

## **A Introduction**

### **A1 Objectives**

The measure objectives are:

- Objective 1 Support Travel Plan development with 80 Schools
- Objective 2 Support Travel Plans development with 20 Businesses

#### **Sub-objectives**

Travel plans are typically packages of practical measures to assist people to travel to and from schools or workplaces in a more sustainable way. They can also help:

1. To reduce impacts of traffic such as car parking, congestion, road traffic danger and environmental pollution by bringing about a reduction in single occupancy vehicles by 5%.
2. To improve health by encouraging more people to walk and cycle rather than travel to work or school by single occupancy cars.
3. To widen travel choice and improve accessibility by encouraging more people to use public transport and car share.

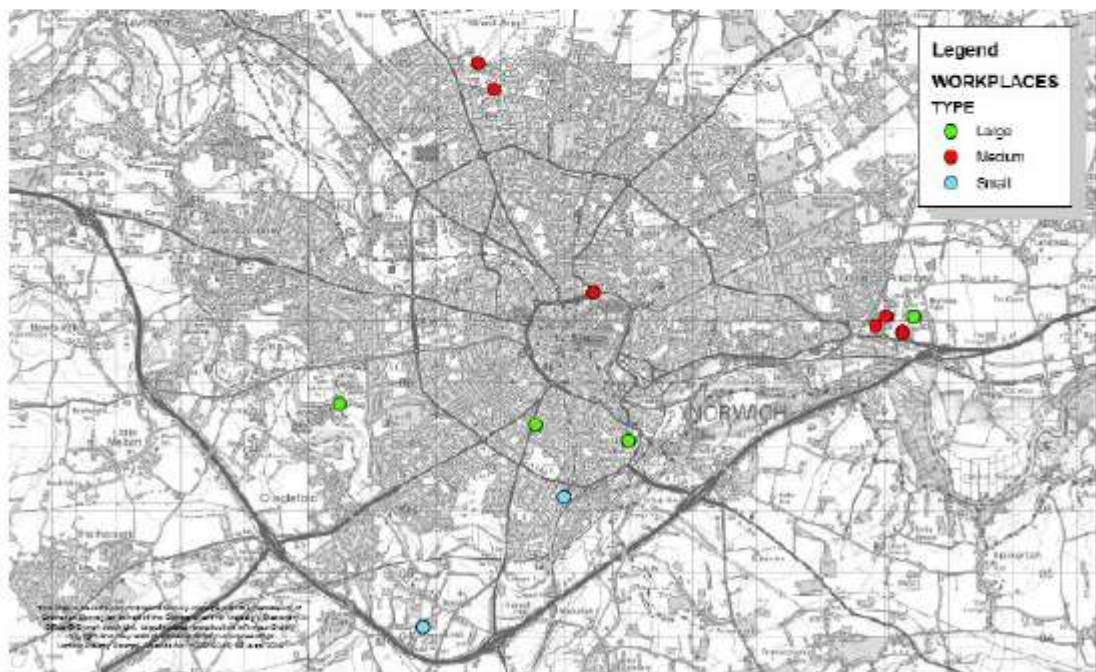
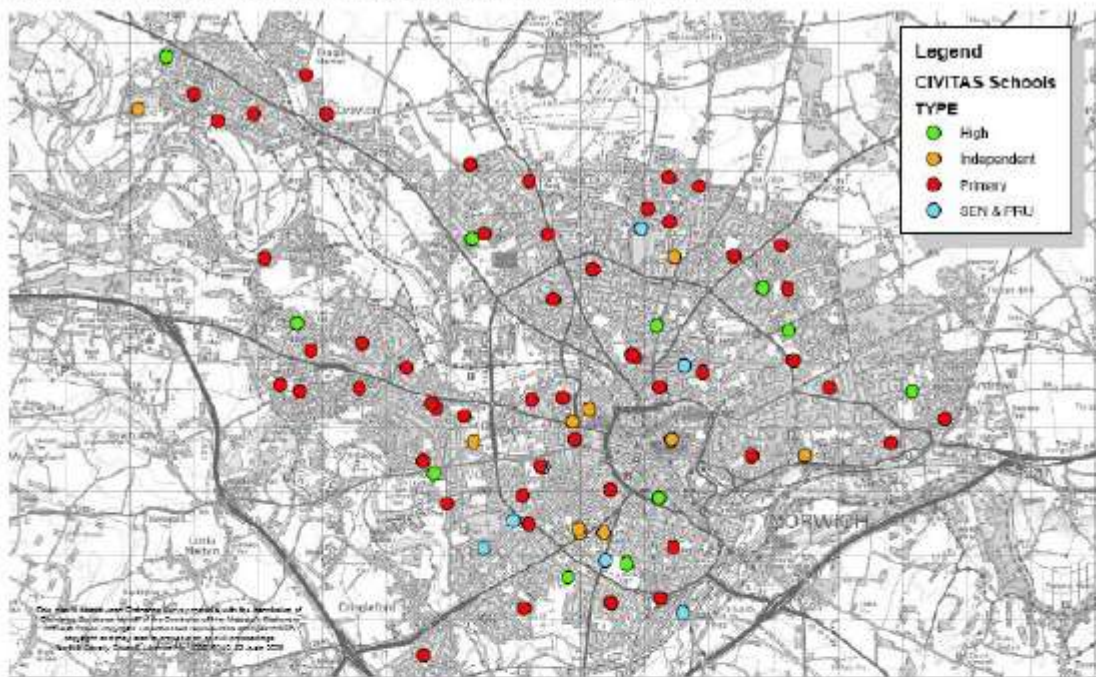
### **A2 Description**

Norfolk County Council has worked with schools and workplaces in the Norwich area to support the development of site specific travel plans. Initially focusing on working with schools on the south western corridor, between the city centre and the University Of East Anglia (UEA), and on working with workplaces that are required to produce a travel plan as a result of planning applications. These areas were broadened out over the life of the project to help the authority reach the ambitions in their Local Transport Plan to develop travel plans with all schools within Norwich City urban area, including independent schools and larger workplaces who wish to produce travel plans on a voluntary basis.

The objective of the measure has been to support 20 local businesses and all 80 schools in the production, implementation and monitoring of travel plans aimed at travel for their employees and students and to support the improvement of the economic and environmental quality of the local area.

This work is being undertaken by travel plan officers providing advice and support to schools and workplaces. The officers have used bespoke travel planning software developed for schools and workplaces to assist with data gathering and production of electronic plans. A range of initiatives to encourage behaviour change has also been developed to support implementation of the travel plans beyond initial travel plan development.

Figure 1 & 2 Dot Plots – Geographical Representation for School & Work Location



## **B Measure implementation**

### **B1 Innovative aspects**

The innovative aspects of the measure are:

**Innovative aspect 1 - New conceptual approach, nationally** – the **development of the electronic travel plan template** has ensured completeness and relevance of information gathered, it also gives a common reporting style which makes travel plans easier to evaluate, revise and implement. The template designed by the project was an integral part of the survey tool; data passed automatically from the survey to the template, reducing administration time. The clear and simplified presentation has made travel plans accessible to all and encouraged a more wide spread interest in travel plans from those outside the transport profession. Following this innovation templates are widely used across the UK for travel plan compilation. This innovation has been adopted by many UK Local Authorities and Travel Plan Professionals. This methodology has been disseminated at National level at training events for all UK travel planners and endorsed by Central Government.

**Innovative aspect 2 - Use of new technology/ITS, nationally** – Successful travel plan implementation brings about many benefits including improved health and safety and reductions in CO2 emissions but it is the measurement of modal shift (the change from one mode to another) that is the common measure of travel plan effectiveness. As modal shift is the accepted measure of performance it was seen as essential to establish a robust method for collecting, storing, analysing and accessing mode split baseline data and annual modal shift data. The **development of the on line survey tool** established a common method for data collection for project evaluation purposes. Online surveying is also environmentally friendly reducing the amount of paper used. The collection time has also been reduced as the survey is instant, giving immediate accessible results. This innovation was not available before the project and is now an acceptable way to collect travel plan data. This innovation developed by the travel plan team at Norfolk County Council has been adopted by other UK Local Authorities and Travel Plan Professionals. This methodology has been disseminated at National level at training events for all UK travel planners and endorsed by central government.

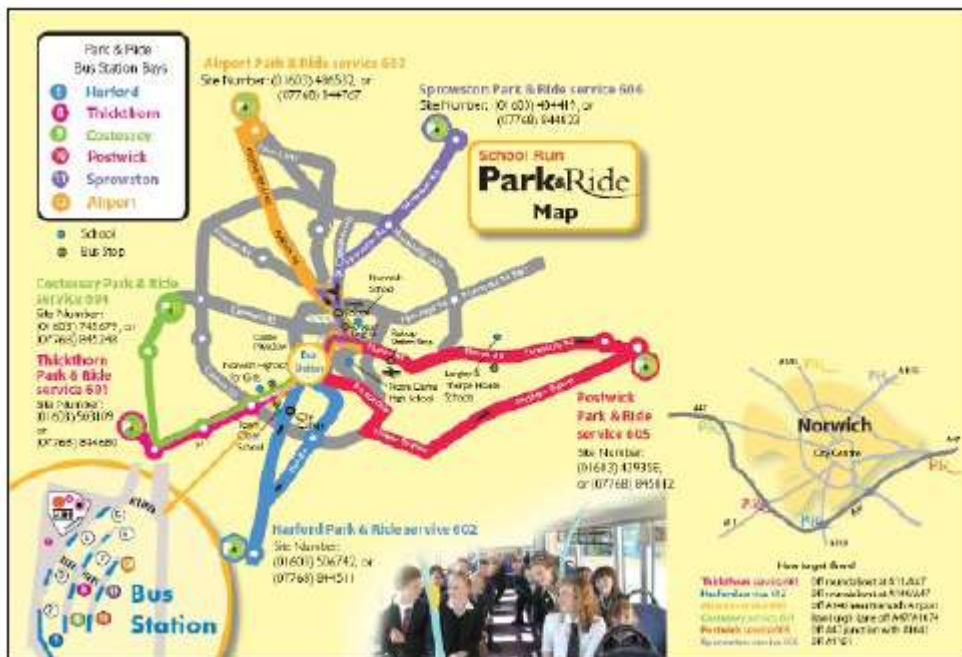
[www.schooltravelplan.net](http://www.schooltravelplan.net) and [www.worktravelplan.net](http://www.worktravelplan.net)

**Innovative aspect 3 - New mode of transport exploited, locally.** The Norwich Park and Ride service that operates in Norfolk has been exploited through the travel plan measure. Travel plan development at the large city independent schools identified an opportunity to exploit this new mode of transport that was being underused. **School Run Park & Ride** with a newly formed City School Cluster Group targeted families who travelled from the outlying villages into the city centre each day and offered discounted rates for pupils to use the established park and ride network. Parents were encouraged to accompany their young children by being offered a cheap 1p 'chaperone ticket' to encourage use of this mode of transport. This innovation has been extended to include other city schools with wide catchments.



Figure 3. School Run Park & Ride Promotional Leaflet



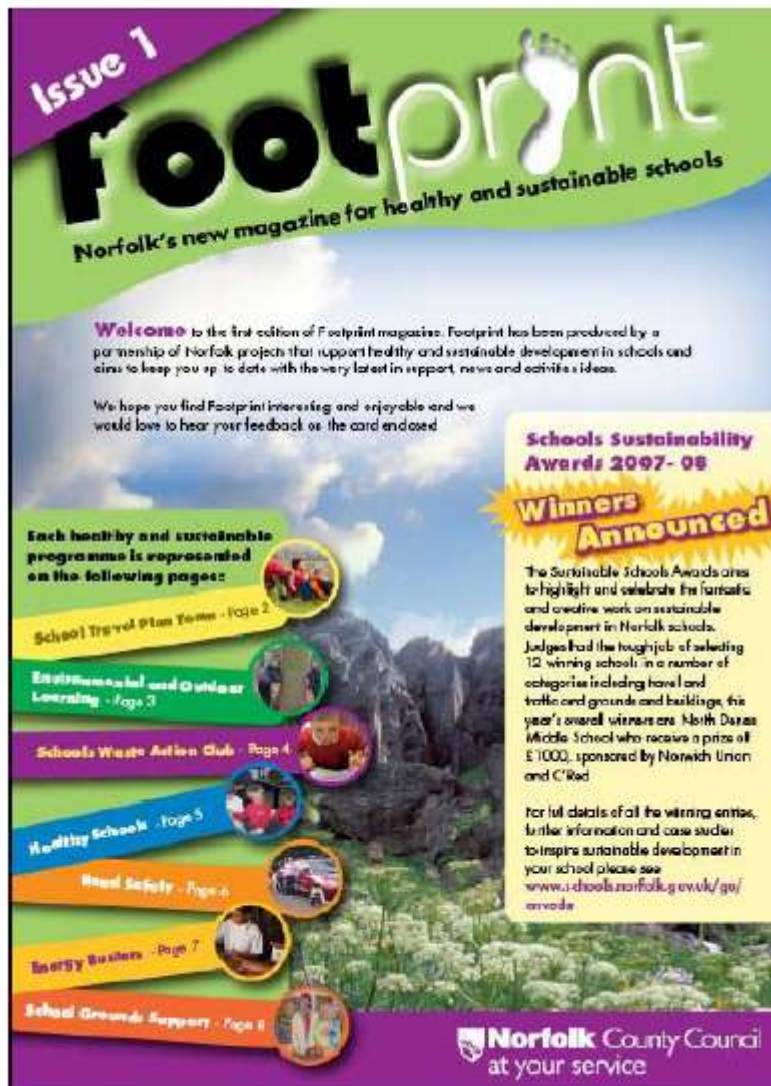


**Innovative aspect 4 - New economic instrument, nationally.** The **commuted sum of £2500.00** is levied on workplaces as part of the submission of a workplace travel plan that has been developed through the planning process. This is an economic instrument to ensure that there is funding available to help the Local Authority to undertake the support needed to assist workplaces with implementation of their plans and annual monitoring for 5 years following travel plan submission. This has been adopted by other local authorities and a similar model of this economic tool is being replicated to fund other services to businesses in the processing planning applications field.

**Innovative aspect 5 - New policy instrument, nationally.** The success of the **behavioural change initiative ‘Steppers’** developed to support school travel plans implementation influenced central government to provide additional non capital travel plan grants specifically for walking incentive schemes. The Steppers Scheme was considered Best Practise and was disseminated at Regional Level and influenced the project board in the development of national policy for the **payment of non capital grants for walking initiatives.**

**Innovative aspect 6 - New organisational arrangements** or relationships. The measure has worked with both **Local Authority Schools and Private Independent Schools** to set up a **cluster group** to work together on travel plan projects. This new relationship has brought schools together in a common purpose to strengthen the initiatives. It has facilitated collaboration in travel issues which are common to these particular clusters of city schools with large catchments. The measure has also crossed other boundaries and set up a joint initiative to produce the first ever **multi disciplinary newsletter called ‘Footprint’**. This arrangement brings together health, road safety and environment practitioners and strengthens sustainable travel in the sustainable schools agenda.

Figure 4 Footprint Magazine



**Innovative aspect 7 - New physical infrastructure solutions, locally** – the travel plans have been feeding into the capital works programme. Access to the **Safer & Healthier Journeys to School** budget has seen many changes to the physical structure outside schools with requests for infrastructure improvements directly from school travel plans. Traffic calming, dropped kerbs, pedestrian phases on traffic lights, speed reduction zones, parking restrictions, cycle lanes and new footpaths and both pedestrian and cycle (toucan) crossings.



## **B2 Situation before CIVITAS**

The County Council worked with schools and workplaces to develop travel plans. The council's involvement in both projects was initiated by Government, who provided bursaries to fund a workplace travel plan officer and a school travel plan officer. The posts were placed in different teams within the Planning and Transportation Department. The workplace officer was placed in the strategy team working with development control officers to offer guidance for travel plans developed for submission with planning applications. The school travel plan officer placed in the Road Safety Unit with the remit to work with schools in areas of deprivation to identify safer routes to school in target areas of deprivation. Both posts struggled to establish a high profile for sustainable travel and behavioural change initiatives due to the lack of understanding and acceptance of soft measures within the department. The CIVITAS project helped to raise the profile of sustainable travel and the funding enabled the development of a wide range of behavioural change initiatives and incentive schemes. The start of the CIVITAS project brought the two bursary positions together and forged an identity for Travel Planning and sustainable travel within the department.

The school travel plan initiative had struggled to develop travel plans before 2004 even though the bursary post had been established for 2 years. Some ground work had been undertaken but this resulted in high expectations from the few engaged schools for large casualty reduction schemes with little or no undertaking to develop a travel plan or long term commitment to influence a change in travel behaviour. The few schools that elected to develop a plan were overwhelmed by the enormity and complexity of the travel plan process. Without clear guidance, ownership of the issues by the school and links into the school curriculum and other areas of sustainability there was very little incentive for schools to consider this a worthwhile project. The school travel plan initiative was being seen as an extension to road safety and an opportunity for schools to apply for large engineering casualty reduction schemes.

The workplace initiative developed a supplementary planning guidance to help developers submit travel plans. Developers tasked consultants to submit travel plans to discharge the planning conditions. This resulted in a 'tick box' exercise with no ownership of the travel plan by the occupiers and little or no commitment to influence a change in travel behaviour.

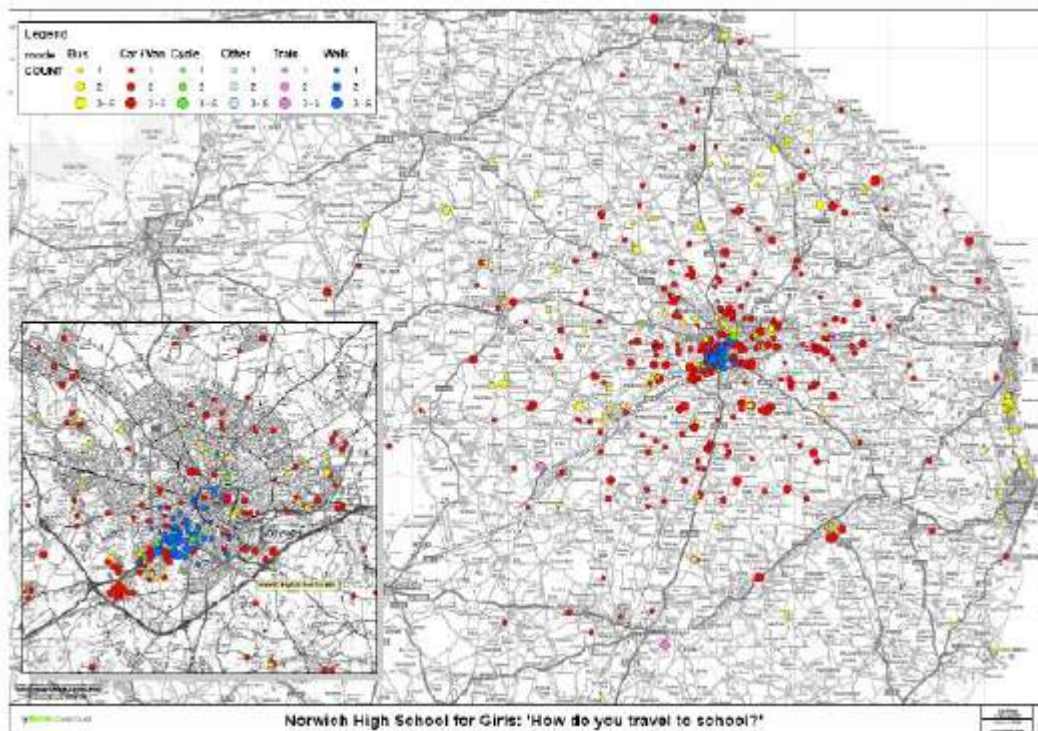
There was a lack of travel plan implementation and no easily adopted behavioural change initiatives. Travel Plans were not monitored or updated and were not living documents owned by the establishments.

## **B3 Actual implementation of the measure**

Travel Plan measure was implemented in the following stages:

**Stage 1: Improvements to online survey tool for schools and development of workplace on line survey** (Feb 2005 – Sep 2007) – On line survey was developed primarily for schools and then later for workplaces to aid speed and accuracy of baseline data collection and as a reliable means of storing and accessing baseline data. The on line survey ensures that a core of common questions are asked to establish the baseline and makes data comparisons from school to school or workplace to workplace more meaningful. Additional site specific questions can be added to customise the survey. The tool produces any combination of questions for dot plot maps. The most important and commonly used has been the postcode by mode.

Figure 5 Example Dot Plot Map



**Stage 2: Improvements to the school travel plan template and development of the workplace template** (March 2005 – ongoing through life of project) – This was developed to ensure completeness and relevance of information gathered, and to give a common reporting style to simplify the process of implementation, evaluation, and revision. Government had set out certain criteria for quality plans, but as this changed each year the template was updated annually to ensure that the current criteria were being disseminated.

The production of the template reduced travel plan compilation dramatically allowing more time for implementation. The simplicity of the template not only made the travel plan process more accessible to a wider audience but enabled everyone, even in some cases children, to become more involved in the travel plan process.

Figure 6 (below) On Line Tool used by children at Royal Norfolk Show



**Stage 3: Website and guidance updated** (May 2005 – ongoing through life of project) A website, step by step and supplementary guidance were produced to support travel plan development and to clarify the commitment and time allocation needed to successfully develop submit and implement a travel plan.



Figure 7 (below) 2 of 6 Travel Plan guidance leaflets for workplaces.



**Stage 4: Targets for travel plan production agreed** (June 2005) All 80 school sites were identified in the CIVITAS area and the schools divided by postcode and allocated to the travel plan officers. Workplace officer set targets to engage 20 businesses through the planning application process and to develop target number of plans. These target figures were based on the desire to meet the Local Transport Plan ambitions of a travel plan for every school and with consideration to the volume of work that could be undertaken with the staff allocation to the project.

**Stage 5: Approached potential schools and workplaces to support travel plan development** (September 2005 – September 2007) Head teachers in the target schools were contacted by phone and introductory site meetings set up. The head teachers established a steering group at the school bringing together representatives from the whole school community: staff, parents, governors and pupils often these groups included representatives from the Parish Council and resident groups. Following an introduction to travel plans the travel plan officer worked with the school to set up the baseline survey for pupils, staff and parents to establish not only the baseline for modal share of journeys to school but also a range of attitudinal and aspirational data. When the surveys were completed the officer collated the results using the travel plan template and this was sent electronically to the school for the next meeting. The steering group met again to look at the survey results, including comments from parents to identify the barriers to sustainable travel and any health and safety issues, resulting in the development of a set of practical solutions to bring about a reduction in car use for the school journey and to improve the health and safety of the school journey for the whole school community. Following further consultation, analysis and research the findings and practical solutions were agreed and written up in the recommended format. The travel plans gave a clear indication of aims, objectives and targets and how these would be achieved within a certain timescale.

Travel Plans for workplaces were conditioned as part of a planning application. The workplace travel plan officer liaised with County Council's Highways Development Control Group and the District Councils to establish timescales for travel plan submission. When a travel plan was being required in the CIVITAS area the travel plan guidance was sent to the developer, or their agents and the workplace officer liaised with the developer's representative to help facilitate development of the travel plan. This process followed an iterative approach of travel plan production. For voluntary travel plans a similar approach was undertaken to the school initiative.

All travel plans were submitted to the officer in charge and the plan quality assured using a simple 'Evidence Check List'

**Stage 6: Establishing network of support** (March 2006 – September 2006) – Partnership working was established to give the schools the support they needed to implement their plans successfully. Arrangements made with suppliers for discounted

cycle storage, pedestrian waiting shelters, hi visibility jackets etc were set up and lists disseminated. The process of requesting improvements to the infrastructure for safe routes etc was streamlined through the establishment of a 'prioritisation form'. Road safety pedestrian and cycle training was offered to all schools through the travel plan process to underpin sustainable journeys to school. Healthy Schools and Environmental Education worked with the travel plan team to align common purpose targets.

**Stage 7: Range of initiatives developed to support travel plan implementation (Sep 2004 – on going through life of project)**

**Steppers' behavioural change incentive walking scheme.** This was designed for schools located in urban areas with plenty of access to safe walking routes or identified '**Park & Stride**' (where cars are parked away from the school and the rest of the journey is made by foot) sites where parents could park safely away from the school and walk 5 - 10 mins to the school. This initiative was welcomed by the Healthy Schools Group who promoted this through their work to encouraged healthy lifestyles.

Figures 8 & 9 Steppers Launch at Colman Middle School, Norwich. (below)



**'Jam Busters' behavioural change multimode (inc. car share and bus) incentive scheme.**

Figure 10. Sample Jam Buster Cards (4 of 12)



- **Assembly Pack** for use by schools to impart sustainable travel message.

Figure 11 Sample Boards from Assembly Pack (5 of 10)



**Pedometer Pack** including pedometers for schools to borrow.

**Pledge Tree**, for schools and workplaces to pledge to sustainable travel.

Figure 12. Travel Plan Champion with Pledge Tree at Norwich City College Green Travel Day



**Newsletters** produced every term and sent to all travel plan schools.

**Dr Bike and Bike Breakfasts** for workplaces and schools.



Figure 13. Go Ride Skills test for Bike to School Week (below left)

Figure 14. Pupils at George White Middle use their new cycle storage (below right)



**Rolling Programme of sustainable activities** promoted to schools and workplaces so that establishments can choose to underpin their travel plan objectives by participation in National Sustainable Travel Events an important part of an effective pulse campaigning strategy. These include National and International Walk To School Week, Bike To Work/School Week, TravelWise Week, National Lift share Day, National Green Transport Week.

Figure 15. Travelwise Week at Norwich City College (below left)

Figure 16. National Green Transport Week Broadland Business Park (below right)



Figure 17. 50% Cycle Club during National Bike Week at Norfolk County Council (below)

<p>The Company of Cyclists were employed to run a <b>50% Cycle Club</b>. 30 people who did not currently cycle to work were recruited and given new bikes, helmets, lights, panniers, locks, cycle maps and advise on cycle routes and safe cycling. Some received cycle training. The 30 people were given diaries to record their personal progress.</p>		<p>Then they were all challenged to cycle to work for a month at least 50% of the time. At the end of the month if they had managed to cycle at least 50% of the time to work they were able to purchase the bike they had been loaned and all the gear at a discounted price. Bike loans were also made available to help with this purchase.</p>
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Figure 18. Presentations to Workplaces (below right) & Figure 19. Car Share Launch at Lakeside 500 Broadland Business Park (below left)



**Presentations to Workplaces** including Eco driving, Car sharing, Electric bikes, Personal Travel Planning

**Shuttle bus schemes** and car park management

Negotiated **discount for the purchase of cycle storage**, lists of suppliers.  
**50% Cycle Club** Bike loan club to support and challenge new cycling commuters

**Network & Cluster Projects** – NELM Six schools, School Run Park & Ride 6 schools, Broadland Business Park 6 businesses, UEA and Norwich City College Green Day

Figure 20. (below) NELM 'Walk this Way' dairies.





Figure 21. (below) NELM Walk to School Project at Larkman Primary.



**Annual Travel Plan Awards** with 40 schools participating and over 250 people.

Figures 21, 22, 23 Travel Plan Awards presented by Vice Chairman of the Council Mr Shaun Murphy.



**Stage 8: Designed year 2 template** (Jan 2005 – March 2005) To assist schools and workplaces to monitor and revise their travel plans a year 2 template has been produced which is populated by the data from the base and annual on line annual surveys.



## **B4 Deviations from the original plan**

The intention for the measure to show evidence of a reduction in environmental impact from fleet vehicles was not progressed. Of the 20 workplace establishments who elected to develop travel plans none cited particular issues with fleet vehicles. The key areas of concern were congestion, access and parking and these were the chosen focus for their travel plans. It should be noted that the environmental impact of fleet vehicles still has the potential for exploration in later stages of the established travel plans but could not be moved onto within the time restraints of this evaluation.

## **B5 Inter-relationships with other measures**

The measure is related to other measures as follows:

**Measure 1 no. 12.9 - Real time bus information** – through the development of travel plans at workplaces and schools establishments have identified the need for improved bus information. This measure needed to collect information on acceptance of new services. Bus information questions have been included as standard into the on line workplace survey tool for baseline data.

**Measure 2 no 11.5 – Individual Travel Advice Norwich UEA.** This measure is of particular interest to travel planning and the ability to engage staff in changing their travel behaviour. The UEA Personal Travel Plan Advisor made a presentation to nine businesses at the Broadland Business Park network meeting. Personal Travel Planning is being written into the majority of residential travel plans and funding for implementation of this initiative requested as part of a section 106 agreement as a result of this interrelationship.

**Measure 3 no. 10.6 – Goods delivery to Park & Ride Sites** led to useful collaboration between park & ride and travel planning CIVITAS measures. In the heart of Norwich there are five large independent schools with wide catchments areas, attracting pupils from all over Norfolk. These and a large Roman Catholic (faith) school with a similar wide catchment joined together to develop the School Run Park & Ride. The initiative is part of the implementation of the six school travel plan and utilises the Park & Ride sites giving a reduced fare to those using the service to avoid taking cars into the city centre at peak times.

**Measure 4 no.11.4 – Car Pooling** (sharing) this is a travel plan measure and has been promoted to the schools and workplaces developing travel plans.

## C Evaluation – methodology and results

### C1 Measurement methodology

#### C1.1 Impacts and Indicators

Table of Indicators.

Table C1.1

No	Impact	Indicator	Used
1	Awareness of measure GI 13	Numbers of establishments involved	Database
2	Reduction in traffic congestion and relief of other traffic problems (schools) GI 29	Measure of modal shift by comparing baseline modal split data with annual modal split data of all schools	Online survey
3	Solve car parking problems at developments (workplaces)	Measure of modal shift by comparing baseline modal split data with annual modal split data of largest workplace travel plans	Database
4	Acceptance of measure GI 14	Number of people involved at each establishment from on line survey	Baseline data on line survey

Detailed description of the indicator methodologies:

**Indicator 1 (Participation at establishment)** – The number of schools and workplaces that have a completed a travel plan by the end of each financial year (31 March 08). A data base of approved plans is kept and the data will be taken from this. The greater the number of travel plans the greater the success of the measure.

**Indicator 2 (Reduction in traffic congestion and relief of other traffic problems at schools)** – This is to identify a reduction in car journeys to the 88 school sites. All sites gathered their baseline data before travel plan development and undertook their annual mode of travel to school survey in Jan 08. The results are compared to give the modal shift for all the schools in the CIVITAS area. The greater the modal shift the more successful the measure.

**Indicator 3 (Solve car parking problems at developments)** – The large developments that have expressed an on site car parking issue will be monitored through their travel plan surveys to identify a reduction in car use which will lead to solving parking problems at the development. The four largest organisations out of the 20 participating organisations in the CIVITAS area have been measured by collection of baseline mode of travel to work data and measured against the most recent annual survey. The results give the mode shift data for each site and the total mode shift across the four sites. The higher the modal shift the more successful the measure. It could be argued that car parking levels at the sites would have been a superior indicator to mode shift data but an accurate or cost effective method for measuring this had not been developed. It was also decided that mode shift would be a simple standard measurement to record true behaviour change over a sustained period and using the on line survey tool the data would be consistent from year to year and site to site allowing for greater long term analysis of data across the whole area.

**Indicator 4 (acceptance of measure schools and workplaces)** – Travel plans are site specific and developed by establishments to influence the people who travel to their specific establishments. Acceptance of the measure has been recorded by the number of people who participate in the baseline survey. These are the people who have accepted the measure and are willing to participate in it. The baseline survey asks each participant a range of travel related questions that help to shape the travel plan. By collecting before and after data travel plans are able to measure behaviour change of the target group at each site.

## **C1.2 Establishing a baseline**

**Impact 1 – Guard Indicator 13** Measure awareness is recorded by the number of participating establishments, establishments who have been contacted by the travel plan team. The number of schools and workplaces electing to develop travel plans is an indication of the spread of influence and awareness of the measure. Establishments who develop and implement travel plans are recorded on a data base. All new sites are added to the data base following travel plan submission and approval. The baseline is set at zero at the beginning of the measure.

**Impact 2 – Guard Indicator 29** All travel plans are developed from baseline data taken from the establishments at the very beginning of the travel plan process. Part of this baseline data includes mode of travel to school and this will be used to establish the baseline. To measure success of the travel plan subsequent travel data is taken each year and measured against the baseline data. A modal shift from car use to walking, cycling, public transport or car share is a positive modal shift and therefore a reduction in car trips. The degree of success of the measure can be indicated by the modal shift, the larger the modal shift the greater the reduction in traffic and the greater the degree of measure success.

Travel plans are essentially about behaviour change and the modal shift that this brings. The contribution travel plans make to reductions in casualties, CO<sub>2</sub> emissions and congestion are reflected in the data collected for Killed and Seriously Injured figures (KSI), Low Emission Zones (LEZ) and congestion figures but not specifically linked enough to contribute to this analysis.

**Impact 3 – Solving car park issues at developments** has been measured by the reduction of single occupancy cars arriving at work. There is only data available from the largest establishments. Use of baseline mode split of travel to work data in comparison to the most recent survey will give the modal shift of the establishments. If the measure has been successful this will be indicated by a reduction in single occupancy car journeys. The larger the degree of modal shift the greater the success of the measure. Fewer cars arriving at work will contribute to solving the issues with parking at the major developments.

**Impact 4 – Guard Indicator 14** Acceptance of the measure is demonstrated by the number of people involved in the travel planning initiative at each site. Acceptance of the measure is recorded by the number of people who participate and contribute to the baseline survey who's comments, aspirations, preferences and perceived barriers to sustainable travel collectively influence the site specific travel plan development. By undertaking the survey they have already accepted that their contribution will help to develop the travel plan. This measure differs from other measures which seek acceptance of a measure from the general public, travel planning is a site specific measure and each travel plan seeks to influence the target group of individuals who travel to and from the establishment. The baseline will be set at zero as there was nothing to record at the beginning of the measure.



### **C1.3 Building the business-as-usual scenario**

**Schools** – The business as usual scenario can be seen in the baseline data, as the baseline represents the school without travel planning activity. Baseline has been taken from the on line survey tool. All the schools have completed baseline surveys before any travel plan initiatives have been implemented so this data is a snap shot of the ‘normal situation’ before travel planning.

**Workplaces** – Victoria House has been selected to demonstrate the businesses as usual scenario. The establishment carried out a staff travel survey of 373 people (one third of the entire workforce) to inform a 2002 Travel Demand Assessment and this was repeated in 2007 for renewal of planning permission. As the establishment was not required to develop a travel plan it is a good example of business as usual. This site has been chosen due to its CIVITAS area location sharing similar sustainable travel options as the other CIVITAS workplaces.

The organisation has been subject to generic travel promotions following the city wide walking, cycling public transport and car share promotions as part of public awareness campaigns but nothing site specific has been implemented.

Over the five year period there has been a 0.6% modal shift away from single occupancy car use at the site. Details are shown on page 23 (table C3.1) to give the modal split and shift comparison between the business as usual scenario and the four large workplaces.

## **C2 Measure results**

**C2.1 Economy** – Early investment in the on line survey and template tools proved very cost effective. It freed up officer time and made the travel plan development easier for large establishments allowing officers and steering groups to spend more time on implementation rather than data gathering and number crunching.

Targets set by our Local Transport Plan required all schools to have an approved travel plan in place by March 2008. Developing and offering resources to schools to implement behavioural change initiatives was a very cost effective way to initiate change and to encourage schools to get involved. Previous ‘safe routes to school schemes’ coordinated by the local authority to encourage a reduction in car use had involved large spends of over £250,000 per site and achieved very little in terms of modal shift, behaviour change or school engagement. The cost of initiating travel plans with small simple and inexpensive initiatives which encouraged ownership of the problems reduced the demand for large scale engineering schemes to solve the issues of school gate parking. The results have shown that it is still important that improvements are made to the network to facilitate safer walking and cycling but implementation of these smaller more targeted schemes through travel planning are more effective and has enabled the Local Authority to work with a greater number of establishments and lock in the highways measures through the implementation of soft measures. This measure has demonstrated that change can be brought about by the right mix of soft and hard measures.

**C2.2 Energy** – Simple calculations taking the number of pupils involved in the demonstration area as 40,294 (taken from the on line survey tool) and the reduction in single occupancy car use as 10.9% (the calculation of modal shift from the baseline to the most recent annual survey) of the total number of pupils gives a group of 4,392 fewer pupils being driven to school in the demonstration area. This can be converted into a fuel

saving making the assumption that an average school run journey is 2.7 miles (i.e. 5.4 miles per day to/from school)<sup>1</sup>.

- Each car journey saved = 5.4 miles per day = 8.64 km per day
- No. of km saved per day = 8.64 x number of journeys saved per day (4,392) = 37,947 km
- Assume a school year = 3 x 12 week terms (5 days per week) = 180 days
- Therefore no. of km saved p.a. = 37,945 x 180 = 6,830,438 km p.a.
- Using data from measure 7.2 average fuel consumption for cars<sup>2</sup> = 7.53 litres/100 km
- Therefore fuel saved p.a. = 6,830,438/100 x 7.53 = 514,332 litres p.a.

**C2.3 Environment** - The above fuel saving can be converted into a saving in carbon dioxide as follows:

- Using data from measure 7.2 average carbon dioxide emission for cars = 166 g/km
- Therefore carbon dioxide saved p.a. = 6830438 x 166 = 1133852774g = 1134 tonnes p.a.

**C2.4 Transport** - The 10.9% reduction in single occupancy car use on the schools run for the CIVITAS schools results in a shift toward public transport and car sharing where children shared a lift to school and travel in one car rather than 2 cars thus cutting the use of cars on the school run. The reduction of 4,392 cars on the road each school day reduces the burden on the infrastructure and junctions at peak times. On average this represents a reduction of 49 cars at each school travelling and parking outside the schools in the CIVITAS area peak times.

Comprehensive parking information has been gathered by workplaces to inform development of their parking strategies. This has also influenced the travel planning initiatives they have implemented

**C2.5 Society** – The figures for walking and cycling appear disappointing but these can be explained by the seasonal variations. The timings of the original surveys and the annual re-survey do not always match up. All the re-surveys were taken between November and January, while many original travel surveys were conducted during the summer and early autumn months when surveys would capture more fair weather walkers and cyclists. The results for this evaluation do not include occasional travel and there is significant evidence to support that occasional travel represents a large amount of behavioural change. Workplaces like Norfolk County Council from a sample size of 1300 staff showed 270 people occasionally car shared in comparison to 47 who did so regularly and 185 people occasionally travel by bus in comparison to 48 who regularly do.

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<sup>1</sup> See The House of Commons Select Committee report for the Sutton report (2001)

<sup>2</sup> This is the average for cars in permit parking areas which may differ to the average for cars used on a school run. However the difference is likely to be small and it is considered preferable to use a locally derived figure.

The annual survey dates have been set for schools in January each year in line with the National Schools Census data collection so that schools have one data collection focus a year.

Initiatives such as 'Steppers' and 'Park & Stride' have a great impact on the numbers of cars parking outside schools and help to increase the levels of exercise of participating children. However these initiatives are not recorded as walking as the distance travelled by car is greater than the distance travelled by foot. Surveys involving young children may have a degree of inaccuracy but on line surveys have proved to be far more accurate than classroom hands up surveys.

Implementation of school travel plans on such a large scale has also resulted in a raised awareness across the school and wider community of sustainable issues impacting on the work schools undertake with other environment education activities. The same results have been seen in the workplaces where the travel plan has formed part of a wider environment remit.

Cross working with Primary Care Trusts and Road Safety colleagues have reinforced the messages of health and safety and added value to the work of our colleagues in these related areas.

### **C2.6 School Key Measure Results**

Whilst all of the establishments contribute to the overarching targets the original targets do not capture the entire range of measure results. With 108 individual establishments developing site specific initiatives in response to the needs of their own target audience it is only possible to represent some of the most significant or common results in this section.

The results template reports the evaluation results and gives an indication of the impact of the implemented school and workplace travel plans.

Figure 24 (below) 100% of schools with travel plan celebration event

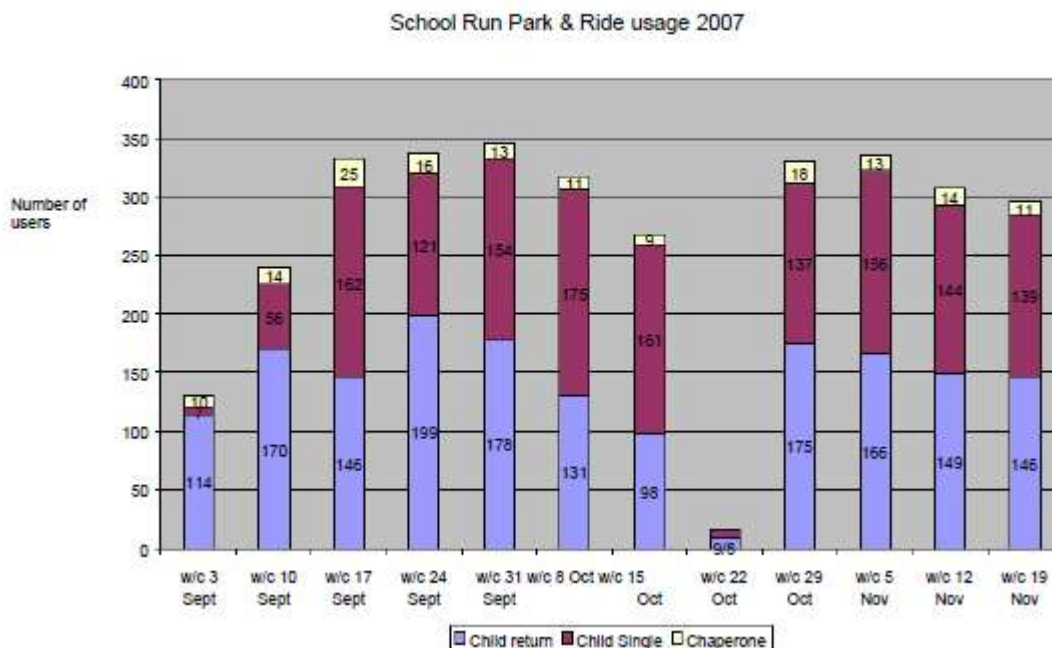


**C2.6(i) The target for travel plans has been exceeded.** With **100% of schools** developing plans in the CIVITAS area Norfolk has also achieved 100% coverage of all schools across Norfolk a celebration event was held at one of the CIVITAS schools with the Leader of the Norfolk County Council Mr Daniel Cox and Mrs Rosalie Monbiot OBE Cabinet Member for Norfolk County Council Children's Services

**C2.6(ii) The School Run Park & Ride scheme** one of the travel plan initiatives sold **1678** return tickets and **1420** single tickets in the first term following the launch of this new initiative. This represents a saving 4776 car trips in and out of the CIVITAS area at peak times during the months of September, October and November 2007.



Figure 25 School Run Park & Ride Usage 2007



The ticket sales for this scheme have increased steadily since the launch in September 2007 and have sold an average of 2000 tickets per month until the last available monitoring in Dec 2008. These figures are based on the recorded number of ticket sales, the most effective and accurate way of assessing the impact of the initiative.

**C2.6 (iii) The 88 CIVITAS school travel plans collectively delivered a 10.9 % modal shift. 10.9% fewer single family car journeys** on the school run. More detailed modal shift results for the 88 schools can be found in the appendix. The attached spreadsheets show the modal shift school by school.

**C 2.7 Workplace Key Measures Results**

**C 2.7(i)** 10 car share schemes have been implemented and 2 shuttle bus initiatives have reduced parking by significant amounts at several key sites in Norwich. The Norwich Union the largest employer in the CIVITAS project operates a Shuttle Bus from the nearby 'Postwick Park and Ride Site' and carries over a third of the staff of 2,000 employees everyday which significantly reduces on site parking.

**C 2.7(ii)** The simple average modal shift of 17.7% away from single occupancy car use has been delivered by the implemented travel plans. Data from the other businesses is not available as developments were delayed and occupation delayed. Four organisations in the CIVITAS area have been used and provide an appropriate sample size for the indicator. The organisations surveyed 3997 collectively; Norwich Union 700 out of 1500 staff, Norfolk County Council 1300 out of 2000, University of East Anglia 1597 out of 15,000 and Norwich City College 400 out of 3000 staff.

The figures are averages and indicators of success of the measure. Modal shift calculations are based on the core survey question 'How do you normally travel to work?'

**Please note**

Travel by **car** represents driving a single occupancy vehicle and **car share** represents a shared car journey as a passenger.

**% point** calculates the number of % points the baseline has moved from and % takes into consideration the % starting point and weights the move accordingly.

Table C3.2i

Workplace staff survey baseline data table						
Workplace Baseline Survey	Year	Walk	Cycle	Car	Other	Car share
Norwich Union	2004	8	4	55	25	8
Norfolk County Council	2004	8	4	79	7	4
University Of East Anglia	2003	22	22	40	15	1
Norwich City College (staff)	2006	12	7	69	9	4
Total	2008	12	9.25	60.75	14	4.25
Victoria House (control site)	2002	10	2.5	38.4	27.2	21.9

Table C3.2ii

Workplace update staff survey most recent data table							
Most recent survey	Year	Walk	Cycle	Car	Other	Car share	%point
Norwich Union	2007	11	13	36	30	10	19
Norfolk County Council	2008	7	6	77	8	4	2
University Of East Anglia	2006	36	19	22	22	1	18
Norwich City College (staff)	2008	13	8	65	10	4	4
Total	2008	18.75	11.50	50	17	4.75	10.75
Victoria House (control site)	2007	14.1	2.3	37.8	24.2	21.2	0.6

Table C3.2iii

Calculate Actual Modal Shift	Modal Shift Point Reduction	Actual Modal Shift Reduction
Norwich Union	19%	35%
Norfolk County Council	2%	2%
University Of East Anglia	18%	45%
Norwich City College (staff)	4%	6%
Total	10.75%	17.7%

### C3 Achievement of quantifiable targets

No.	Target	Rating
1	Target to support development of 100 travel plans (20 workplace and 80 school travel plans). Target exceeded with 108 travel plans developed as 8 new schools were opened in the civitas area.	***
2	The 88 CIVITAS school travel plans collectively exceeded the target of 5% by delivering a 10.9 % modal shift. 10.9% fewer single family car journeys on the school run. More detailed modal shift results for the 88 schools can be found in the appendix.	***
3	Of the 20 workplaces data available from 4 workplaces showed a 10.75% reduction in single occupancy vehicles travelling to the establishments against a target of 5% 16 workplaces not assessed target therefore not be exceeded	**
4	Acceptance of the measure by 49,726 people achieving more people changing their mode of travel. Students 40,294 Parents 4,935 Teachers 500 Working Adults 3,997	**
<b>NA = Not Assessed    0 = Not achieved    * = Substantially achieved (at least 50%)</b> <b>** = Achieved in full            *** = Exceeded</b>		

### C4 Up-scaling of results

The impacts of the measure if it were applied to a larger area or number of establishments would have the **potential to deliver similar levels of modal shift** based on the assumption that a similar level of support could be offered to establishments. As the numbers of workplaces with travel plans increases the opportunity to set up **productive networks groups** of travel plan businesses, perhaps area based, to share best practise and run joint initiatives and events would increase. Setting up an awards system for workplaces would also need larger numbers of participants to introduce an **element of competition**. The dynamic of workplaces trying to out perform each other could be very advantageous to modal shift results. Workplaces can only gain from **positive media attention for improving their ‘green credentials’**.

Up-scaling of the school initiative would mean developing the initiative further and would require setting up **school clusters** for all schools in the area and encourage them to work

on **joint initiatives**. This would require ongoing support to facilitate this activity and would assume continuation of officers to administer these cluster groups.

Up-scaling travel planning means up-scaling the **range of services** that support travel planning both at local authority level and through commercial operators who currently support **sustainable travel events and initiatives**.

## **C5 Appraisal of evaluation approach**

A clearer idea of the scope and requirements of the evaluation process would have been useful from the onset of the project. The type of evaluation required was intimated far too late in the implementation process for **specific qualitative data** to be collected.

Ideally baseline **data should have been collected in the same calendar month each year**. Central Government due to reporting on National Indicator 198 (pupil mode of travel to school) survey dates could not be staggered and the annual survey had to comply with the annual school census data collection date in January.

It would have been useful to set up **cohort surveys** with some control groups to follow the impact of travel planning over a few years on specific individuals. There is the potential to undertake this type of evaluation with the data sets of information stored but will not be included in this report.

## **C6 Summary of evaluation results**

The key results are as follows:

**Key result 1** The high number of establishments aware of the measure demonstrated by the **108 individual plans submitted** has had a big impact in the CIVITAS area. Collectively the results give an excellent insight into **what can be achieved with a travel plan**. Comparisons drawn between the sites enable conclusions to be drawn. Where there has been a dedicated **travel plan champion robustly implementing** the plan sites have produced very high levels of modal shift. Sites where very little has been undertaken have delivered poorer results.

The resulting high numbers of participating establishments also indicates that the measure has been rolled out at **the right time**, when concerns for health and the environment have been regularly in media.

**Key result 2** The positive modal shift results bringing about a decrease in car use also demonstrates an eagerness for the establishments to promote sustainable travel, whether due to desperation to solve congestion issues or a growing concern for environmental issues. The underlying themes of childhood obesity and ill health in adults have certainly prompted greater participation in the healthy lifestyle initiative. The related benefits of health, safety and carbon footprint reduction have been supported by National campaigns and have helped to reinforce the messages prompting individuals to take action and get involved. Rising fuel costs have certainly influenced individuals to get more involved in travel plan initiatives.

**Key result 3** Solving car parking problems at developments, workplaces developing travel plans, and implementing specific measures to solve site specific issues has



encouraged a great deal of networking and a willingness to cooperate with neighbours to make initiatives work. The adoption of 10 car share schemes though slow at first is starting to gather momentum as workplaces have joined forces to establish wider groups with higher membership and greater match rates. The Highways Authority have been involved in the promotion of one of these schemes seeing the need to work with businesses that have a large impact on the trunk roads. The shuttle bus schemes have been very successful at reducing on site parking and both Norwich Union and Homeserve (workplaces on the Broadland Business Park) have recently confirmed that their shuttle buses that were originally set up as pilot schemes will be continued. The Homeserve and Norwich Union shuttle buses from the train station have given the largest benefit by reducing environmental pollution, route congestion and solving car parking issues at the development. The Norwich Union shuttle bus from the Postwick Park and Ride has successfully alleviated the workplace car parking issues but not contributed to CO2 reduction as the parking is just displaced from the Broadland Business Park to the alternative site and traffic has not been removed from the network.

**Key result 4 Acceptance of measure** The numbers surveyed at each site give a good starting point for site specific travel plan development. The survey covers a range of questions including how the person travels, how they would like to travel and a range of additional questions regarding fitness, level of exercise, safety perceptions on journeys to school or work, barriers to more sustainable travel and what would encourage them to change to a more sustainable mode. The workplace survey includes the opportunity to make suggestions about how things could be improved. The survey is the start of the education process, ensuring that everyone who participates is aware of wider travel options as an alternative to single occupancy car travel. Themes linking car travel to fitness, health, safety and the environment are woven into the survey to further embed the measure as a lifestyle change rather than an anti car initiative which could potentially alienate people from the measure, particularly those living in rural locations who rely on their cars. It is laying the foundation for behavioural change in a subtle but personal way. People undertaking the survey are ready to receive all the subsequent messages that will be sent to them during the promotion of the travel plan initiatives. This means that the impact of undertaking the survey is far reaching and the commitment to complete the survey is an indication of the individual's decision to participate in the measure. Individual contribution is important to the success of the measure. The baseline survey is the collective opinion of the establishment and gives the individual an opportunity to shape the travel plan initiatives for their organisation giving a shared ownership of the plan.

## **D Lessons learned**

### **D1 Barriers and drivers**

#### **D1.1 Barriers**

**Barrier 1** – Working with consultants as third party associates in the delivery of travel plans on developers' behalf can seriously inhibit the production of quality workplace travel plans. When plans are submitted without ownership and resource planning built into the plan they are difficult to implement. Lack of meaningful base line data has also meant that plans are impossible to monitor.

**Barrier 2** – Keeping the momentum of travel plans after initial launch is a challenge. Lack of ongoing ownership and resource can be a huge barrier to continued modal shift achievement. By developing resources and designing initiatives to support the establishments we have been able to overcome the barriers in some establishments. We have developed cluster working and area travel planning initiatives to maintain contact with the high number of sites without increased resource. Without the right level of support establishments are very likely to withdraw and disengage, particularly if the steering group and travel champion loses interest or leaves.

#### **D1.2 Drivers**

**Driver 1 – Use of the travel plan online software survey and template**, monitoring and year two template have enabled delivery of the travel plan service to engage large numbers of establishments with large volumes of people. This preparedness and confidence that the process of travel plan development has been thoroughly thought out and planned has encouraged high engagement in the process. The travel plan 'tool kit' has repackaged travel planning and made it more accessible to a wider number of people. Cutting time for travel plan development to a minimum has been key to success and as a result allowed more time for staff and steering groups to focus on implementation.

**Driver 2 –Face to face** contact with steering groups and travel plan champions/coordinators has been essential to the development of the measure. Travel Plan Officers have been freed up from the restraints of office work and actively encouraged to engage with people. Responding to the needs of the establishments and the people making up the establishments has been a positive driver and helped the acceptance and growth of the measure.

**Driver 3 – Travel Plans need to be supported** by a programme of soft measure implementation - Cherry picking the initiatives that are right for any particular establishment and offering these in an accessible form has been vital to success. Establishing a rolling programme of promotions and key sustainable travel events has encouraged a culture of pulse campaigning that is needed to keep the measure messages fresh and alive at the sites.

**Driver 4 – An enthusiastic, motivated team** has also been key in the development of travel plans and support given to establishments to implement their plans. It was essential to the project to recruit staff with an interest and enthusiasm for sustainable travel and an

understanding of behavioural change and public engagement. The travel plan measure has thrived because of a team of dedicated personnel with a passion for sustainable travel that has produced innovation and a dynamic mix of initiatives.

**Driver 5 - Ownership of the travel plans by the officers** has also been significant, giving each team member an 'area' to manage has given the individual officers a pride in their particular establishments and a flexibility to develop what they feel is appropriate. It has also been important to have more than one officer working on the measure, giving support to each other in this uncharted area of work, where there are no rules or guidebooks. Support from colleagues has been very important in what can sometimes be a hostile environment when faced with people who are reluctant to be without their cars. Confidence is needed to explore original ideas and experiment with new concepts and being part of a team has been very important.

**Driver 6 – Taken seriously by senior management and members** – Support from senior management has been crucial to the project and being given enough financial resource to deliver projects quickly without being bound by too much red tape has encouraged a fluid response to issues. Being in an area of the Local Authority that understands the nature of travel planning and behavioural change is important to give the measure the space to develop and grow.

**Driver 7 – Dedicated and enthusiastic champions** at the establishments have made a difference in travel plan development and implementation. Leadership is crucial to embedding the travel plan into the culture of the establishment. Establishments with lack of leadership have struggled to implement and sustain their plans.

## **D2 Participation of stakeholders**

**Stakeholder 1** – Healthy Norfolk Schools have been an important partner from the outset of the measure. They have worked jointly on the walk and cycle to school promotions. This has been a positive force and has developed over the life of the measure and has resulted in the inclusion of sustainable travel being included in the Healthy School Strategy.

**Stakeholder 2** – The media have been very supportive to the measure with very comprehensive coverage of the majority of our launches and promotions. We have enjoyed the full support and had TV, Radio National and Local newspaper coverage for many of our events.

**Stakeholder 3** – Although a 'bought in resource', sustainable travel businesses have been important contributors to the successful implementation of the measure and have been used by the established steering group or champion to maintain enthusiasm. 'Theatre in Education' Groups and 'Cycle Promotion' Teams have been used to support the travel plan team. Use of sustainable travel specialists has given a professional edge to awards events and promotions, an important factor in the pulse campaigning strategy.



### D3 Recommendations

**Recommendation 1** – The measure could be taken up by other cities. The use of travel plans is an **essential element in developing a sustainable transport strategy for the future**. Travel Plans take a holistic view of sustainable travel. They encourage establishments to take ownership of and address the issues of transport and related health and safety. They provide a process for collecting before and after data that measure actual behaviour change.

**Recommendation 2** – Travel Plans are **site specific and people specific** and give clear guidance from the actual users of what is needed to support sustainable travel from both the infrastructure and the transport facilities. The travel plan is a tool for measuring, managing and minimising the reduction in single occupancy car trips and should be used for all behavioural change, infrastructure and soft measure interventions.

### D4 Future activities relating to the measure

**National Indicators** that link directly to the development, implementation and monitoring of travel plans. The measure will play a key role in delivery of National Indicator 186, per capita reduction in CO2 and National Indicator 188, adapting to climate change. There are a range of additional National Indicators where travel planning will provide a supporting role to the County's delivery and these include improved access to services by public transport, walking and cycling; Young people's participation in positive activities; Reduction in people seriously killed or injured in road accidents and an increase in the percentage of people who feel they can influence decisions in their locality.

**Growth bids** for large residential areas in Norfolk include a request for travel planners and travel plan activity, these travel plans have been secured, with funding, by section 106 agreements with developers and will give the County an opportunity to use the travel planning services to deliver a whole range of travel planning measures across Norfolk.

**A Smarter Travel Choices Strategy** has been developed for Norfolk County Council to improve delivery of sustainable travel information and promotion. This strategy seeks to pull together all the different strands of sustainable travel promotion and initiatives and to lock in benefits of new capital works programmes and initiatives.

**The Sustainable Travel To School Strategy** has been developed to help Norfolk County Council to deliver their school transport obligations and reporting on progress against National Indicator 198. This strategy will also contribute to the new National Target for all schools to be sustainable by 2020.