



TRAVEL PLAN

June 2007

THE UNIVERSITY OF
WARWICK

University of Warwick

**Main Campus
Masterplan**

Travel Plan and Car Park
Management Strategy

June 2007

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Executive Summary

The University of Warwick is undertaking a ten year programme of development. The development will bring increased numbers of research staff, teaching staff and students to the site, and will lead to greater movement of people across Gibbet Hill Road between Central Campus East and Central Campus West. The proposals represent a 40% increase in the built area and a similar increase in staff numbers. It is estimated that with the implementation of this travel plan, the development will generate a growth in motor vehicle trips of approximately 12% by the end of the development period in 2018.

The aim of Travel Plans outlined by central government guidelines is to address the potential means of reducing reliance on single occupancy car use and encouraging the use of alternative forms of travel. The travel plan relates mainly to staff but students will also benefit from improvements to facilities around the Campus, and in combination with car park management, the travel plan will ensure that growth in car use by students is contained. The travel plan sets out a series of potential physical improvements, encouragement measures, publicity initiatives and management changes that will help to reduce single occupancy car use.

The University has already taken steps towards this by helping to fund and facilitate public transport services, providing cycle routes and cycle parking and operating car park permits and a car park payment system. Consequently, levels of car sharing and cycle use in particular are already higher than the average for Coventry and Warwickshire.

The success of the travel plan also requires the support from the local authorities in helping to deliver off-site infrastructure improvements and public transport upgrades in order to enable and encourage access by non-car modes. A travel survey of staff and students has identified that some of the barriers to cycling, walking and public transport are related to problems at other stages of a journey rather than within the University. The Local Transport Plans for the West Midlands and Warwickshire identify potential measures such as the Coventry Bus Rapid Transit scheme and local cycle route improvements that will facilitate modal shift.

Key elements of the travel plan are:

- Appointment of a Travel Coordinator to implement the travel plan and provide information about travel issues to staff and students, including personalised travel planning;
- Increased control over access to car parking;
- Reduced ratios of car parking per head of staff and per floor area of development compared to current conditions, the Masterplan has an increase of approximately 9% in car parking provision;
- Introduction of car parking charges across the Campus to be increased above the rate of inflation;
- Improvements to cycle parking and cycle routes on site;
- Covered cycle parking stands and showers provided as an integral part of new buildings;
- Improved cycle routes from Coventry and Kenilworth;
- Provision of discounted public transport season tickets for staff through Company TravelWise;
- Introduction of a staff car share scheme;
- Free taxi home for car sharers in the event of an emergency;
- Flexible start and finish times where feasible to avoid peak-time travel and facilitate public transport use;

- Consideration of options for home working, teleconferencing and other IT solutions to reduce the need to travel;
- Promotional and marketing work with support and encouragement through the University Bike User Group, Coventry and Warwickshire Travel Plan officers and participation in events such as Car Free Day;
- Setting of targets for parking provision and levels of car use for phases of development with regular monitoring of development, car park provision, staff travel surveys and traffic surveys to assess progress towards targets;
- Agreements with Local Highway Authorities and Highways Agency over procedures to trigger the implementation of corrective measures and off-site mitigation to help to reduce the impact of car travel in the event of a failure to achieve the predicted targets.
- Agreements with the Local Authorities and the Highway Agency on restrictions on the quantum of development if the University fail to make reasonable endeavours to implement the Travel Plan measures under their control. Such restrictions to be removed once reasonable endeavours are deemed to have been made.
- The operation of the Travel Plan in all its aspects including targets and traffic impacts will be reviewed periodically by the University Transport Sub Group made up of the University, Coventry City Council, Warwickshire County Council and the Highways Agency.

The principles that will govern the Travel Plan and the work of the Transport Sub Group are:

The Authorities want to see the University continue to develop successfully.

The University is committed to minimising the traffic impacts arising from its continued development.

1 Aim of the Travel Plan

1.1 Aim of the Travel Plan

The aim of the travel plan is to minimise the impact of transport on local roads and the environment during the masterplan development period. The emphasis is on reducing single occupancy car use as this is one of the main sources of congestion and one of the least sustainable forms of transport. The University will dedicate a member of staff to act as a Travel Coordinator to implement the travel plan measures and to act as a point of contact with the planning and highway authorities.

1.2 Objectives of the Travel Plan

The travel plan is closely integrated with the Masterplan and must work to provide realistic travel options within the constraints of the local political framework, and physical barriers of existing adjacent development and green belt designation.

The main aim is therefore supported by objectives to:

- Provide highway modifications where possible to help to alleviate congestion resulting from additional University traffic;
- Provide new and improved facilities to encourage walking and cycling;
- Provide improved public transport;
- Encourage and enable greater use of car-sharing;
- Reduce demand for peak time travel through changes in working practices;
- Provide better information to staff and students about travel choices available to them;
- Look at reductions in business mileage and University vehicle use as part of the University's wider Low Carbon programme within the site;
- Work with the local transport and planning authorities to provide access for Bus Rapid Transit and regional cycle routes through the site; and to,
- Monitor transport activity during the development period.

1.3 Key Stakeholders

The Travel Plan has been developed in consultation with many stakeholders and implementation will require an ongoing relationship with many joint initiatives. The key stakeholders are:

- The University development team, staff and students;
- Coventry City Council;
- Warwickshire County Council;
- The Highways Agency.

The University views the Travel Plan as an important component of the Masterplan, which reinforces existing commitments to sustainable growth and its standing in the community as a 'good neighbour'. Staff and students will potentially benefit from improved access to transport and safety and environmental improvements along Gibbet Hill Road. The local authorities and Highways Agency will benefit from the role of the travel plan in minimising the impact on the wider network and the support of the University in providing safety improvements, a Bus Rapid Transit route and cycle routes through the site.

A Transport Sub Group comprising of the University, Coventry City Council, Warwickshire County Council and the Highways Agency has considered transport issues during the planning phase and will continue to work together to monitor transport issues and implement the travel plan. The University Travel Coordinator will oversee and coordinate implementation and monitoring of the travel plan throughout the development period.

2 Transport Policy Background

2.1 Travel Plans within Transport Policy

Travel Plans have been introduced at many educational establishments, workplaces and hospitals during the last decade. They typically combine physical measures such as infrastructure improvements to enhance safety or accessibility, service improvements such as better public transport and a strategy of encouragement and information to promote car sharing, public transport, walking and cycling. They have been integrated into many policy documents at the various tiers of Government and have been among the most effective measures to reduce single-occupancy car use over the last decade. The section below illustrates how the University of Warwick Travel Plan is consistent with the various policy documents.

2.2 National Policy and Guidance

In 2004, the Government issued a white paper, *The Future of Transport: a Network for 2030*. This white paper sets out a 30 year vision for transport including a funding commitment to 2015. It followed on from *Transport 2010*, published in 2000, which set out an implementation strategy for transport policy in the decade to 2010. The white paper recognises that increased personal mobility is an important element in a growing economy, but at the same time it makes the case that there is a need to explore opportunities to reduce the need to travel and to choose modes of travel that have the least impact on the environment. There is a particular emphasis on replacing short local car journeys with walking, cycling and public transport trips in order to tackle local congestion, pollution and road safety issues. The white paper recognises that workplace travel plans can reduce commuter car driving by between 10% and 30% at an annual cost to the local authority of £2 to £4 per head.

Planning Policy Guidance 13, ODPM, 2002 sets out policy guidance for dealing with transport within the context of development planning. The document includes maximum levels of car parking provision in terms of ratios of car parking related to either floor space or number of employees for different types of development. It also recommends the use of travel plans to reduce driver-only car trips and the introduction of physical infrastructure or enhanced services to encourage walking, cycling and public transport.

Smarter Choices – Changing the Way We Travel (DfT, 2004) illustrates the effectiveness of 'soft measures' with evidence from the UK and abroad. The interventions include publicity, marketing and personalised travel planning as well as changes to travel and working habits such as the use of car clubs, flexible working hours and home-working. The report concludes that high intensity interventions could result in a nationwide reduction in peak time urban traffic of up to 21% compared to 2003 levels while lower intensity activities could help to achieve a reduction of around 5%.

2.3 Regional Guidance and Studies

The *West Midlands Regional Spatial Strategy (RPG 11)* was published in 2004. It is a strategic land use planning document for the region as a whole. There is an emphasis within the document on targeting improvements to transport within the Major Urban Areas (MUAs) in order to offer a genuine choice to travellers and to improve access to key services for non-car travellers. It also recommends strategies to change travel behaviour:

"Changing people's travel patterns requires a holistic approach. No single measure is capable of effecting major change by itself; a successful behavioural change strategy requires a coherent package of measures. These include:

- a) measures to reduce the need to travel;
- b) well located facilities;
- c) provision of good quality, well designed walking and cycling facilities;
- d) promotion of travel awareness initiatives;
- e) better public transport;
- f) introduction of well-designed Park & Ride schemes;
- g) improved provisions for powered two-wheelers and taxis;
- h) better management of public and private car parking; and
- i) consideration of appropriate demand management measures."

The RSS also recognises that:

"The availability of car parking has a major influence on the means of transport people choose for their journey and their ultimate destination."

The *West Midlands Area Multi-Modal Study (WMAMMS)* identified the need to improve facilities for public transport, walking and cycling throughout the region and to make further use of behavioural change strategies such as *Travelwise* to promote alternatives to the car. At the same time, the *Coventry Area Network Study (CANS)* made similar recommendations.

2.4 West Midlands and Warwickshire Local Transport Plans

West Midlands Local Transport Plan

The West Midlands Local Transport Plan (LTP2) 2006-2011 recognises the national objectives to improve road safety, tackle congestion, improve accessibility and improve air quality. It forecasts a 13% growth of trips throughout the region by 2011, and has target to limit the growth in car use during this period. The LTP also states that if all possible measures were to be funded and implemented the modal share of car use across the region could be reduced from 76% to 60% by 2023. The University Travel Plan aims to achieve 57% car driver modal share by 2018. Other targets include a 1% increase in bus use to the main urban centres between 2003/4 and 2009/10, The University hopes to achieve a 2% increase during the first five years of the Masterplan. The LTP aims to achieve a 1% increase in the cycling index (currently estimated at about 2-3% of all trips) over five years. The University already has cycling levels three times higher than the region as a whole and is also aiming for a 2% increase to 11% of modal share during the first five years and 12% modal share by 2018.

The LTP reiterates policies from the Coventry Corporate Plan, Coventry Community Plan and Coventry Best Value Performance Plan, for example, "the 'first steps for transport' in the Community Plan are to:

- Increase the frequency and availability of bus services;
- Increase park and ride service availability;
- Encourage more adults and children to walk, cycle or use public transport to get to work or school;
- Increase the opportunities for safer cycling and walking."

The LTP stresses the importance of travel planning initiatives both at workplaces and through individual travel planning and gives examples of local success stories such as the BBC in Birmingham where a reduction in car use has been achieved. "Smarter Choices" is

the name given to a variety of initiatives undertaken by the local authorities and aimed at achieving behavioural change through marketing, promotion and information with the objective of making better use of the existing transport network.

Warwickshire Local Transport Plan

The Warwickshire Local Transport Plan contains similar objectives to reduce traffic growth and to promote the use of public transport by improving links and services. There are similar targets (in line with national targets) to reduce the number and severity of road accident casualties.

Warwickshire has a policy of securing travel plans within developments through the use of planning agreements (under Section 106 of the Town and Country Planning Act). This policy is explained in detail in the *Practice Note on Travel Plans for Developers in Warwickshire, May 2003*.

The Warwickshire LTP has a target to reduce the rate of traffic growth across the County to 1.5% per annum over the period of the plan. There is also a target to reduce car use by 10-20% over five years within new developments where a travel plan is introduced. It has a target of no overall reduction in the number of cycling journeys, and 5% increase in cycle use on routes where improvements have taken place. There is a global target for 5% increase in bus patronage across the County, with 10% increase in bus patronage on 'Quality Bus Initiatives'.

3 Current Transport Situation

3.1 Background

This travel plan report forms part of the supporting documentation for the University of Warwick Masterplan outline planning application. The Masterplan sets out a ten year growth strategy for the University, with a particular emphasis on the expansion of research activities. The Masterplan for the University will bring an additional 171,000 m² Gross External Floor Area (GEA) to the University, of which 57,000 m² is new residential development. The major part of the development will be on the Central Campus on land in both Warwickshire (Central Campus West) and Coventry (Central Campus East). The travel plan considers both access to the University from the wider area and inter-site travel around the Campus.

Although this is a significant development, it represents a similar growth trend to that which the University has followed over the last forty years. The major trend in transport over the past forty years has been for a growth in private car travel at the expense of all other modes. The intention is that this trend will be reversed during the Masterplan period as a result of limitations on the amount and availability of car parking space and by encouraging and enabling the use of other modes of transport.

3.2 Current Situation

Activity

The University employs 4,500 people and has over 18,500 students attending, of which around 5,800 are in Campus accommodation. Each year the University attracts some 150,000 delegates to over 3,000 conference events and provides around 450 beds for residential conferences and training. In addition the University Arts Centre attracts over 250,000 visitors each year. The University is therefore one of the major sources of employment and income for the City of Coventry and the surrounding region. It has a worldwide reputation for excellence in both research and education.

A survey of traffic movements revealed that there are around 1,800 vehicle trips into the University during the morning peak hour. There are over 400 buses per day passing through or close to the University.

Traffic Surveys and Postcode Analysis

A survey of traffic movements around Gibbet Hill Road and the surrounding roads in 2004 revealed that approximately 55% of traffic using Gibbet Hill Road in the morning peak hour is generated by the University. Westwood Business Park, the Science Park and Cannon Hill Shopping Centre also generate significant traffic on local roads. A further survey of traffic in 2005 provided evidence of the typical distribution of traffic entering and leaving the University as it works through the local road system. Staff home postcodes were plotted on a map to illustrate where people live in relation to the University (See Figure 1).

Car Parking

The University has around 4,974 car parking spaces (November 2005). About 1900 spaces are currently free of charge, 125 are reserved for disabled users and the remainder are paying spaces (pay on foot, pay and display or by payment for a parking permit).

3.3 University Sustainable Transport Policy

The University has already undertaken work to provide large amounts of cycle parking around the Campus, and some good quality cycle and pedestrian routes. Bus stops on

University Road are of good quality and in general there is good access to bus stops and services from around the site. There is a car park management system in place on site, with a permit system for staff and pay and display system for visitors. The car parks are patrolled and parking is only allowed in designated spaces. The University operates a vigorous enforcement policy and unauthorised parking is penalised by wheel clamping and fines of between £25 and £35.

In 2005 the University of Warwick and nineteen other universities signed up to a pilot programme managed by the Carbon Trust aimed at reducing carbon dioxide emissions from higher education establishments. The aim of the project is to develop a range of initiatives that will reduce carbon dioxide emissions by 10% within the next five years. Transport is one of four key topic headings in the Carbon Trust Action Plan. The University data recognises that there is considerable pollution from the vehicles owned directly by the University and has calculated the emissions arising from these at around 450 tonnes of CO₂ per annum, around 3% of the total emissions for the University.

The transport sub group at the University also recognise opportunities to reduce emissions from external vehicles although monitoring and assessing the impact of this is more difficult. The action plan submitted to the Carbon Trust in November 2005 identifies a range of possible transport initiatives and recognises the need for a Travel Plan to bring these initiatives together.

4 Travel Survey 2005

4.1 2003 Travel Survey

A travel survey was undertaken in 2003 (published April 2004) that showed:

- 65% of staff drive to work alone
- 5% get a lift or car share
- 16% travel by bus
- 7% cycle
- 6% walk.

Around 60% of staff move between different parts of Campus during the working day as part of their work or for access to catering, shopping and transport facilities on site, and they are more likely to drive if the walk time to their destination within Campus is over ten minutes.

A more comprehensive Travel Survey was carried out in 2005 with a larger sample of staff and students and the results are summarised below.

4.2 2005 Travel Survey

A Travel Survey was undertaken in November 2005 and a report completed in December 2005. The data for staff and student travel is available, enabling analysis to be considered either together or separately. As one might expect, there are some interesting differences in travel behaviour between staff and students.

The survey was placed on the University website and also made available in hard copy to staff without access to the web. Completed surveys were entered into a prize draw to help stimulate responses. 2,260 people completed the survey. The total response represents about 20% of staff and 8% of students. The respondents were self-selecting so the results may reflect the fact that staff and students with particular 'issues' about transport may have been more strongly motivated to complete the survey than others. Staff and students who live on or near to Campus for example would be less likely to respond.

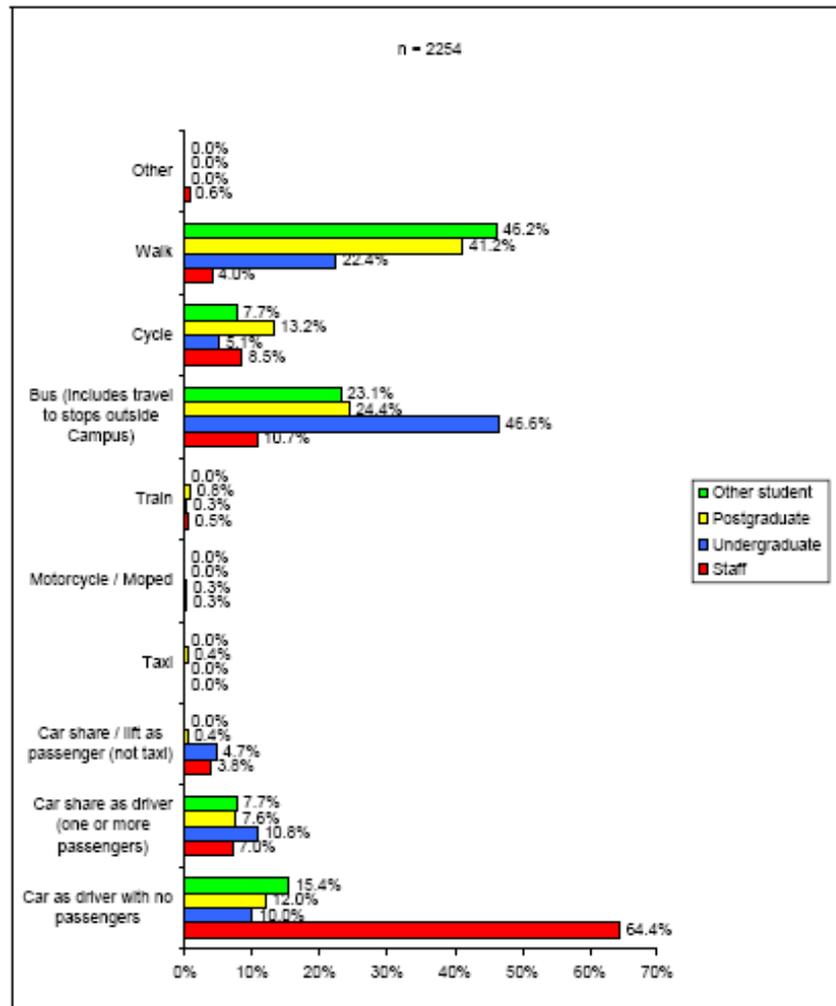
The demographic breakdown was as follows:

- Staff 38.4% (868)
- Undergraduate student 50.0% (1130)
- Postgraduate student 11.1% (251)
- Other student 0.5% (11)

There is some difficulty in defining exactly how many 'staff' and 'students' there are at the University in terms of 'full time equivalent' places at any one time because the payroll includes visiting professors and part time staff with various patterns of work. Similarly students might include distance learning, local people attending short courses as well as full time graduates and post graduates.

4.3 Modal Share for Commuter Journeys

Table 41: Modal Share for Commuter Journeys



Source: QUAD Travel Survey November 2005

The modal share for car drivers among staff is 71.4%. A further 3.4% travel by car as passengers. 7% of drivers currently share their car with other people for all or part of the journey to work. Around 21% of undergraduate students drive to University, with a further 5% travelling as car passengers. Note that 'Other students' is only 11 people in total.

80% of staff drivers that share a car carry one other person. Car occupancy among students is higher, with over a third of drivers travelling with three in a car and half sharing with one other person.

Table 4.2: Modal Share by Staff and Students

Mode of Transport	Staff (868) %	Post-grad Students (251) %	Undergraduate Students (1130) %
Car driver (no passengers)	64.4	12.0	10.0
Car driver (car share)	7.0	7.6	10.8
Car passenger	3.8	0.4	4.7
Bus	10.7	24.4	46.6
Cycle	8.5	13.2	5.1
Walk	4.0	41.2	22.4
Motorcycle/scooter	0.3	0	0.3
Train	0.5	0.8	0.3
Taxi	0	0.4	0
Other	0.6	0	0

Bus use is the predominant form of transport for students, used by almost half of undergraduates and by about a quarter of other students. Almost 11% of staff use the bus.

Walking is the dominant form of transport for post-graduate students, and for 22% of undergraduates reflecting the use of on-site and near site accommodation, but is cited by only 4% of staff.

Cycle use is highest among post-graduate students, at 13%, which is around ten times higher than average levels of cycle use in the West Midlands (estimated in the LTP at 1-2%). There are also reasonably high levels by staff (8.5%), and undergraduates (5%). It is thought that the low levels of cycle use recorded by undergraduate students compared to the number of bikes on site is perhaps because their bikes are used *within* Campus but not for travel away from the site.

The transport habits of staff appear to broadly correspond with the Warwickshire and West Midlands journey to work patterns, but with lower public transport use and slightly higher car use than is typical in the West Midlands. This probably reflects the fact that many staff travel from within Warwickshire and the rural areas around Coventry rather than from within the main conurbations of the West Midlands. Obviously many staff hold higher academic qualifications than the population as a whole, which is a factor that tends to result in longer than average commuting journeys.

4.4 Car Travel

The levels of car use among staff are currently similar to the typical levels recorded in Coventry and Warwickshire as a whole. The Campus is away from the main hub of public transport in the city centre and staff postcodes illustrate the dispersed catchment, so it is easy to see why car travel would be the predominant mode. The postcode analysis suggests that there is scope for more staff to car share. Around a third of the staff and students that drive suggested that they would car share if measures were in place that enabled them to do so. Of the people that already car share, most only share with one other person.

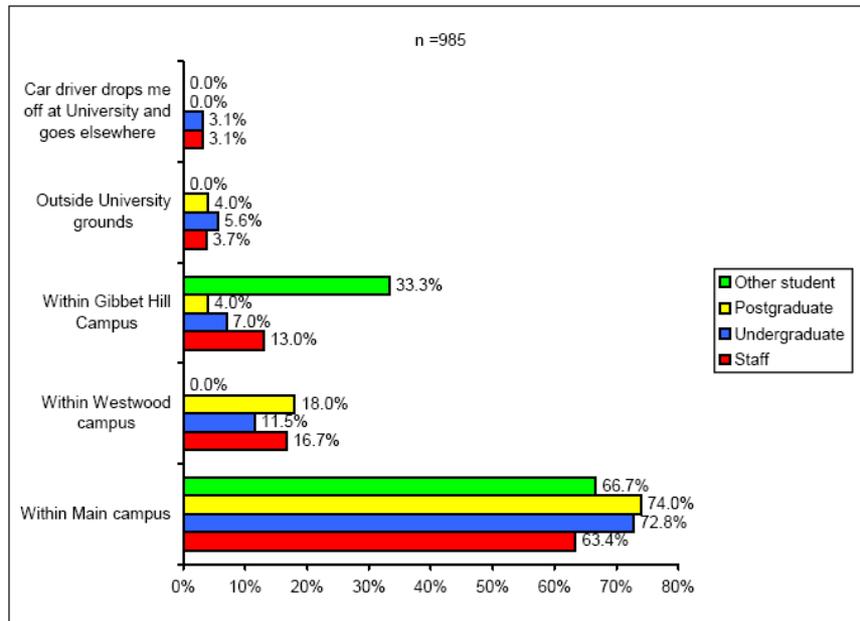
Around 38% of those surveyed enter the University between 08:30 and 09:00 and this agrees with traffic monitoring data that shows a pronounced peak in the morning with a more dispersed pattern of traffic leaving the site between 15:30 and 18:00, the busiest period being between 16:30 and 17:00.

The main reason given for choosing car travel by staff was convenience and comfort. The next most popular reasons were inadequate bus service, don't live near bus route and need to do school/nursery run.

Car Parking

Table 4.3 shows the distribution of cars parked at the University. The majority park within the main Campus, with smaller numbers at other locations. Only a small percentage of people park outside the University grounds.

Table 4.3: Pattern of Car parking



Around half of staff that drive use parking permits. Around 42% of undergraduate and postgraduate students use permits.

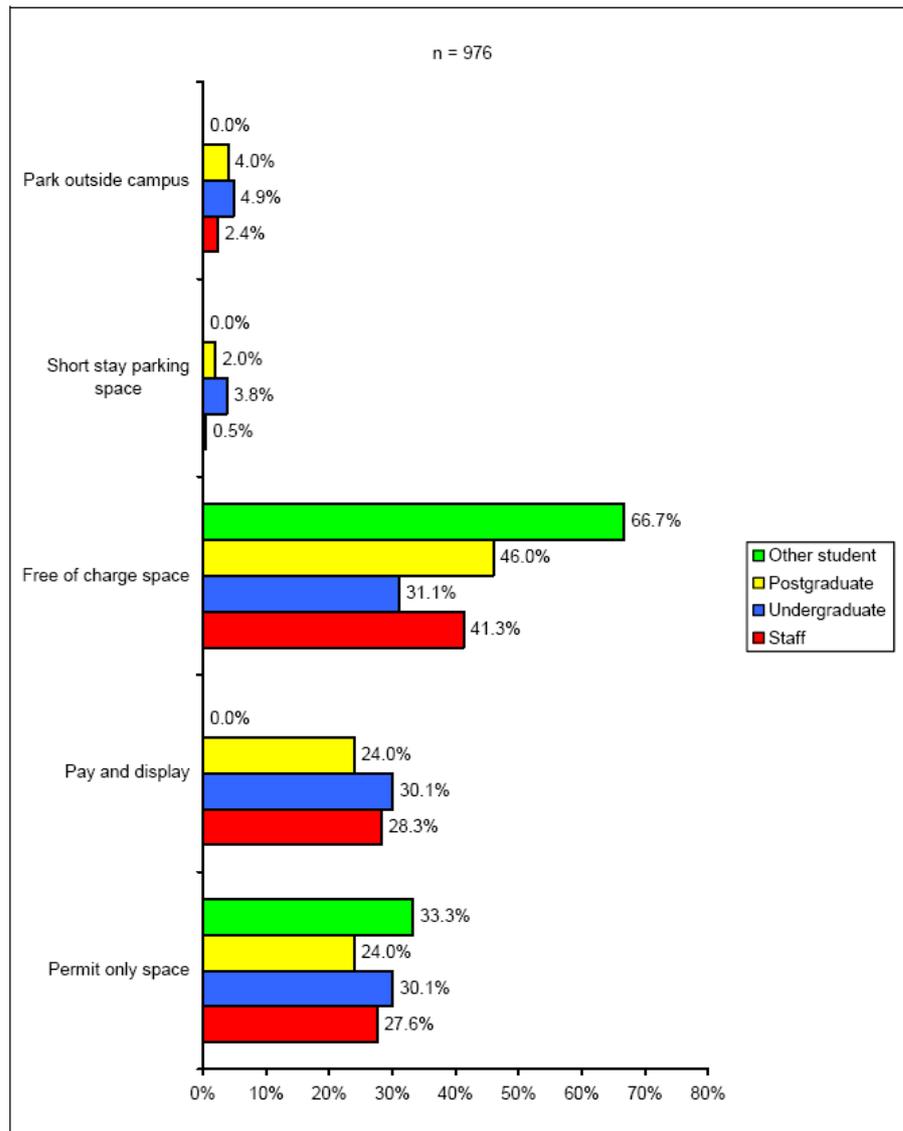
28% of staff park in permit holder spaces and 41% in free of charge spaces. 18% pay up to £2.00 per week while a further 7% pay up to £5 per week, while 4% pay more than this (up to £10). 42% of drivers regard parking as expensive, and 6% would currently consider using other modes due to the expense.

The current charges for permits are £130 per annum for full time staff and £65 for part time, and £45 for pool share users. Students pay £130 for day permits and £435 for secure parking.

Around 50% of drivers (staff and students) consider that a parking charge should be levied based on ability to pay. The present charge for pay on foot parking is 90p for up to four hours or £1.70 for over four hours.

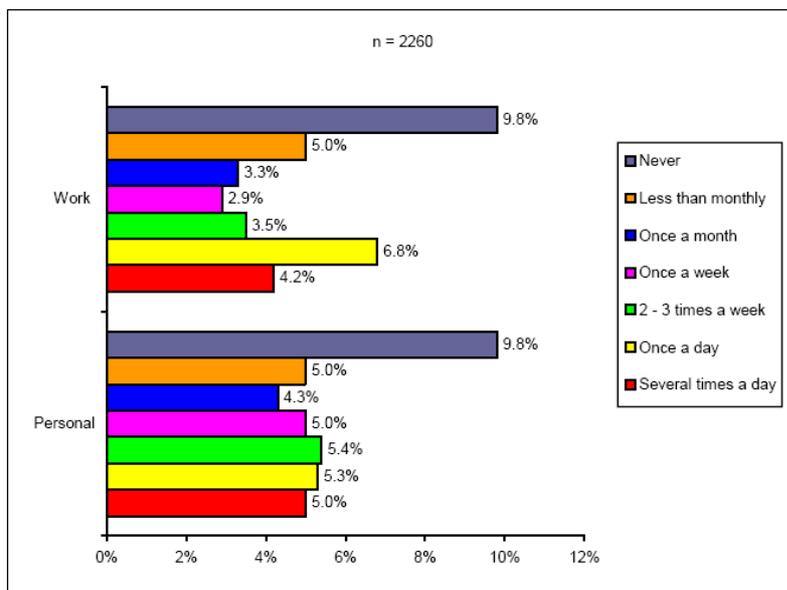
Drivers were also asked what type of parking space they usually use (Table 3.4). Around 40% of staff currently use a free of charge space, while 28% use pay and display and 28% also use permit only spaces.

Table 4.4: Type of Parking Space



The majority of people park in free spaces or in permit only spaces. Just over a quarter currently use pay on foot or pay and display spaces. Comments suggest that free spaces within the main Campus are generally full by 08:30 during term time, and that this is an incentive to some people to travel prior to the main peak. In response to a question about whether they would change their working hours to avoid peak time travel, around half were willing to do so.

Table 4.5: Trips off-site by staff and students during working day



Many people make trips off site during the working day, and this was one reason given for use of the car. However, this is less of an issue than inter-site travel. Many people find it necessary to use cars to access different parts of the Campus during lunchtimes for personal business, or due to the need to attend meetings and lectures throughout the day. There are concerns about personal security travelling within Campus and off-site during the hours of darkness, and this also affects willingness to use non-car modes.

4.5 Public Transport

Almost half of undergraduates and significant numbers of other students use the bus services, while almost 11% of staff do so. Train travel was not reported as a significant mode, although there were some comments that better links between the University and local stations would make the train more viable by reducing the overall journey times.

The main negative reasons for using buses were given as not having access to/ being able to afford a car, too far to walk or cycle, and parking difficulties.

The positive motivations for bus travel were low cost, convenience/comfort, and easier than driving (25% of staff, 33% of students).

The main concerns expressed by people who use the buses were frequency, punctuality, overcrowding and cleanliness. The main concerns expressed by non bus users were journey times

Overall, 65% of people considered that the bus service is satisfactory at present, but there were variations between the different types of student and staff. Undergraduates, who are the main group of bus users, were the most satisfied, while around half of staff and post-graduate students were dissatisfied.

The main improvements required to encourage bus use were listed as more direct buses from home to work (particularly by staff), more frequent services, shuttle bus around the Campus and service to the nearest train station.

Over a third of bus users board the bus in central Leamington, and 16% in South Leamington. 17% travel from Canley, 15% travel from Earlsdon and 10% from the city centre.

4.6 Cycling

The modal share of cycling is relatively high (at around 10%) compared to national and regional averages, with highest use among the post graduates and staff. Part of this may relate to the sampling technique as described earlier, but there are many bicycles around the Campus and the University has actively encouraged cycling over a long period by providing facilities. Only 5% of undergraduate students cycle, but this may be due to their living on or close to Campus, or deliberately choosing to live in areas with good public transport.

The main improvement required to encourage more people to cycle would be safer routes on their journey to work. The A45 and Kenilworth Road form significant barriers between the University and some of the residential areas popular with students such as parts of Earlsdon, Kenilworth and Leamington Spa.

The next most popular responses were discounted price bicycles, improved changing and luggage storage facilities, and improved cycle parking. Around a third of respondents stated that they would cycle some of the time if improvements were in place.

4.7 Car Sharing

Only a small number of staff car share at present. Many reasons were given for not car sharing in the comments, the main ones being that staff didn't know other people who lived on their route, didn't work regular hours or that they had out of work commitments such as child care and sports fixtures that made car sharing difficult.

Around a third of staff would consider car sharing. The main help that they need is in finding car share partners, and they would be motivated by the assurance of a free or reserved parking space.

Car occupancy among students is much higher. Over half of students who travel by car share a vehicle, and this accounts for about 15% of all student travel. One third of student vehicles carry three people. Whilst there is an over-riding objective to reduce car use where possible, there appears to be good potential to build on the encouraging trend of car sharing through positive promotion and through car park charging for students that continue to travel by car.

4.8 Walking

Walking is the most significant mode of transport within Campus and is also used to access Campus particularly by students. Only 4% of staff walk to work, but 22% of undergraduate students and 40% of post-graduate students do so. The main concerns about walking are fear of traffic danger and personal security issues, particularly after dark. Interestingly people who reported walking and cycling to access the campus also requested that a shuttle bus be available for inter-site travel during the day. This reflects the significant amount of time and distance that can be covered travelling between venues that can make it difficult to walk some days.

5 Travel Plan Objectives, Targets and Monitoring

5.1 Travel Plan Aim and Objectives

The aim of the Travel Plan is to reduce the proportion of single occupancy car trips to the site during the peak periods in order to minimise the transport impact of future development at the University on the surrounding roads and on the environment.

This main aim is supported by a series of objectives that will encourage and enable the use of other modes of transport:

- To encourage car sharing by staff and students;
- To encourage use of public transport;
- To encourage cycling and walking as modes of transport to and within the Campus;
- To explore other ideas to reduce the transport impact such as home-working, flexible start and finish times, greater use of IT services such as conference calling, teleconferencing and other forms of communication to reduce the need for staff to physically travel off-site for meetings;
- To work with Warwickshire CC, Coventry CC, the Highways Agency and other partners to develop and improve public transport, cycling and walking within and away from the Campus and to develop corrective measures if targets for car trip generation are not achieved.

5.2 Current Modal Share

The staff travel survey illustrated the modal share at the University. This is essentially a snapshot of the position. Respondents were self-selected, there has been no attempt to create a 'typical' sample. It is likely that there may be some variation in future travel survey modal share results simply because of differences in the sample of respondents.

The table below compares the modal share at the University with the Coventry and Warwickshire census data for travel to work.

Table 5.1: Comparison of Modal Shares for Journey to Work

Mode	WCC 2001 Census % Share	CCC 2001 Census % Share	UoW 2005 Survey % Share (staff)	UoW 2005 Survey (undergraduates)
Car driver only	71	65	64*	10*
Car share	not asked	not asked	11*	16*
Public transport	5	13	11	46
Cycle	3	3	9	5
Walk	10	11	4	22
M/cycle & other	9	8	1	1

* See table 4.2

The location of the University (close to the trunk road network) and the greater mobility afforded by access to private car travel has over time led to a pattern of staff and some students choosing to live further from the University, or away from the main public transport corridors. This accessibility has also enabled the University to recruit staff from a wide area,

without the need for them to relocate (although only 2% of the travel survey respondents had a journey time over one hour). A significant proportion of staff travel relatively short distances to work by car, as this is the quickest and most convenient form of transport for them. The flexibility and independence available to car travellers also enables them to work irregular hours and make other linked journeys (such as the school run) on the way to and from work.

However, the use of cars by University staff, students and motorists travelling to other local destinations has a negative impact upon the quality of life at the University. A significant proportion of land is allocated to car parking, the speed and volume of traffic can be a deterrent to walking and cycling as well as causing actual harm to road users involved in accidents, while congestion can lead to longer journey times that make public transport unattractive for some journeys.

It is clear that car travel will remain the most widely used form of transport by staff within the development period, but the challenge is to increase car occupancy and to encourage a change in behaviour by those staff and students for whom other modes are feasible.

5.3 Modal Share Targets

The Travel Plan aims to reduce the proportion of driver-only car commuting in order to restrict the growth of traffic at the University to around 12% during the 10 year period of the Masterplan. This is a challenging target, which is significantly below the Governments 'low growth traffic forecast' for the period to 2018. It has been suggested that the targets should be bracketed within a high and low range, and so we have suggested a variation of around 2% either side of the predicted modal share. The development (in line with current trends in higher education) is likely to result in a greater proportion of research staff and post-graduate students compared to teaching staff and undergraduates. The results of the staff travel survey tend to indicate that post-graduates are less likely to travel by car.

It is always difficult to predict the impact of different measures on staff behaviour but research studies of the experience of other organisations that have gone through the Travel Plan process suggest that a significant modal shift away from driver-only car use is entirely feasible within the timescale. Data from a selection of monitoring reports from other Universities is included as Appendix A.

Table 5.2: Staff Modal Share Targets

Mode	2005 Modal Share	Target for 2013 (+/- 2%)	Target for 2018 (+/- 2%)
Car driver	72	63	57
Car passenger	4	7	10
Public Transport	11	14	16
Cycle	9	11	12
Walk	4	5	5
Other	<1	<1	<1

The targets represent a 16% decrease in driver-only car trips, achieved through modest increases in car sharing, public transport, cycling and walking. Responses to the travel surveys in 2003 and 2005 have illustrated a willingness among many staff to use alternatives if conditions can be improved. The Travel Plan will concentrate on delivering

improvements while at the same time gradually placing greater restrictions on access to car parking through the availability of spaces, the use of permits and increased parking costs.

The current parking charges are insufficient to deter students from driving onto the Campus. Around 700 students currently pay for a parking permit, but only a small number of these are for medical and PGCE students that regularly need to travel off-site. Many more students use the pay and display car parks. Because students are more likely to share cars, the costs of parking and fuel probably compare favourably with the equivalent public transport costs, and there is clearly potential to alter this situation through the use of permits and charging.

Table 5.3: Student Modal Share Targets

Mode	2005 Modal Share	Target for 2013 (+/- 2%)	Target for 2018 (+/- 2%)
Car driver	21	18	16
Car passenger	5	7	7
Public Transport	46	48	48
Cycle	5	6	6
Walk	22	23	23
Other	1	<1	<1

A more modest reduction in car use by students is envisaged, recognising that there is already limited use and a high proportion of car sharing. Increased accommodation on or near the Campus is likely to contribute to an increase in the levels of walking and cycling, while improved bus provision, particularly bus rapid transit, would enable bus use for greater numbers of students.

5.4 Targets and Development Phasing

During the lifetime of the development it is assumed that there will be a 40% increase in staff at the University in line with the 40% increase in built area. It has been assumed that unchecked this in turn would generate an overall increase of 40% in trips.

It is anticipated that the implementation of the Travel Plan will bring in measures such as more flexible working hours which will help to reduce the impact of travel within the peak hour, although for the purpose of this report we have assumed that the pattern of movement will remain similar to the present. There is also a trend for reduced ratios of staff to built area. The development will also include 2,000 additional student accommodation places on site to help to reduce travel demand.

Table 5.4 illustrates the predicted levels of car parking. The availability of car parking is acknowledged to be a key determinant of travel demand. The provision within the new development is well below the maximum levels permitted in PPG13, and this, along with the permit, charging and enforcement regime will help to control demand and encourage people to car share or travel by other means. There will be annual checks on the amount of parking provided to ensure that these targets are not breached.

Table 5.4: Targets for Car Park provision

Year	Anticipated Masterplan Development GEA*	% new development completed	Estimated Total staff*	Target Parking spaces (general and disabled)	Actual general car parking provided as a % if PPG13 standard for the whole of the site
2005	0	0	4,553	4974	125%
2013	85,500	50%	5,454	5198	115%
2018	85,500	100%	6,356	5422	107%

*Actual numbers of staff and GEA will depend on nature of development, trend is for a reduction in ratio of staff to built area

Table 5.5 illustrates the predicted modal shares at different phases of the development. It is assumed that the development will take place at a steady rate over the Masterplan period, but the University is to some extent dependent on third-party investment in research facilities. It is therefore proposed that the modal share targets are tied to the approximate increases in gross floor area (and consequent increases in staff / students) rather than fixed dates. As part of the Travel Plan implementation process there will be bi-annual travel surveys of staff and students which will provide regular data on progress towards the targets. The 'headline' target is the mode share of car trips by drivers (single occupancy and shared) as this is indicative of the traffic generated by the University. The relative mode shares achieved by car sharing, public transport, cycling and walking are less critical so long as there is an underlying trend towards fewer single occupancy car journeys.

Table 5.5: Targets for Modal Share with increase in GEA.

Anticipated year	% new development complete	% Mode share of car trips by driver	% Car passenger	% Bus	% cycle	% walk
2005	0	72	4	11	9	4
2013	50%	63	7	14	11	5
2018	100%	57	10	16	12	5

Table 5.6 illustrates the effect of the proposed targets on vehicle trips during the peak hours. The afternoon peak at the University tends to be spread over a longer period, so the morning is the more critical period in terms of motor traffic generation. It is anticipated that the morning peak time traffic entering and leaving the University will increase by approximately 12%.

Table 5.6: Targets for Morning Peak Car Traffic Generation

Anticipated year	% new development complete	Percentage increase in trips	AM peak hour inbound + outbound trips*	PM peak hour inbound + outbound trips*
2004	0	0%	2251	1796
2013 Assessment year	50	6%	2386	1903
2015 Assessment year	70	8.5%	2440	1946
2017 Assessment year	90	11%	2494	1990
2018	100	12%	2521	2011

* Based on November 2004 counts of all vehicles entering and leaving the site

Notes 1. These figures are indicative. Targets will relate to car trips and will be based on a 2007 baseline survey.

Traffic surveys will be undertaken to ascertain the number of private vehicles (cars) entering and leaving the University during the peak periods. This measure is the critical indicator of the success of the Travel Plan for the Highway Authorities. The traffic monitoring regime is discussed in Section 6.

6 Operation of Travel Plan

6.1 Monitoring

Monitoring resources

A Travel Plan coordinator will be appointed to ensure that the Travel Plan is implemented during the development period. In addition to running promotional activities and providing practical help for staff to change their travel behaviour, the coordinator will assist the Estates Department in the process of monitoring travel activity. It is anticipated that specialist outside contractors will provide equipment and expertise for traffic monitoring, together with monitoring via the car park barrier access controls.

Headline Target

The primary purpose of the monitoring will be to help to identify the amount of private car traffic generated by the University, and this will be the 'trigger' used by the highway authorities to determine whether and what corrective measures need to be implemented. It is always difficult to predict how the remaining modal shares will be affected, as this may depend on external factors such as the frequency and reliability of public transport and the introduction of the Bus Rapid Transit proposals as much as on the measures implemented by the University.

Staff Travel Survey

Monitoring the progress of the Travel Plan will identify whether targets are being achieved. Bi-annual intervals will be most appropriate for the staff travel survey, giving initiatives time to take effect, and reducing the likelihood of staff becoming irritated by repeated travel surveys.

The previous surveys have been undertaken in the Autumn term during late November. This is a good time of year to undertake the surveys since it is a period of peak activity on site and 'new starters' will have settled into regular travel habits.

Car park development and occupancy

The University will also annually monitor the amount of parking available on site to ensure that the parking availability across the whole site continues to converge towards the levels recommended in current national planning guidance.

Traffic surveys

Traffic surveys to identify the number of vehicles entering and leaving the University during the peak hours will be carried out related to the rate of development of the University. This would be when 20%, 40%, 60%, and 80% of development has been completed. This would be every 2 years with steady development over the 10 years of the Masterplan. The University is currently considering the provision of permanent monitoring of the major accesses which would provide continuous monitoring of traffic.

The traffic monitoring will be undertaken by vehicle counts using loops (or other agreed methods) at accesses to quantify the number of car trips being generated by the site (the loops could be placed at the entrances to Central Campus West, Central Campus East and the five car park entry/exits off Kirby Corner Road and at the Gibbet Hill site). It is already possible to count vehicles in and out at all barrier controlled sites with restricted card controlled access (about 5 car parks) and at some pay and display car parks. There is no on-street parking on the public roads in and around the University. There are approximately 15 access points to the Campus, giving a requirement for at least thirty monitoring points

which will be a relatively expensive exercise. The University will agree with the Highway Authorities the number and location of monitoring points.

It is proposed that monitoring of traffic movements into and out of the University together with a travel survey be carried out over a typical week in November 2007 will provide a robust base for data against which the Travel Plan targets will be measured.

It will be important to ensure that the vehicle counts take place over a 'typical' week, i.e. not during public holidays, or when there are major events on site or nearby such as graduation ceremonies, major conferences etc, and as far as is possible, not during particularly exceptional weather. November would appear to offer such a period when 'new' students have had time to settle into a regular travel pattern and there are no exams or school holidays taking place.

The monitoring will take place at the following intervals in the development, which fall approximately one-year before the assessment years identified in 5.4. This gives the University a year in which to improve performance prior to assessment by the highway authorities:

- One survey at 20% of new build completed and occupied (approx 2 years into development period);
- One survey at 40% of new-build completed and occupied (approx 4 years into development period);
- One survey at 60% of new build completed and occupied (approx 6 years into development period);
- One survey at 80% of new build completed and occupied (approx 8 years onto development period).

If the monitoring illustrates that the Travel Plan is not progressing towards the targets there will be the opportunity for the University to adjust the range of measures being implemented, and to address any new issues being raised by staff in the surveys. The results of monitoring will be fed back to the Transport Sub Group.

In the event of a projected failure to meet the targets the monitoring would then be repeated after one year during which the University would take the opportunity to more effectively implement the Travel Plan.

6.2 Corrective Measures

If the car parking surveys/ travel surveys/ traffic surveys indicate that the University is unlikely to meet the targets, then the University will need to take further action to encourage car-sharing or the use of alternatives. Initially this will be through further actions on site such as:

- Further changes to car park availability, permit availability and charging regime to discourage parking during periods of peak demand and increases in permit charges to discourage car use;
- More intensive use of personal Travel Planning and one-to-one consultations to help to match up car share partners or facilitate public transport use;
- Greater use of flexi-time and home working to reduce travel demand;
- Acceleration of the programme of cycle route and cycle parking developments;
- Inter-site shuttle buses or other measures requested by staff in the bi-annual surveys and through other channels.

A unilateral undertaking by the University will set out contributions by the University to corrective measures to be carried out by the Authorities if actions by the University fail to have the desired effect.

In the event that the repeated surveys indicate a failure to progress towards the targets after one year of more intense activity, the corrective measures agreed with the highways authorities can be instigated. The scale and type of corrective measure will be related to the scale by which the targets have been missed. The indicative corrective measures are:

- Improvements to public transport;
- Contributions towards implementation of the Sustrans route to Kenilworth;
- Infrastructure improvements to the local and strategic network such as junction improvements and access management measures;
- Creation of an off-site park and ride facility.

The relevant corrective measures will be agreed between the Highways Agency, Highway Authorities and the University.

It should be noted that the University are committed to supporting the proposed Bus Rapid Transit scheme with infrastructure provided by the University including the Lynchgate Link.

6.3 Framework

We have prepared a draft framework for the operation of the Travel Plan which is included in Appendix C together with the list of Travel Plan measures. This sets out the principles:

The Authorities want to see the University continue to develop successfully.

The University is committed to minimising the traffic impacts arising from its continued development.

The framework sets out the agreements, the assessment points and the make up of the UoW Transport Sub Group who will be responsible for monitoring and reviewing the operation of the Travel Plan and targets.

The make up of the UoW Transport Sub Group will be:

Coventry City Council

Warwickshire County Council

Highways Agency

University of Warwick

In laymans language the agreements are as follows:

The University will enter into a unilateral agreement with the Highway Authorities (CCC/ WCC/ HA) to provide contributions for corrective measures if the University fail to meet the targets for car trip generation during peak hours. The contributions will cover a number of indicative measures and the proportion of the total contribution at a particular assessment point will be related to the scale by which any target has been missed.

The indicative corrective measures are set out above but no costs have been attached to these as yet.

If the University fail to make reasonable endeavours to implement the Travel Plan list of measures under their control then the University will restrict the quantum of future development until it is agreed that reasonable efforts have been made.

7 Car Parking and Travel Plan Implementation

7.1 Car Park Provision

Car parking will be provided at levels significantly below the maximum rates suggested in PPG13 for developments during the development period. A flexible approach will enable the availability of parking to be adjusted as a demand management tool depending on the operation of the Travel Plan and the prevailing transport environment.

The indicative availability of car parking spaces at different phases of development is shown below:

Table 7.1 : Masterplan Phasing

Year (% development)	GEAm ² occupied(1)	Additional Staff (2)	Additional Students (3)**	New Student Beds (3)	Max permitted additional car park spaces based on PPG13 (4)	Additional proposed car parking (6)	Total car parking (5)
2008 (0)	0	0	0	0	0	0	4974
2013 (50)	85,500	901	1,375	1,000	525	210	5198
2018 (100)	171,000	1,803	2,750	2,000	1051	421	5422

1. Taken from Parameters Plan and Phasing Strategy
2. Based on allocation of:
 - 1 staff member per 80m² GEA for academic development;
 - 1 staff member per 50m² for Support land use
 - 1 staff member per 50m² for Other land use
3. Based on Masterplan
4. Car parking ratios for PPG13 standards:
 - Staff (all categories) 1 space per 2 staff
 - Students 1 space per 15 students
5. Car parking spaces include dedicated spaces for disabled users.
6. Excluding disabled spaces for direct comparison with PPG13 maximum levels of car parking.

7.2 Phasing of Travel Plan Initiatives

The indicative phasing of the Travel Plan measures is set out in Appendix B.

8 Travel Plan Measures

The list of Travel Plan measures is provided in Appendix C

8.1 Reducing car use

The use of alternatives to the car is an important part of the Travel Plan. It is very encouraging that the University already has high levels of public transport use and cycling compared to Coventry and Warwickshire as a whole. Due to the campus location and the limited amount of local residential property it is unlikely that there will be significant growth in walking as a mode of transport to work by staff, although some additional housing for staff will be provided in the development. Walking is however the main mode of transport for inter-site trips and for trips between student residences and other parts of the campus. 2,000 student residences within the University grounds, and a further 1,000 residences close to the University are planned during the Masterplan period. It is estimated that student numbers will increase by 2,750 during this period, so there is real scope for increased walking and cycling by students.

The University already provides high quality facilities for walking, cycling and public transport (although some elements are a little dated and in need of maintenance) and the Travel Plan identifies a programme of improvements to existing areas as well as identifying the potential for new provision of facilities and services.

8.2 Measures already taken by the University

Car Use and Car Parking

All staff and visitors without a parking permit must use the pay and display system around the campus. Most car parks are barrier controlled and very limited parking is permitted on the roads. The charging regime for permits and pay and display parking is currently under review. The car parks are actively patrolled and revenue from fines for overstays and other parking infringements is put back into transport measures.

There is a 20mph speed limit along University Road and vehicle activated signs have been installed to help to enforce this along with physical traffic calming measures. The University is already reviewing staff business travel and its own fleet management as part of its commitment to the Carbon Trust Initiative (see 5.10).

Cycling and Walking

There are over 2,000 cycle parking spaces around the site, to put this into perspective, it is far more than is provided in Coventry city centre. Cycle parking is provided near all the main lecture halls in each part of the Campus, and also at the library, gym, sports field, Warwick Arts Centre and at most residential units. In the newest residential units, indoor cycle parking is provided with key/swipecard access. In the most recently built teaching units, high quality cycle shelters and Sheffield stands are provided. Students residing on campus are able to leave bikes in a secure locked container during vacations.

A study was undertaken by Estates staff in consultation with the Bicycle User Group during summer 2005 to identify potential areas for improvement and additional provision. The main conclusions were that additional cycle shelters were needed at some of the locations (e.g. University House) where parking is outdoors, and particularly at residential blocks and other areas where parking activity tended to be 'long stay', and that some of the parking was outdated (only securing the front wheel) and should be replaced with more modern 'Sheffield stands'. There was also a demand for some provision of high secure lockers around campus for staff and students with more valuable bikes.

There is a high quality (5.0m wide, segregated by level, with street lighting) traffic free pedestrian / cycle route between Gibbet Hill Campus and the Main Campus. There is a wide shared traffic-free route connecting the Main Campus and University House, and a further shared cycle track connects Westwood Campus to the Main Campus. The dedicated cycle routes east from the University to Coventry City Centre are well signed and well used, and cyclists also utilise some of the main on-road routes such as Kenilworth Road and Westwood Heath Road. At present routes from the Kenilworth direction are less well established and cyclists travel via the A429 and the lanes to the north and south of the road. Despite the lack of dedicated cycle routes, the proximity of Kenilworth appears to be sufficient incentive for many of the existing cyclists.

Coventry City Council has extended the cycle track along Kenilworth Road to its boundary with Warwickshire. Warwickshire County Council has provided a shared pedestrian/cycle route from this boundary to the built up area of Kenilworth on the Kenilworth Road.

There are signalled (pelican and toucan) crossings of Gibbet Hill Road to facilitate access between the Central Campus East and Central Campus West, and there are a number of central reservations which act as traffic calming features on the central section of Gibbet Hill Road.

Public Transport

The University is served by over 400 buses per day, a high proportion of these stop centrally on University Road as well as at stops along Westwood Heath Road and Gibbet Hill Road that serve the other parts of the Campus. The University worked directly with the bus operator to develop the improved 12 minute frequency X12/Unibus service between Leamington Spa / Sydenham and the University.

8.3 Travel Plan Coordinator

A Travel Plan coordinator will be appointed to implement and develop the Travel Plan. A budget has already been secured to appoint somebody to undertake this role during 2006. It is important that the coordinator is given sufficient support at the most senior level of management that he/she can pursue initiatives in the face of potential opposition from Unions, Associations and individuals. It is also important that the person that is appointed has the communication skills and enthusiasm to be able to get people at all levels to 'buy into' the Travel Plan.

The coordinator will also need to have the practical skills to be able to develop and implement a car sharing scheme that works for the University, and to be able to work with staff in Estates Management and Security to coordinate the car park management, Masterplan phasing and other schemes such as bus rapid transit and cycle route improvements.

8.4 Local Authorities and Company TravelWise

Authorities within the West Midlands work together to promote sustainable travel. Discounts of up to 17% on public transport are available within the Centro area, and for other services operated by Travel West Midlands / Travel Coventry. Both Coventry City Council and Warwickshire County Council employ Travel Plan officers who can advise on local initiatives and ensure that the University receives the latest timetables, promotional materials and other information. Affiliation to Company TravelWise gives the University access to discounted public transport tickets, information and discounts at local suppliers such as bike shops.

In previous years, Coventry City Council has awarded grants of up to £2,000 to assist TravelWise affiliated companies with measures to increase the number of people using sustainable means to travel to work.

The Coventry CC contact is:

Joanne Rainbow, TravelWise, Coventry CC, 02476 831342

Warwickshire CC intends to launch a County-wide car sharing scheme which may be of benefit to some staff at the University. At present they do not have any discount arrangements with public transport operators equivalent to the Company TravelWise arrangements.

The Warwickshire CC contact is:

Laura Vesty, Workplace Travel Plans, Warwickshire CC, 01926 412105

8.5 Car Park Management

Car park management will be one of the most important aspects of the Travel Plan. Staff are acutely aware of the cost of parking, as this is more apparent to them than 'hidden' costs of car use such as tax and insurance that are paid less frequently. This makes parking an emotive issue but also one of the aspects of car use that has most effect on the elasticity of demand.

The University will develop a car parking strategy to discourage single occupancy car use by:

- Working towards phasing out free car parking allowing tighter management of spaces;
- Increasing charges above the rate of inflation;
- Encouraging car sharing by providing permits/reserved space for car sharers;
- By providing only limited additional car parking in the new development well below the maximum standards allowed under PPG13 (see table 5.1), the car parking availability across the whole site will be progressively reduced.

The availability of free parking is already being reduced. There is clearly an opportunity for staff to offset the additional costs of car parking by choosing to car share for some or all of their journeys if suitable matches can be established. Revenue from car parking can be channelled back into the development of the Travel Plan measures as well as towards the costs of improved control of the car parks. The University will continue to manage car parking to ensure that only designated spaces are used within their estate. This is currently enforced with clamping and penalty fines.

There are potential adverse issues such as car parking extending into neighbouring roads, although opportunities for this to happen are constrained as there are parking restrictions along Gibbet Hill Road and Westwood Heath Road, Moreall Meadows and Cryfield Heights. The University is committed to working with the local highway authorities to implement residents parking schemes or other parking restrictions should problems arise. There is a further issue that some students park in Cannon Hill shopping centre and walk in from there. This would be addressed by the management of the shopping centre if it becomes a problem as the car park is not in public ownership.

8.6 Car Sharing

Around a third of staff would like to car share if this is possible for them. Car sharing will offer benefits of reduced travel costs to individuals, and there is some evidence that it can

help to improve punctuality and reduce absenteeism as colleagues don't want to let each other down.

The emphasis in promoting car share should concentrate on the following aspects:

- Savings in parking charges through sharing the costs with others – this will be the major out-of pocket cost to drivers;
- Fuel cost savings, particularly for those with longer journeys, through sharing with others by either taking turns to drive or passengers contributing towards the mileage costs (a cost-savings calculator is available on the Liftshare.com website);
- Picking up and dropping off a passenger en-route (or driving to someone's house and parking outside and getting a lift in with them) i.e. you don't have to live in the same place;
- Trying to car share for just one or two days a week – keeping the other days flexible for doing the shopping, sports, hobbies, childcare commitments etc;
- Targeting drivers from rural areas where other options are less viable;
- Opening up car share to non-car owners – i.e. you can give someone a lift and still benefit from splitting the costs. This will attract a wider pool of potential people.

It is likely that the University travel coordinator will have to work hard to actively match up potential car sharers by directly introducing people from within the same area or route by using existing staff data. The University is such a large organisation and the working patterns are so diverse that people will find it difficult to match with partners on a voluntary sign up basis. An innovative and pro-active approach will be adopted in order to develop car sharing including:

- Setting up a car share database and on-line registration facility;
- Holding events such as 'post-code coffee mornings' to promote the benefits of car sharing and enable potential sharers to meet;
- Investigating the staff database to identify potential sharers and contacting them directly;
- Looking at opportunities to tap into external resources (see below).

A car sharing scheme is already in place at Westwood Business Park and details can be found at: <http://www.westwoodbusinesspark.co.uk/community/carsharing.htm>

The scheme is open to University employees.

Warwickshire County Council is currently developing a county-wide scheme, initially to be trialled by Council employees and subsequently rolled out to other users (details available from their Travel Plan officer).

A number of commercial car share schemes are also available:

- www.liftshare.com
- www.studentcarshare.com/
- www.nationalcarshare.co.uk
- www.carclubs.org.uk
- www.shareajourney.com
- www.freewheelers.co.uk
- www.jbgb.com

Other schemes are available and the University would need to consider which one offered the service most appropriate to its needs. TravelWise may also be able to assist in helping the University to work with other local companies trying to establish car share schemes.

8.7 Park and Ride and Bike and Ride

Staff do not currently use the rail network because of poor connections between Tile Hill, Canley, Coventry and the University. The time penalty in waiting for connecting bus services is considered too great compared to the door to door journey time by car. There are similar penalties on some bus services where it is necessary to catch a bus into Pool Meadow and then out to the University rather than take a direct route. In such cases there may be advantages in parking away from the University and then catching public transport for the last part of the journey, or alternatively in keeping a cycle locked at a station or park and ride site. A programme of cycle parking improvements at West Midlands stations is currently underway.

A map of local stations including details of car parking and cycle parking is available at:

<http://www.centro.org.uk/Rail%20Network/trains/network/fnetwor.html>

Rail and bus timetables for all local services, together with a journey planner tool are also available at the Centro website;

<http://www.centro.org.uk>

Some staff have suggested the operation of a shuttle service from the Memorial Park park site in the travel survey. It may be possible to identify future locations for the University to develop new park and ride facilities.

8.8 Cycling

9% of staff regularly cycle and it is known that others occasionally cycle to work during the summer. Cycling is an important mode of travel for inter-site journeys as it enables trips to be made quickly without problems of finding parking spaces, this benefit will increase with time.

There have been improvements to cycle routes in Coventry in recent years with relatively good links to the University through Cannon Hill and along Kenilworth Road as far as Canley Ford. The A45 remains a barrier to movement although Toucan crossings have been installed to assist cyclists. Making right turns into and out of Gibbet Hill Road is a difficult manoeuvre for cyclists due to the junction layouts and volumes of traffic. Although there are many attractive lanes from the Warwickshire side of the University, the lack of street lighting and use by commuter traffic is off-putting to less experienced cyclists.

Within the University there is a good supply of cycle parking but the quality and security is variable. One of the main issues is that much of the cycle parking is not covered, and this causes maintenance problems with bicycles getting rusty as well as discomfort of getting clothes wet while using wet bicycles. Routes within the University are generally of a high standard but there are a number of specific problem areas that need to be addressed.

The University Estates department has already undertaken work with the Bicycle User Group (BUG) to identify those areas in which cycle parking needs to be improved and a recommendations report was prepared in Autumn 2005. Further feedback from the Bicycle User Group was obtained during a meeting and site visit to feed into the Travel Plan development. There is ongoing dialogue within the Masterplan to ensure that new routes and facilities are of a high standard. It is important that these issues are discussed and agreed with cyclists, architects and engineers as it can be difficult to retro-fit good quality facilities.

Measures to encourage cycling:

- Provision of covered secure access cycle parking at student residences typically 1 space per 4 student beds and at selected long-stay locations used by staff;
- Replacement of existing 'butterfly stands' (front wheel holding stands) with sheffield stands to allow secure short-stay parking;
- Provision of covered sheffield stands outside main destinations (lecture halls, libraries, shops etc) as a minimum standard of provision;
- More showers and changing facilities to be provided to supplement existing provision;
- Personal lockers will be provided to store clothes and other items securely, especially where open plan office space is developed;
- There is an agreement with Sustrans, Warwickshire CC and Coventry CC to develop a high quality off road link across University land between Kenilworth Road and the campus, continuing east towards the city centre;
- There is a commitment to provide cycle facilities alongside the proposed Coventry Rapid Transit route;
- The design standard for cycle routes in the new development is for good quality wide well-surfaced routes, segregated by level from pedestrian areas;
- There is a commitment by Coventry CC to complete a cycle route alongside Kenilworth Road into Gibbet Hill site, giving access to the existing off-road cycle route between Gibbet Hill and the Main Campus;
- There are longer term plans by Warwickshire CC to improve links between Leamington and Kenilworth;
- Provision of interest free loans or tax deducted cycle purchase schemes for staff;
- Making 'pool bikes' available for inter-site journeys;
- A supporting programme of information and promotion will be developed. This will include on-line and hard copy maps of cycle routes and cycle parking within the University, links to external sites, information about local bike shops, participation in annual events such as National Bike Week, a 'bike buddy' scheme for new cyclists to provide information about equipment, routes and other support when they start to cycle, information about cycling in 'Freshers Packs' and new employee Induction Packs and conference delegate information.

Cycling can be encouraged through participation in events such as National Bike Week and Bike to Work Day (each June), tapping into adult cycle training courses to assist people beginning or returning to cycling, and negotiating regular or one-off staff discounts with local bike shops. Posters and advice material can be downloaded and hard copies ordered from:

<http://www.bikeweek.org/>

One way in which to convince people that they can cycle five miles is to set up a 'five mile challenge' on a measured route as an event during National Bike Week – for example, from the University to Memorial Park and back. Most people are pleasantly surprised at how quickly and easily they complete the course.

8.9 Walking

4% of staff regularly walk to work. The upper limit for regular commuting on foot is about 1 to 1.5 miles, equivalent to about a half hour walk for most people. Although many people

don't regard it as 'exercise', walking is a particularly valuable form of exercise for the cardiovascular system and can also help with maintaining bone density as it is a low impact weight-bearing exercise. Walking to work can give sufficient exercise to reduce the risk of heart disease and help to prevent obesity without adding greatly to time or financial expense in the way that attending a gym would.

Walking can be encouraged through display of the DfT 'Walk in to Work Out' packs in staff areas, as well as posters and other promotional materials that are available from the Department for Health and Sport England such as the Everyday Sport initiative that is marketing walking and cycling to work (<http://www.everydaysport.com>). Promotion of walking as a healthy activity may be one way to overcome objections about the ten to fifteen minute walk between different parts of the Campus.

The University will encourage walking to and within the site by:

- Working with Coventry CC to improve the crossing facilities on Gibbet Hill road by adding coloured surfacing, improved lighting and changes to road alignments;
- Providing better links between the west and east sides of Gibbet Hill Road and using landscaping techniques to create a 'sense of place' to deter speeding and reduce the severance effect of the road;
- Reducing the amount of traffic on the central section of Gibbet Hill Road by changing the layout of University Road to allow two-way flows at the southern end;
- Closing Library Road to general traffic to allow access only for pedestrians, cyclists and public transport;
- Providing information about walking journey times between different parts of the campus and other nearby locations to illustrate the feasibility of walking;
- Working with staff and students to identify and improve parts of the Campus where there are concerns about personal security;
- Increasing the proportion of student accommodation available on site during the development period.

8.10 Public Transport

11% of staff currently use public transport. This reflects the fact that the site is at the edge of the Coventry public transport network, which means that there are significant journey time penalties for staff that have to interchange in the City Centre. There is also a secondary issue that buses from the Leamington and Kenilworth directions are overcrowded at peak times. This may be a disincentive to staff living in parts of North Leamington and Kenilworth where buses sometimes do not stop because they are already full. Since the travel survey was carried out and the issues identified, the University support for the improved Unibus service has already made a positive impact to help to resolve some of the problems. There was support for greater use of public transport in the travel survey if there were more direct services available from the surrounding area. Other issues raised were punctuality and cleanliness.

The introduction of the Bus Rapid Transit service would completely transform the public transport network by introducing quicker and more direct connections between the University, Coventry Station and city centre using modern hybrid buses with the appearance and ride quality of a tram. The improved journey time would significantly alter the public transport catchment by removing one of the major objections to using buses. The University is committed to working with the local authorities to promote this major transport initiative. In the interim period before the Sprint service is provided, the University will work with the

local authority on the possible extension of the Coventry South Park and Ride service to the University.

Bus and rail travel is encouraged through Company TravelWise. The TravelWise team can assist the University directly with provision of maps, timetables, displays and ticket sales.

The University will encourage greater use of public transport by:

- Use of the TravelWise incentive scheme of additional first-year discounts on season ticket price in exchange for giving up a dedicated car parking space;
- Making staff aware of the discounts on season tickets (and day tickets for business travel sold via the University) available through TravelWise;
- Providing interest free loans for season ticket purchase;
- Issuing discounted day tickets for staff to use on business trips;
- Providing information about the various types of season ticket available to staff;
- Raising awareness of services and routes through provision of easy to understand timetables and maps at stops, from the travel coordinator and on the website;
- Working with Centro, bus operators, Coventry CC and Warwickshire CC to develop new routes and services;
- Supporting the development of the rapid transit route through the University;
- Investigating opportunities for shuttle services to stations and park and ride sites;
- Continuing to promote discounted public transport to students; and
- Including information about public transport in material for new employees, freshers and conference delegates;

Rail and bus timetables for all local services, together with a journey planner tool are also available at the Centro website; <http://www.centro.org.uk>.

8.11 Reducing Business Mileage and University vehicle use

Although they make only a small contribution to peak traffic, supporting initiatives such as reduction in business mileage and use of cleaner vehicles are important in setting the tone and context for Travel Plan implementation by establishing a culture in which individuals consider the environmental impact of their travel choices. The University currently has approximately 178 vehicles generating an estimated 340 tonnes of CO₂ annually. Reduction of these emissions is being investigated as part of the Carbon Management initiative. The plan is to gradually introduce electric, LPG and clean-diesel vehicles to the fleet depending on which fuel is the most appropriate for the intended use.

Business mileage is accrued by staff travelling to hospitals, schools and other off-campus sites. There are three basic management steps to reducing costs and mileage:

- Buy cheaper fuel. Check the cheapest local sources on websites such as the AA and RAC or set up accounts with local suppliers;
- Keep a check on mileage claims. Ensure that the University is only paying for legitimate business use by periodically checking distances claimed against actual distances;
- Use route planning software and / or on board satellite navigation systems in pool cars to assist in planning and using the shortest routes;
- Permit staff working off-site to claim for travel directly to site from home rather than making an additional journey to start at the University.

A further refinement is to investigate the mileage per gallon that is being achieved by each vehicle / driver by examining fuel bills and mileage claims. This may reveal problems with either the vehicle or the style of driving that can be addressed to achieve cost savings. There is more detail about this on the Transport Energy website www.transportenergy.org.uk.

The Government Vehicle Certification Agency produces a booklet detailing the fuel consumption of commercially available vehicles every six months, and this could be consulted when considering the type of vehicle to purchase or lease. Many commercial leasing companies now offer alternative fuelled vehicles, most commonly LPG, but also electric (and hybrid petrol/electric), natural gas and biodiesel. There may be opportunities for the University to work with suppliers to gain reduced costs in exchange for promoting the vehicles by advertising on van panels or car bodywork for example.

There is more detail about government grants for cleaner vehicles (such as the Powershift Programme) and the availability and pros and cons of the various technologies on the Department for Transport website as well as on the Transport Energy website. There is also a grant system available for modifications to diesel vehicles to reduce emissions (Clean Up Programme) with details in the same sources.

Transport Energy published a comprehensive guide to how to incorporate Transport into Environmental Management Systems in January 2004. The booklet is available on their website and hard copies can also be ordered free of charge from there.

One of the ways in which staff can be kept motivated and aware of the impact of their contribution to the Carbon Trust initiative is to publish the estimated savings in CO₂ emissions as a result of changes in commuting through the action of the green Travel Plan. There is a ready reckoner of emissions savings at <http://www.futureforests.com/calculators/travelcalculator.asp>

8.12 Changes to Working Practices

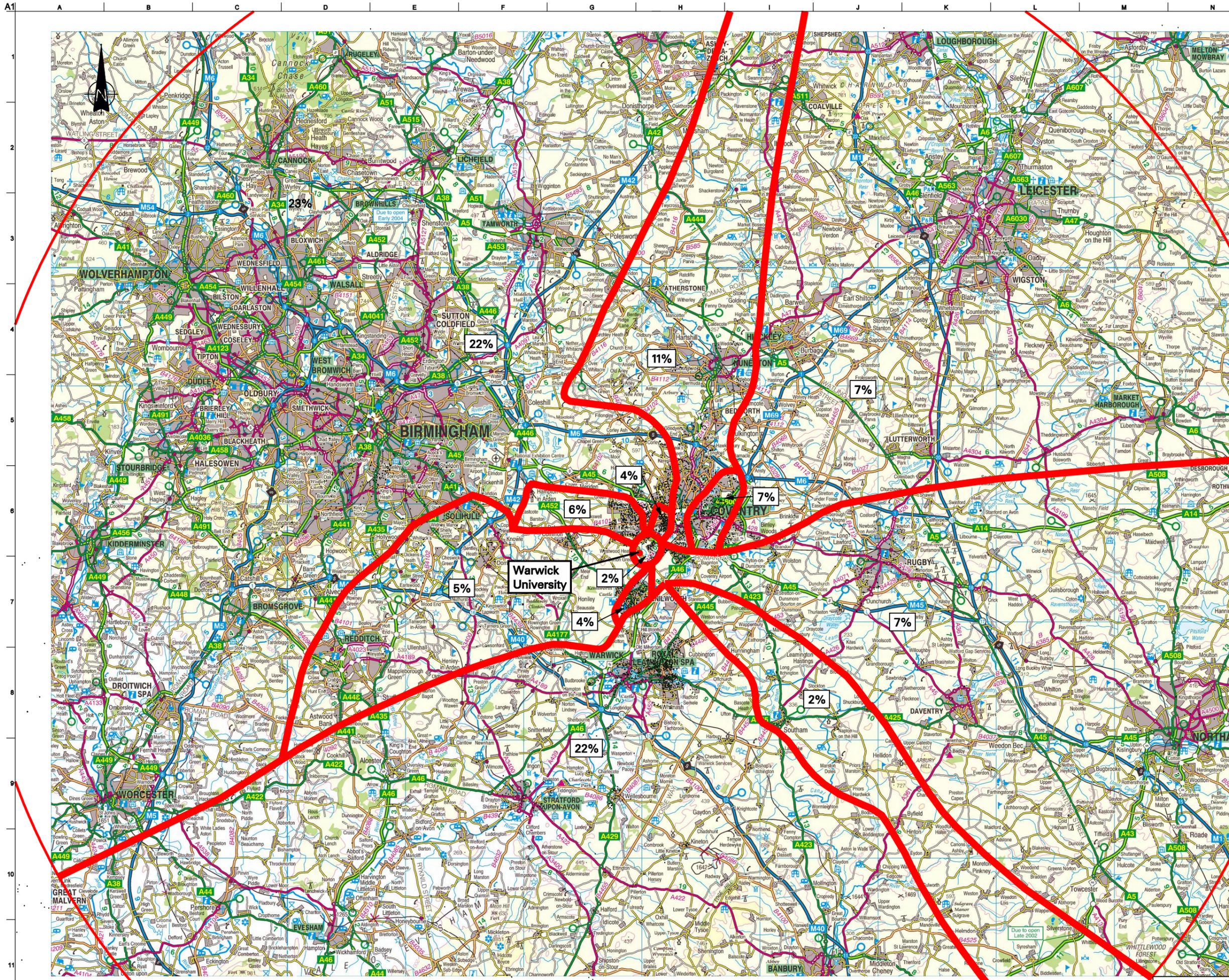
The University may wish to investigate to what extent the starting times of lectures and other events can be manipulated to spread the demand for travel away from the current peak hour of 08:00 – 09:00. This may also be achieved through introduction of shift systems for office staff or contractors (e.g. cleaners, maintenance, construction workers), and working with suppliers over management of on-site deliveries to avoid peak travel times.

There may be opportunities to introduce or extend the amount of home-working by staff to avoid travel altogether, and further opportunities to develop distance learning to reduce the need for all students to travel to the site.

Many employers also maintain Travel Plan awareness through occasional prize draws and special deals available to staff using sustainable modes as a 'reward' for their efforts.

FIGURES

Figure 1 Staff Home Postcodes



01	09/09/05	CAB	APL	PAS
FIRST ISSUE				
Issue	Date	By	Chkd	Appd

ARUP

The Arup Campus, Blythe Gate, Blythe Valley Park
 Southill, West Midlands B90 8AE
 T +44(0)121 213 3000 F +44(0)121 213 3001
 www.arup.com
 Client:

THE UNIVERSITY OF WARWICK

Job Title
MAIN CAMPUS MASTERPLAN

Drawing Title
STAFF HOME POSTCODE LOCATIONS WITHIN 35 MILE RADIUS OF WARWICK UNIVERSITY

Scale at A1 N.T.S.
 Plot ID PlotID
 Drawing Status

INFORMATION

Job No	Drawing No	Issue
115438	C8022	01

Figure 1

Appendix A

**Travel Plan
Achievements at other
Universities**

Travel Plan Achievements at Other Universities

University of Bristol

The University of Bristol introduced a Travel Plan in 1998. A reduction in car (as driver) use by staff of 12% was achieved in the two year period to 2001 (from 63% to 54%). During this time modal share of walking to the University increased by 5%, car sharing increased by 1%, cycling increased by 3% and public transport use increased by 3%.

Source: *Reducing Staff Commuting By Car - University of Bristol*, HEEPI Case Study 4, Adam Van Winsum and Peter James, University of Bradford.
www.heepi.org.uk

University of Sheffield

The University of Sheffield introduced a Travel Plan in 1997. The Travel Plan concentrated on managing the car parking facilities by introducing permits, access barriers and clamping illegally parked vehicles. At the start of the scheme, 60% of staff travelled by car. At the most recent survey 32% of staff drove to work, with a further 8% travelling as car passengers. Around 8% of staff transferred to public transport, and cycling and walking also increased. Car theft at the University has reduced by 93% since the car park management associated with the Travel Plan came into operation.

Source: <http://www.shef.ac.uk/environment/transport>

University of Oxford

Oxford University introduced a Travel Plan in 1997 and has monitoring data to 2002. During that period car use decreased from 46% to 28% with a 9% increase in bus use and 6% increase in walking. Another aspect of the Travel Plan is that there is now greater flexibility in the way in which staff travel to work, with more occasional users of alternatives to the car. There are 300 regular and 800 informal car sharers at the University, and over a third of staff occasionally travel to work by bus. Male staff are more likely to cycle than female staff.

Source: University of Oxford, Staff Travel Plan 2004.

University of Cambridge

The University introduced a Travel Plan in 2000 and monitoring is available to 2002. During that time the University managed to reduce the modal share of drive alone journeys to work by 9%, from 36% to 27%. There was a modest increase in the (already high) level of cycling from 41% to 43%, a 2% increase in bus use to 7%, and a 4% increase in walking to 9%. These figures compare favourably with other Cambridge employers where drive alone is 55%, walk 6%, cycle 15%, bus use 9%. Car share remained at 10% which is a similar level to other local employers.

Source: 2002 Travel for Work Survey Report, Cambridgeshire Travel for Work Partnership.

University of York

The University introduced a Travel Plan in 2000 and the latest update was published in January 2004. The measures introduced in the Travel Plan include:

- Doubling the number of cycle parking spaces to over 2000;
- Creating an additional 3km of cycle and pedestrian routes on campus;
- £180,000 subsidy payment to a bus service;
- Discounted bus fares;
- Car share scheme in partnership with City Council has established 130 regular car sharers;
- Car park management to discourage students from bringing cars to campus.

Between 1999 and 2004 there has been a 29% increase in pedestrian and cycle journeys. Car journeys to the site have increased by 6% during the period but this is against a background of a 20% increase in staff and a 44% increase in students. The modal share of car trips is 56% (65% on neighbouring science park), cycling 21%, walking 20% and bus 3%.

Source: University of York, Sustainable Travel Plan, January 2004

University of Edinburgh

Edinburgh University achieved a 2% reduction in car use between 2000 and 2004. The Travel Plan concentrated on encouraging alternatives and did not introduce any measures to restrain car use. There were increases in use of public transport and cycling.

Source: University website, <http://www.transport.ed.ac.uk/TravelPlans/index.shtm>

Appendix B

**Travel Plan
Implementation
Timetable**

INDICATIVE PHASING OF TRAVEL PLAN INITIATIVES version 5 dated 18 June 2007

Year (anticipated)	Car parking	Car sharing and fleet vehicles	Walking and Cycling	Public transport	Roads	Publicity & Monitoring
2007	Phasing out free parking by 2010. Revision of permit system and charging structure	Launch of car share scheme & investigation of potential links with external schemes (Westwood Business Park, Coventry Science Park).	A429 cycle route completed by CCC /WCC. Provide information about typical journey times on walking and cycle routes within Campus and on links to key local destinations such as rail stations, Earlsdon and City Centre.	Discount tickets to staff through Company TravelWise. Interest free season ticket loans. Information on routes and fares to new students and new employees in induction packs and other on-site information.	Safety improvements to Gibbet Hill Road crossings in central campus area.	Join Company TravelWise Appoint coordinator Provide Coventry CC information leaflet about student cars to all new and returning students each year. BaselineTraffic Survey.
2008 (start of new development)	Existing car parking 4974 spaces. Car park charges continue to increase above inflation. Phase out of free parking completed by end 2010. Staff buy out option – give up space in exchange for cash payment.	Provide information about features and benefits of car sharing in publicity materials to dispel misunderstandings and get people to realise potential cost advantages etc.	A429 cycle route link Gibbet Hill site complete. Interest free bike loans to staff if considered worthwhile. Cycle parking upgraded within existing site. Investigation of salary sacrifice schemes for tax-efficient cycle purchase.	Fully operational travel centre for season tickets, info etc. Improvements to waiting areas as part of general site access changes. Provide clear information on services and fares at stops in and around the University.	Closure of Library Road to general traffic. New roundabout at southern end of University Road.	Staff travel survey. Car park survey Car share scheme fully operational. Revise Travel Plan as necessary.
2009	Phase out of free parking completed by end 2010.	Consider pool cars for staff business use.	Establish links to walk for health initiatives by local PCT/NHS trusts.	Review need for further services and inter-site shuttle.		Car park survey
2010	Phase out of free parking completed by end 2010.	Use of post-code meetings, staff database and other events to promote and establish car share arrangements.	Covered cycle parking at all new buildings. Additional showers, lockers and drying facilities provided on-site to cater for staff running or cycling to work		Improved pedestrian crossing facilities on Gibbet Hill Road between Central Campus West and East. Including remodelling of Gibbet Hill Road to reduce severance effect.	Traffic survey Staff travel survey Car park survey
2011			Secure restricted access parking at all new residential development.		Gibbet Hill site access improvements. Gibbet Hill / Kenilworth Road junction improvements.	Car park survey
2012	Car park charges continue to increase above inflation.	Fleet replacement complete for Carbon Trust programme.	Sustrans route through University to Kenilworth complete.		Opening up of Lynchgate Link for public transport and access to selected car parks.	Traffic survey Staff travel survey Car park survey

Year (anticipated)	Car parking	Car sharing and fleet vehicles	Walking and Cycling	Public transport	Roads	Publicity & Monitoring
2013 Assessment Year 50% developed	210 additional spaces (compared to 2006) provided, reducing ratio of spaces to gfa/staff.	Use of incentives, prize draws, parking discounts, books on tape library etc to maintain car share arrangements.	Pool bikes available for on-site users. Establish 'Bike library' for students. Secure restricted access parking at all new residential development.	Bus Rapid Transit complete. Review need for off-site park and ride or shuttle services. Provide clear information on services and fares at stops in and around the University.	Consider potential for further local infrastructure and sustainable travel improvements if necessary to support the Green Travel Plan through the s106 Agreement.	Car park survey Revise Travel Plan as necessary. Teleworking available as appropriate. On-line travel information revised and updated.
2014			Covered cycle parking at all new buildings.			Traffic Survey Staff travel survey Car park survey
2015 Assessment Year 70% developed					Consider potential for further local infrastructure and sustainable travel improvements if necessary to support the Green Travel Plan through the s106 Agreement.	Car park survey
2016	Car park charges continue to increase above inflation.	Use of incentives, prize draws, parking discounts, books on tape library etc to maintain car share arrangements.	WCC link to Leamington complete			Traffic Survey Staff travel survey Car park survey
2017 Assessment Year 90% developed			Covered cycle parking at all new buildings.		Consider potential for further local infrastructure and sustainable travel improvements if necessary to support the Green Travel Plan through the s106 Agreement.	Traffic Survey Car park survey
2018 100% developed	421 additional spaces provided, reducing ratio of spaces to gfa/staff.	Consider off site park and ride venues.	Secure restricted access parking at all new residential development.. Showers and covered parking to serve main buildings	Review need for further services and inter-site shuttle.		Car park survey. Revise Travel Plan as necessary.

Appendix C
**Travel Plan Framework
and Travel Plan List of
Measures**

Travel Plan Measures

Initiative	Responsibility & assistance	Measures to be used to assess whether the University has made reasonable endeavours to develop their Travel Plan	
Promotion and Company TravelWise			
Appoint / Nominate Travel Coordinator	University	•	(✓)
Sign up to Company TravelWise	University	•	(✓)
Consider provision of interest free loans to staff for bus season ticket purchase	University	•	
Disseminate travel information and promotional materials from TravelWise around university	University	•	
Set up Travel Centre for ticket sales / discounted season tickets and day passes if supported by Centro / operators	University	•	
Work with Warwickshire CC / Coventry CC travel planning staff / TravelWise staff for support for cross-border initiatives	University / Warwickshire CC / Coventry CC		
Parking Controls			
Phase out free car parking	University	•	
Consider Revision of permit and charging structure	University	•	
Parking fees increase above rate of inflation	University	•	
Overall reduction of campus GEA / parking space ratio	University	•	
Provide preferential spaces for car sharers	University	•	
Car sharing and fleet management			
Introduce and promote car share scheme for staff & students	University	•	
Consider link to external neighbouring car share schemes e.g. Westwood business park, Warwickshire car share	University	•	
Introduce pool cars for business journeys	University	•	

Replace other university vehicles with low-emission models under Carbon trust programme as appropriate	University	•	
Public Transport			
Provide information on routes and fares in 'freshers packs' and new staff induction packs with the support of the authorities. E.g. Centro Coventry bus map and ticket leaflet and Warwickshire info.	University	•	
Support development by Coventry CC of the Bus Rapid Transit service to University	University	•	
Consider Introduction of inter-site shuttle bus	University	•	
Support upgrade of bus stops and waiting areas within Campus as and when appropriate in discussion with Local Authorities and operators	University / Operators / LAs		
Ensure that clear information on fares and services is provided at stops	University / Centro / operators		
Consider extension of Park and Ride South service from Memorial Park to University and other service improvements as appropriate	Operators / University / LAs		
Cycling & Walking			
Develop cycle / pedestrian routes within Campus as development progresses on the basis of the Masterplan	University	•	
Include covered cycle parking (stands in shelter & lockers) at all new non-residential buildings.	University	•	
Include secure covered overnight cycle parking within all new residential developments (restricted access area and/or cycle lockers).	University	•	
Work with Bike User Group to offer support/advice to new cyclists.	University	•	
Review existing cycle parking provision and upgrade as appropriate e.g. shelters on long-stay cycle parking sites, improved cycle parking facilities at student accommodation.	University	•	

Provide additional showers, changing facilities, lockers around existing Campus as appropriate to meet demand to help people running / cycling to work.	University	•	
Provide information about cycle routes and typical journey times to new staff and students as part of starter packs.	University	•	
Provide 'walk for health' materials and other incentives to active travel as part of starter pack if material available from authorities	University	•	
Consider the use of tax-efficient salary sacrifice scheme to offer discounted bike purchase to staff	University	•	
Consider making interest-free bike loans available to staff	University	•	
Consider provision of Pool Bikes for inter-site trips and business trips	University	•	
Offer adult cycle training to National Standard as part of Company TravelWise package.	Coventry CC / Centro		
Support development of Sustrans NCN route between Coventry and Kenilworth through University land. Support to include granting of permissive access on an agreed route together with a contribution towards the construction costs.	University / Sustrans / C CC / Warwickshire CC		
Construct new cycle route to Leamington	WCC		
Complete A429 Cycle route and link to Gibbet Hill site	CCC / WCC		
Roads and Traffic			
Support minor safety improvements to existing crossings on Gibbet Hill Road through central campus area.	University / Coventry CC		
Close Library Road exit onto Gibbet Hill Road except for peds/cyclists and public transport. S278 agreement.	University / Coventry CC		
Introduce new roundabout at south end of University Road. s278 agreement	University / Coventry CC		
Improve Gibbet Hill site access. s278 agreement	University / Coventry CC		
Open Lynchgate link to restricted access car park and public transport s278 agreement	University / Coventry CC		

Framework for Operation of Travel Plan (Without Prejudice Proposals)- Version 3

- Principles:** The Authorities want to see the University continue to develop successfully.
 The University of Warwick is committed to minimising the traffic impacts arising from its continued development.
- Agreement:** The UoW will enter into a unilateral undertaking with the Highway Authorities (CCC / WCC / HA) to provide contributions to corrective measures if the UoW's Travel Plan fails to meet the targets for car trip generation, during the peak periods.
 If the UoW fail to make reasonable endeavours to implement the Travel Plan list of measures under their control, then they will be restricted in the quantum of future development until they have made reasonable endeavours.
- Monitoring:** Regular monitoring to be carried out of completed development, car park numbers, modal split (Travel Survey), and vehicle trips to and from the University excluding: coaches / buses / cycles / powered two wheelers. Monitoring of trips to be carried out at least every 2 years. UoW will consider permanent monitoring of major access points.
- Targets:** The critical target is the number of car trips to and from the UoW during the peak hours.
- UoW Transport Sub Group (TSG):** The Transport Sub Group will comprise of UoW / CCC / WCC / HA. Meetings are to be convened by the UoW Travel Co-ordinator regularly, but at least one per year over the development period, to review the operation of the Travel Plan, its targets and the traffic impacts.
- Timescales:** The assessment years are related to the percentage of the development completed. The dates are indicative only.

