addition, space will be available for cycle stand provision to increase subject to demand.

**Table 5.4: Non Residential Cycle Parking Provision**

Land Use	Pupils/ Floorspace	Cycle Stands	Provision in CDC Standards
Primary School	135	See note	Unspecified
Eco Business Centre	1,800 m2	20	16
Community Centre	350 m2	18	18
Children's Nursery	350 m2	2	Unspecified
Co-operative Foodstore	550m2	5	3
Non Food Shops	220 m2	3	2
Offices	1,100 m2 offices	10	10
Eco Pub	190 m2	4	4
<b>Total</b>		<b>77</b>	-

Note: the number of cycle stands to be provided to be agreed internally by OCC officers as part of the detailed design for the primary school.

### 5.5.3 Cycle Purchase/ Hire

There is a possibility of a cycle shop forming part of the Exemplar Site and as discussed earlier, residents will be provided with assistance to purchase bikes (or indeed gifted one) as part of their package of personalised travel planning incentives. Such a shop may also offer cycle hire facilities.

Employers will be encouraged to participate in the Cycle to Work tax incentive scheme for cycle purchase, although it is recognised that this has recently altered following an announcement by HMRC.

The potential for a pick up and drop off cycle hire scheme will be explored, which could be town wide, such as Oi Bikes, where people become members and pick up bikes and use them from various locations. The site developer will commit to actively engage in exploring initiatives in conjunction with OCC and to provide stands to accommodate such bikes at key locations on site.

### 5.5.4 Cyclist Facilities

In order to encourage cycling to the facilities and employment within the site, shower facilities and lockers will be provided within the main non residential uses which is likely to be the Co-operative foodstore, primary school, community centre and Eco Business Centre. One such facility will be made available to be shared by the smaller users such as the Eco Pub and local shops.

## 5.6 Impact of Measures

The measures set out in this section are to meet the objectives and targets as set out in Chapter 4. In this section, the potential impact of each measure on total trips and vehicle/ non-vehicle mode share has been estimated based on current research and is summarised in **Table 5.5**. It should be noted that the percentage reductions from the incentives and softer measures help to deliver the modal share targets for walking, cycling and public transport use.

**Table 5.5: Potential Total Trip and Modal Share Impact of Measures**

<b>Travel Plan Measure</b>	<b>Potential Modal Share Impact</b>
<b>Land use containment</b>	17.4% reduction in total person trips that arise onto the external network
<b>Working from home</b>	Increase working from home from approximately 9.5% to 12% could represent a 2.2% reduction in work related person trips in vehicles compared to Bicester modal share. As work related trips make up 28% of resident trips, this could be a 0.6% overall reduction in total person trips by households.
<b>Branding and Marketing/ Travel Awareness Promotions</b>	Awareness initiatives typically affect 20-40% of the target group, with something like 5% altering behaviour. Success is dependent on the walking, cycling and PT infrastructure being in place to promote. For the Eco Development a strong branding and promotion of alternatives to the car could reduce vehicle trips by $(30\% \times 0.05)$ 1.5%.
<b>Personalised Travel Planning</b>	DfT pilots indicated modal share could be reduced by 3% to 6%. Success is dependent on the walking, cycling and PT infrastructure being in place to promote. The proposed links together with the benefits of Bicester schemes part funded through the S106 are assumed to bring a reduction of 4.5% on resident and workplace trips by car.
<b>Promoting Cycling</b>	A series of measures to promote cycling as the most appropriate mode to access the town of Bicester and its services and facilities would help to deliver the modal share target for cycling of 7% in 2016 and 9% in 2026.
<b>Individual Travel Plan – Primary School</b>	A stringent travel plan for the primary school could reduce car modal share of pupils to 20% from 25% (i.e. a 20% reduction in car use)
<b>Individual Travel Plans – Other Non Residential Uses</b>	Stringent travel plans for the other uses is estimated to bring a similar reduction to that from personalised travel planning for workplaces and facilities (4.5%).
<b>Parking Strategy</b>	The strategy of providing parking less than the CDC standards and placing some parking in courts away from property frontages will encourage use of other modes.
<b>Car Club</b>	Research suggests that for every 1 car club car, there are at least 12 fewer privately owned cars. 4 car club vehicles and 200 members in the Exemplar Site could reduce cars on site by 48 (potentially a 6% reduction assumed in car use).
<b>Electric Car Charging Points</b>	No impact on modal share, but beneficial reduction in vehicle emissions
<b>Assisted Purchase of</b>	No impact on modal share, but beneficial reduction in vehicle

<b>Travel Plan Measure</b>	<b>Potential Modal Share Impact</b>
<b>Electric Vehicles</b>	emissions
<b>Hybrid Buses</b>	May bring some impact on modal share through image making of bus services. Beneficial reduction in vehicle emissions
<b>Car sharing</b>	A reduction in vehicle impacts and potential to encourage use of sustainable modes for other journeys. Research into car sharing initiatives in the workplace suggest on average car sharing increases by 3 percentage points. For Bicester this could be a 6% reduction in vehicle trips.
<b>Bus Service</b>	Provision of a frequent 15 minute service linking to the stations and town centre is estimated to increase bus use from 3.5% on average across Bicester at present to 7.5% for the Exemplar.
<b>Bus Infrastructure</b>	Installation of bus shelters and real time information is an important component of achieving the bus service patronage above.
<b>Rail Linkages</b>	The improvement to services from Bicester (i.e. Evergreen3) plus provision of a bus link and appropriate facilities for cyclists at rail stations could increase rail use from the 1% at present across Bicester to 3% in future and also reduce car use from the site to rail stations.
<b>New Occupant Travel Incentives</b>	Offering incentives to residents (bus pass, bike etc) would help establish good travel patterns. Success is dependent on the walking, cycling and PT infrastructure being in place from the outset.
<b>Walking Routes</b>	The proposed level of infrastructure together with the land use mix accessible to residents within walking distance is anticipated to achieve a modal share of 25% walking by 2016 and 28% by 2026 (as the wider masterplan is developed with improved connections and greater range of facilities). This compares to the current level of 23.3% for all trips in Bicester.
<b>Cycling Routes and storage</b>	The proposed level of infrastructure together with the land use mix accessible to residents within cycling distance is anticipated to achieve a modal share of 7% cycling by 2016 and 9% by 2026 (as the wider masterplan is developed with improved connections and greater range of facilities). This compares to the current level of 3.4% for all trips.
<b>Cycle Purchase/ Hire and Facilities for Cyclists</b>	Measures will support the achievement of the above modal share for cycling.



## 5.7 Impact Commentary

### 5.7.1 Anticipated Modal Share

Chapter 2 identified the existing travel patterns and modal share for Bicester residents. **Table 5.6** shows the potential resulting modal share in 2016 and 2026 as a result of the sustainable travel infrastructure and measures. It should be noted that this is not prescriptive, in that the eventual result may be a higher bus use and lower walking percentage, for example.

**Table 5.6: Exemplar Site Anticipated Modal Share**

	2007 Bicester Travel Diaries		2016 Exemplar		2026 Exemplar	
Car driver	47.40%	64.4%	34.90%	51.9%	29.90 %	46.9%
Car passenger	17.00%		17.00%		17.00 %	
Light goods van	2.90%	3.1%	2.90%	3.1%	2.90%	3.1%
Heavy goods vehicle	0.20%		0.20%		0.20%	
Bus passenger	3.50%	32.5%	7.50%	45.0%	7.50%	50.0%
Train passenger	0.50%		3.00%		3.00%	
Motorcycle	0.40%		0.60%		0.60%	
Bicycle	3.40%		7.00%		9.00%	
Walk	23.30%		25.00%		28.00 %	
Taxi	0.50%		0.50%		0.50%	
Coach passenger	0.20%		0.20%		0.20%	
School bus	0.70%		0.70%		0.70%	
Community transport	0.00%		0.50%		0.50%	
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100.00 %</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Modal Share: Car</b>		<b>67.5%</b>		<b>55.0%</b>		<b>50.0%</b>
<b>Modal Share: Non-car</b>		<b>32.5%</b>		<b>45.0%</b>		<b>50.0%</b>

### 5.7.2 Key Journeys

The data on the trip patterns of existing Bicester residents highlights four main destinations:

- Bicester Town Centre (18.9%);
- Other Bicester destinations (29.8%);
- Oxford (9%); and
- Kidlington (7.8%).

This section examines each main journey destination and the travel options that would be available as a result of the Travel Plan and wider proposals. It should be highlighted that the proportion going to these main destinations is based on 2007 trip patterns. The improved rail



service to Oxford (Evergreen3) would be likely to impact on home location decisions and it might be expected that the proportion of work based trips to Oxford would increase, thus reinforcing Oxford as a destination.

## Bicester Town Centre

The time, distance and cost of a trip by each mode to the town centre are shown in [Table 5.7](#). It should be noted that the cost of driving is a fuel cost rate which does not include annual running costs but does include parking. It can be seen that residents will have the option of cycling using the bus service or driving to get to the town centre or of a 30 minute walk for the more active.

The town centre represents a significant proportion of trips, particularly for shopping and leisure and these would be expected to increase with the redevelopment of the town centre including a Sainsbury's food store and cinema. Comparing the journeys shows that cycling is the most realistic option. The bus service will need to be made as attractive as possible in comparison to the car. Taking the bus service is anticipated to take 13 minutes. Whilst the Travel Plan proposes a regular bus service direct to the town centre, there is also the need to consider the relationship between the availability and pricing of parking in the town centre and the level of bus fares. Measures to afford bus priority are also crucial.

**Table 5.7: Comparative Journeys to Bicester Town Centre**

Exemplar Site to Town Centre	Walking	Cycling	Bus	Drive
Distance (metres)	2540	2540	3200	2540
Time (min)	30	10	13	5
Cost	free	free	£1.00	£1.52

## Other Bicester Destinations

The other main destinations in Bicester are the two rail stations and the Launton Road industrial estate. The comparative journey times are shown in [Table 5.8](#). It can be seen that cycling is a realistic option for all destinations, with the longest journey being a 12 minute cycle ride to Bicester Town Station. Bicester North Station is within walking distance for the more active. Using the bus is cheaper than driving and paying to park and will thus be a realistic option to the rail stations. The industrial estates will be most accessible by cycle or driving. The bus is a less attractive option, mainly due to free parking at employment sites. There is potential to extend the bus service to link directly to the Launton Road industrial estate from Bicester Town Station in the future which would improve its attractiveness.

**Table 5.8: Comparative Journeys to Other Bicester Destinations**

Exemplar Site to Bicester North Station	Walking	Cycling	Bus	Drive
Distance	2070	2070	2170	2600
Time	25	8	10	4
Cost	free	free	£1.00	£3.83
Exemplar Site to Bicester Town Station	Walking	Cycling	Bus	Drive
Distance	3260	3260	3734	3260
Time	39	12	21	12
Cost	free	free	£1.00	£3.82
Exemplar Site to Industrial Estate	Walking	Cycling	Bus	Drive
Distance	2630	2630	5500	3610
Time	31	10	47	6
Cost	free	free	£2.00	£0.45

## Oxford

Journeys to Oxford represent 9% of all resident trips as recorded in the 2007 Household Diary Survey. There are various realistic options for travelling to Oxford via public transport and this will significantly improve with the Evergreen3 rail proposals, which will provide a half hourly service from Bicester taking 14 minutes. Bus services are relatively cheap compared to the train, and improvements at J9 should improve bus journey times. Driving and parking in the City Centre is a very expensive option, although using the Park and Ride facilities makes using the car significantly cheaper than the bus or train. The key factors in encouraging sustainable travel to Oxford will be the cycling and bus connections to the rail stations and the price and journey time of bus services between Bicester and Oxford.

## Kidlington

Journeys to Kidlington represented 7.8% of all resident trips in the 2007 Household Diary Survey. It is recognised these are to dispersed destinations and travel by car will be most people's choice, given that it involves two bus journeys. The best option will be to promote car sharing for journeys to work in Kidlington. The Travel Plan Co-ordinator can liaise with residents and with employers in Kidlington to maximise car sharing. Following the opening of a new station at Water Eaton (as part of Evergreen3), it is possible that a regular bus link in the peak times from the station to employment in Kidlington could encourage sustainable travel.

## 5.8 Conclusion

In conclusion, it is considered that the target of reducing the share of overall trips by car from 67.5% at present to 55% in 2016 and 50% in 2026 is very challenging, but with the combination of all of the measures is potentially achievable. The measures will not succeed in isolation but need to be developed as an overall package as they are inter-connected – for example promotional activities are only as effective as the quality of the mode experience they are promoting. Moreover, the ongoing development of the NW Bicester Eco Development will bring forward the opportunity to encourage sustainable travel through the higher containment of land uses, and more direct walking and cycling linkages.

## 6 Management

### 6.1 Travel Plan Co-ordinator

In order to become more than just a document, all Travel Plans require an 'implementer', often referred to as the Travel Plan Coordinator (TPC). The availability of dedicated staff time and resources is essential.

A good development related Travel Plan provides sufficient information to the planning authority regarding the level of staff time and resources which would be available for plan development, implementation, monitoring and review. This enables all parties to check that the proposed programme and scope of measures is realistic and achievable.

Given the scale of the Exemplar Site as a mixed-use development, it is proposed that one member of staff will be employed part time as a Travel Plan Coordinator by the eventual Site Management Company. This individual would be employed from the outset to 10 years following completion, although over time the role will expand to encompass further stages of the Eco Development. At this point, it is anticipated that his/her role would be supported by occupiers / users on the site.

The TPC would assist in establishment and formation of the Travel Plan Group and in working-up a full implementation programme and monitoring strategy. He/she would also be responsible for building the necessary partnerships and delivery of site-wide initiatives such as an appropriate website and a car-sharing database. These would be developed in conjunction with the Travel Behaviour Campaign for Bicester to reinforce the same standards and approach.

The TPC would play an essential role in the development and success of sustainable travel measures, particularly in the development and delivery of area wide initiatives and promotional activities designed to raise awareness of the Travel Plan and its aims and objectives.

It is proposed that the TPC would be employed within the Site Management Company on commencement of marketing and letting of units at the Exemplar Site (i.e. prior to first occupation) and should be part of the site's sales team.

The key tasks of the TPC would be:

- To lead and manage the development and implementation of the site-wide travel plan;
- To act as a central point of contact for all site occupiers and external stakeholders in relation to the Travel Plan Framework;
- To implement the monitoring plan set out within the monitoring strategy herein;
- To implement and manage the data collection procedures as set out in the monitoring strategy;
- To take responsibility for raising awareness of and championing sustainable travel issues;
- To promote schemes and events which encourage walking, cycling and the use of public transport along with the reduction of the use of the private car;
- To represent the 'human face' of the travel plan and the TPG - explaining its purpose and the opportunities on offer;

- To build and nurture the necessary partnerships required for Travel Plan implementation and success;
- To promote and market the TPG to wider audiences;
- To deliver and/or manage, procure and/or oversee delivery of site-wide travel plan measures;
- To keep abreast of developing travel plan techniques;
- To regularly review and evaluate both the travel plan and the operation of the TPG and to provide feedback to the planning and highways authorities via meetings and/or other channels;
- To prepare progress reports, action plans and budgets for the travel plan aimed at best meeting its objectives and targets; and
- To liaise with the Employment and Residential Travel Plan Representatives to ensure coordination of measures and monitoring in order to maximise effective Travel Planning.

Given the crucial role which the TPC would be expected to undertake, it is essential that the right individual is recruited and that he/she has the necessary skills to perform exceptionally in his/her role. Care would be taken in working up the job description for and in recruiting the TPC, to ensure that a poor appointment does not threaten or undermine the travel planning strategy.

## 6.2 Travel Plan Group

A Travel Plan Group (TPG) will be established to provide a framework for the implementation of travel planning measures at the site, including representatives of all of the land uses. The TPG would be led by the site-wide Travel Plan Coordinator and who would sit within the overall Site Management Company for the Exemplar Site.

The TPG would be a private, non-profit making organisation with a remit to promote sustainable travel. Each occupier of the non residential uses (with more than 10+ employees) within the site would be expected to appoint a representative to the TPG. It is anticipated that funding would be as part of the cost of the TPC and through Site Management Fees.

Roles that the TPG would undertake are likely to include:

- **Consultants:** provide transportation advice and technical support for programmes that can be implemented collectively or by individual occupiers.
- **Providers of information:** The information might relate to transportation issues, local requirements, regulations and the availability of services;
- **Forum for consensus:** Where consensus is built between members this can empower the TPG membership to act effectively and speak with one voice. For example, a coordinated approach can be made to public transport providers to extend routes or increase services to accommodate the needs of the localised community. By acting jointly, the TPG can prepare an evidence base to support such improvements;
- **Advocacy Role:** addressing transportation issues within various venues, such as participation in local transport planning and economic development processes; and
- **Educator:** The TPG can serve as an educator to benefit a broad audience of employers, developers, public agencies, residents and customers about the nature of transport problems that exist in an area.

As indicated, a TPC role would be established to cover all of the different land uses at the Exemplar Site. The TPC would be supported by the members of the TPG member who would be Travel Plan Representatives from each of the employment units with 10+ staff, representatives of the school, community centre and a number of individuals from the residential site – and possibly ‘tied in’ with a future residents’ committee who would also sit within the TPG.

The Travel Plan Co-ordinator will need to work in partnership with key stakeholders/ partners including the local authorities, transport operators, Parish Council’s and of course occupiers. In addition, other partnerships (such as with nearby residential sites, neighbouring employment sites, police etc) might also be applicable.

Partnerships are required because travel and movement does not occur within a closed system. Instead, it is inextricably linked to land use and lifestyles and there are a wide range of external influences which can affect and undermine travel planning efforts, despite thorough development planning.

Strong partnerships are required to reduce risks related to the non-achievement of targets (e.g. that are attributable to exogenous travel, policy and economic influences).

The TPG would provide a good mechanism for forming and nurturing partnerships and for amending strategies and expectations in an accountable manner.

# 7 Monitoring and Review

## 7.1 Overview

It is recognised that effective monitoring is critical in determining the success of a Travel Plan, especially when targets have been agreed for the proportion of trips by different forms of travel. Furthermore, it is deemed appropriate to split monitoring up into three separate categories:

- **Monitoring** – this would be undertaken by a Travel Plan Coordinator to ensure appropriate implementation of the Travel Plan for a range of land uses;
- **Review** – a process that would be conducted by the Travel Plan Coordinator to manage and monitor progress. It is assumed that there would also be input from Travel Plan Officers from the local authority; and
- **Assessment** – independent analysis of the Travel Plan to ensure trip rate and targets for different forms of travel are being met (perhaps through the use of i-trace or TRICS SAM procedures).

## 7.2 Monitoring Timeframe

It is anticipated that development of the Exemplar Site will begin on site in late 2011 and would be completed within 5 years (i.e. by 2016).

It is proposed that Travel Plan monitoring will commence on occupation of the 50<sup>th</sup> unit of the site (anticipated to be in June 2012) and be reported for 10 years following the completion of the development. It is anticipated that by Year 6 (e.g. 2018) further development of the Eco Development would be on stream and the Travel Plan monitoring strategy would be reviewed with OCC as there is likely to be merit in encompassing adjacent developments that are not included within the Exemplar Site development schedule.

In terms of relating the mode share targets to the suggested 10 year monitoring timeframe, as identified above, year-on-year mode share targets would be calculated against the mode share target that has been established for 2026. For instance, between 2016 and 2026 there is a target to reduce the mode share proportion of car: non-car trips for all trip purposes from a ratio of 55:45 (in 2016) to 50:50 (in 2026). Therefore, between monitoring years 5 (2016) and 10 (2021) there is a year-on-year target for 0.5% of all trip purposes to shift from car to non-car modes. The target proportion of car: non-car for all trip purposes in 2022 is therefore expected to equate to a ratio of 53:48.

In addition, it is proposed that future occupiers of the non-residential elements of the Exemplar Site would conduct baseline surveys within 3 months (of occupation) and have a workplace travel plan strategy in place within 6 months of occupation. Once the 'main' monitoring is triggered, then non-residential workplace monitoring should coincide with that.

## 7.3 Monitoring Mechanisms

Monitoring of the Travel Plan will be essential to gain an understanding the effectiveness of the Travel Plan initiatives in achieving the objectives and targets for the development. Indicators will be established prior to the baseline monitoring and data will be collected by the following:

- Ongoing measurement of walking and cycling on the main connection through the development and on the route southwards along Banbury Road by use of permanent counters;
- Ongoing measurement of traffic entering and leaving the site through each of the two access point by the placement of permanent loops in the carriageway; and
- Monitoring of total trips generated and modal share for each land use on a bi-annual basis through:
  - Household travel diaries;
  - Employee travel plan questionnaires.
- Monitoring of total trips generated and modal share for the school through and annual hands-up survey and staff questionnaire.

Detailed in the following is an overview of the data collection procedures to inform the Travel Plan Monitoring Strategy that are proposed to be implemented at the Exemplar Site.

### Walking and Cycling

Permanent counters will be placed on two key links – the central bus, cycle etc only route between north and south in the site and the route alongside Banbury Road. As part of the biennial monitoring report, data on numbers of walkers and cyclists using the two links profiled by week and month will be presented, with a year on year comparison made.

### Traffic Levels

Permanent counters will be placed on the two access points to the Exemplar Site and as part of the biennial monitoring report, traffic levels using the two links profiled by hour, week and month will be presented, with a year on year comparison made and a comparison to the anticipated traffic generation presented in the Transport Assessment.

### Residential Travel Diary Surveys

The Travel Plan Co-ordinator will organise a travel diary survey of each household during a 'neutral' travel month (e.g. May or October) every two years, with the first survey taking place at the 50<sup>th</sup> occupation. These will involve the sending out of a questionnaire with freepost return envelope (as well as issuing electronically) to tenants/ households for ease of completion. An incentive to participate will be provided (entry in a prize draw). Reminders will be sent to households that do not return surveys.

The survey will be designed to ascertain the following:

- total trips made per person and household;
- mode of travel used per trip;
- trip destinations;
- purpose of trips;

- annual vehicle mileage and make and model of vehicles (including engine size e.g. Ford Focus 1.6); and
- measures that would assist in encouraging car users to change mode.

The survey will be analysed and the mode share for residents compared to that in the Bicester 2007 Household Diary Survey (and the 2010 Household Diary Survey once that data is made available). The annual vehicle mileage will be used to monitor private vehicle carbon emissions from transport related to the site.

## Employee Travel Questionnaires

The Travel Plan Co-ordinator will organise a travel survey of each employee in each of the non-residential uses during a 'neutral' travel month (e.g. May or October) every two years with the first survey taking place within 3 months of first occupation. These will involve the sending out of a questionnaire with freepost return envelope as well as issuing electronically to employees for ease of completion. An incentive to participate will be provided (entry in a prize draw). Reminders will be sent to employees that do not return surveys.

The survey will be designed to ascertain the following:

- mode of travel to work;
- if by car, whether car sharing;
- if by car, make, model and engine size;
- trip origins; and
- measures that would assist in encouraging car users to change mode.

## School Travel Survey

The school will be responsible for undertaking an annual survey of pupil travel patterns and a staff travel questionnaire, with the support of the Travel Plan Co-ordinator. Schools in Oxfordshire use the Schools Information Management System (SIMS) and this same format would be utilised with the results submitted to the OCC Travel Behaviour Team. It will be designed to ascertain the mode of travel to school on the survey day.

## Independent Monitoring

The Exemplar Site could be subject to appropriate independent monitoring (overseen by the Travel Plan Coordinator), although it should be noted that once development commences at the Masterplan site (with residents and staff moving in) it would be difficult to distinguish between Exemplar Site and Masterplan Site people and traffic generations. Despite this, it is possible that the iTRACE or TRICS Standard Assessment Monitoring (SAM) procedures could be utilised to monitor the travel generating nature of the Exemplar Site.

For clarification, iTRACE is an innovation in Travel Plan Management Software that provides a centralised software suite designed to monitor and report on the performance of Travel Plans, offering quicker, easier Travel Planning, Assessment, Auditing and Forecasting. Furthermore, the new web-enabled version of iTRACE means that there is no software to install.

The TRICS SAM procedure has been developed as a system of monitoring and assessing the effectiveness of travel plans. It uses long established TRICS methods of multi-modal data collection enhanced with comprehensive information on travel plan details to produce robust travel plan survey results. It is therefore considered that the iTRACE and TRICS SAM procedures would be an appropriate and unbiased means of monitoring the travel generating nature of the Exemplar Site.



## 7.4 Monitoring & Reporting

A monitoring report will be produced annually by the Travel Plan Co-ordinator and submitted to the Travel Behaviour Team at OCC. The monitoring report will enable the site travel plan group and OCC to ascertain whether the indicators are working towards targets. The report will contain the data collected from the four means set out above and will analyse achievement of each of the targets of the Travel Plan, together with the following:

- Details of progress made since the submission of the previous report. This could include details of measures which have been implemented and details of any other changes which have occurred over the time period which are significant to the Travel Plan (e.g. a rise in the number of residents and staff at the site);
- A summary of the monitoring results. As a minimum this would include the results of the travel survey, however where applicable it may include the results of surveys undertaken of cycle parking usage, traffic counts at the access point/relevant junctions, review of bus patronage.
- An assessment of whether Travel Plan indicators or targets (depending on year) are on track to be met. If the results show that targets are not likely to be met either due to negative shifts in modal shares or little movement from the previous survey, it should be considered as to whether it is appropriate to implement remedial measures at this stage; and
- An identification of actions and priorities for the forthcoming year should be outlined which explains what actions are to be undertaken to help meet the targets contained within the Travel Plan.

## 7.5 Remedial Actions

In the event that the Travel Plan is shown to be underachieving on the indicators, remedial action will need to be taken to put more resources into the 'softer measures' and help to get the Travel Plan 'back on track'. If in Year 5 the target has not been met then OCC are likely to seek additional contributions towards sustainable travel measures, and again at two yearly intervals until ten years after the 50<sup>th</sup> occupation on site. In summary, the following is proposed:

- *Year 1 – baseline data collected;*
- *Year 2 – performance against indicators assessed;*
- *Year 3 – performance against indicators assessed;*
- *Year 4 – performance against indicators assessed;*
- Year 5 – if targets have not been met then additional contributions discussed;
- *Year 6 – performance against indicators assessed;*
- Year 7 – if targets have not been met then additional contributions discussed;
- *Year 8 – performance against indicators assessed;*
- Year 9 – if targets have not been met then additional contributions discussed;
- *Year 10 – performance against indicators assessed;*
- Year 11 – if targets have not been met then additional contributions discussed;
- *Year 12 – performance against indicators assessed;*

- Year 13 – if targets have not been met then additional contributions discussed;
- Year 14 – *performance against indicators assessed; and*
- Year 15 – if targets have not been met then additional contributions discussed.

The measures that are appropriate would be reviewed in consultation with Oxfordshire County Council, Cherwell District Council and the Highways Agency. If required, these will be modified or implemented more stringently.

It is important to recognise that as the Masterplan development proposals come online, it could be difficult to decipher what traffic is generated by the Exemplar Site and which is associated with the Masterplan Site. Whilst the use of number plate recognition technology could be drawn upon, the way forward (if required) would be subject to discussion and agreement with Oxfordshire County Council, Cherwell District Council and the Highways Agency.

## Shuttle Bus/Minibus

Whilst the development proposal features the provision of a frequent bus service across the day (30 minutes rising to 15 minutes at the occupation of the 200<sup>th</sup> unit), it is considered that an additional remedial measure if targets are not met could include the operation of a minibus that would route via employment and other key sites both throughout and local to Bicester. In particular, it could operate to the industrial estates to the east of Bicester and to the Kidlington area.

It is however important to point out that there will be a strong commitment from the outset to promote the use of the proposed dedicated bus service between the Exemplar Site and Bicester town centre to all future residents and staff. It is proposed that a minibus, if required, would operate during the morning and evening peak periods only and is likely to route via employment sites throughout Bicester (and perhaps beyond to Kidlington). It is important to note that a potential route for any future minibus service that would serve the Exemplar Site has not been considered in any specific detail. Moreover, emphasis will also be placed on the widespread benefits of car sharing.

## 8 Action Plan

As set out in [Section 5.6](#) and [Table 5.4](#), a series of measures have been set out to meet the objectives and targets established in [Chapter 4](#) of this report. Whilst [Table 5.4](#) estimates the potential (positive) impact of each measure on total trips and vehicle/non-vehicle mode share (based on current research), [Table 8.1](#) (below) sets out a series of actions, responsibilities, timescales against each action and the intended outcome(s) of each action.

**Table 8.1: Travel Plan Action Plan**

Action(s)	Responsibility	When	Intended Outcome
Achieve the land use containment target of 17.4%	Site Developers'	By 2016	Deliver a development that includes the proposed range of uses to cater for future occupants. Ensure that journeys carried out within the site are predominately undertaken by sustainable modes
Working from home/ Eco-business centre hub	Travel Plan Co-ordinator	From first occupation	Each household will have access to the relevant technology to enable working from home
	Site Developers'	From Eco-Business Centre opening	Deliver a hot desk facility that leads to a reduction in overall commuting by residents
Branding and Marketing/Travel Awareness Promotions	Travel Plan Co-ordinator	From first occupation	The Travel Plan is widely understood and that it is a dynamic process that the entire community can 'feed into' and benefit from
Promoting a Cycling Development	A2 Dominion Group marketing team/ Travel Plan Co-ordinator	From start of site marketing	The Exemplar Site attracts residents who are active cyclists and cycling modal share is achieved.
Personalised Travel Planning	Travel Plan Co-ordinator (A2 Dominion Group tenancy/ property handovers)	As residents move in/new staff join	Each individual is aware of the travel options available to them
Individual Travel Plan – Primary School	The School, overseen by the Travel Plan Co-	As part of full planning process prior to opening to encourage	Staff, parents and pupils are engaged in the Travel Plan process. Set

Action(s)	Responsibility	When	Intended Outcome
	ordinator	sustainable travel choices and then within 6 months of occupation, appropriately monitored and updated thereafter	out to achieve the mode share targets
Individual Travel Plans – Other Non Residential Uses	Travel Plan Representatives, overseen by the Travel Plan Coordinator	As part of full planning process prior to opening to encourage sustainable travel choices Within 6 months of occupation, appropriately monitored and updated thereafter	Each member of staff is aware of the aims and objectives of the Travel Plan. There is a clear strategy for achieving the mode share targets
Parking Strategy	Site Governance and the Travel Plan Co-ordinator	From first occupation, monitored annually thereafter	Appropriate mechanisms in place to manage and enforce parking. Implement remedial actions if parking overspill becomes a problem
Car Club	Travel Plan Co-ordinator (with Common Wheels Car Club)	On occupation of the 50 <sup>th</sup> dwelling	Contribute to a reduction in private car ownership and use. Explore ways of opening up the car club to individuals outside of the Exemplar Site in the future
Electric car charging points	Site Governance and the Travel Plan Coordinator	From first occupation	Provide charging points to those residents who request them
Promotion of electric vehicles	Site Governance and the Travel Plan Co-ordinator	Prior to the occupation of the 50 <sup>th</sup> dwelling	Achieve overall reduction in carbon emissions from transport through promoting purchase and use of low emission vehicles. Where vehicles are used for site servicing/ deliveries brand the vehicles to maximise publicity and affiliation with the site
Hybrid buses	Travel Plan Co-ordinator, OCC and the Bus Operating Company	Prior to first occupation	Use hybrid or equivalent or lower emission buses to reduce emissions from transport and help achieve the targeted bus mode share. Brand

Action(s)	Responsibility	When	Intended Outcome
			the bus(es) to showcase their sustainability credentials and affiliation with the Exemplar Site
Car sharing	The Travel Plan Co-ordinator and individual organisations	From first occupation	Maximise car sharing amongst residents that work away from the site and staff commuting to the site. Ensure widespread awareness of the car share database and consider incentivising car sharing
Bus service	Travel Plan Co-ordinator, OCC and the Bus Operating Company	In place to coincide with bus service start-up	Ensure that the Exemplar Site community and residents of north Bicester are aware of the bus service. Provide incentives such as 'bus taster tickets' to maximise patronage
Rail Linkages	Site Developer and OCC in conjunction with Chiltern Railways	Contribution prior to first occupation	Assist in improving the rail services from Bicester and the facilities for cyclists at the rail stations.
New Occupant Travel Incentives	Travel Plan Co-ordinator	As residents move in/new staff join	Residents/ staff are encouraged to use the bus service and cycle
Walking Routes	Site Developer	As site is developed	Good quality walking routes are provided to encourage walking modal share
Cycling Routes and storage	Site Developer	As site is developed	Good quality cycle routes are provided to encourage walking modal share. Residents/ staff are provided with facilities to encourage them to cycle
Cycle Purchase/ Hire and Facilities for Cyclists	Site Developer	As site is developed	Residents/ staff are provided with facilities to encourage them to cycle



# Appendix

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## Report Figures

**Figure 1.1:** Site Location

**Figure 2.1:** Existing Walking and Cycling Network

**Figure 2.2:** Existing Bus Routes

**Figure 2.3:** Employment & Business Destinations

**Figure 2.4:** Education Destinations

**Figure 2.5:** Shopping Destinations

**Figure 2.6:** Leisure Destinations

**Figure 2.7:** Visiting Friends & Relatives Destinations

**Figure 3.1:** Exemplar Site Accessibility

**Figure 3.2:** Site Layout (North and South)

**Figure 5.3:** Proposed Bus Route

**Figure 5.4:** Population within 400m of Proposed Bus Route

**Figure 5.5:** Transport Proposals Plan

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