

Measure title:	Car-pooling (car sharing)				
City:	Norwich	Project:	SMILE	Measure number:	11.4

A Introduction

A1 Objectives

The measure objectives are:

- **Objective 1** To sign up 3 businesses per year over 4 years to the car pooling (car sharing) scheme, either as private groups or preferably the citizens of Norfolk.
- **Objective 2** To re-launch and re-brand an existing car-pooling (car sharing) web tool.

A2 Description

Car pooling is known as car sharing in the UK and for the purposes of this report will be referred to as car sharing.

Definition:

Car sharing is 'When two or more people travelling to the same destination or nearby destination by car, share all or part of the journey'.

This measure has worked with the business community and larger organisations in the Norwich Area to identify which establishments could benefit from setting up a car share scheme.

The establishments with the highest potential to benefit from car sharing have been approached and supported through set up and implementation of car share schemes.

The measure seeks to

1. Contribute to a reduction in local congestion by reducing the number of commuters travelling to the establishments by single occupancy car trips. The reduction in congestion will be measured by the number of car share members within the individual establishments and collectively members of the public group.
2. Contribute to a reduction in environmental pollution measured as a reduction in CO2 emissions. This will be measured by the amount of CO2 saved through the measure implementation.
3. Reduce the number of miles travelled by commuters to get to and from their workplaces.
4. Reduce the cost of commuting by reducing the number of miles travelled by the individual commuters by car sharing to work – measured by miles therefore money saved on travel expenses.

B Measure implementation

B1 Innovative aspects of the measure are:

- **Use of new technology, nationally** – The software provider Liftshare.Com developed car sharing software to reduce commuter traffic. Their main area of work has been to develop the national carshare network which helps individuals to find others travelling the same way so they can travel together.

Liftshare.com is a Norfolk based company and was keen for the local authority Norfolk County Council to adopt their software to use in the local area. Liftshare was selected as the preferred supplier to support the CIVITAS measure. The re branded Norfolk Car Share site is available at www.carsharenorfolk.com.

This CIVITAS measure was among the first to adopt this new technology which was an innovation in car sharing.

- **New organisational arrangements or relationships, regionally** – Part of the project has seen some collaborative work and a joint initiative with Peterborough City Council and Suffolk County Council car share schemes to advertise the three individual car share schemes together in Auto Trader Magazine Green Supplement which has a wide circulation among car owners. The full page colour article on car share has been used in the Green Supplement that features eco driving and 'clean' vehicles (electric, ethanol, biogas).
- **New organisational arrangements or relationships, regionally** – The Highways Agency have been invited to support the project and to co fund car share initiatives at the Broadland Business Park where there are potential burdens placed on the network, this collaboration has not been undertaken before. Some early discussions with the Highways Agency have explored the potential to designate areas of track to 'car share only lanes' to encourage and support the measure. The Highways Agency have also looked into the possibility of temporary road signs to support the measure during special promotional events. A clear message was decided upon 'Share a car, Save money, Reduce CO2'.

B2 Situation before CIVITAS

Car share has existed in an informal way for many years in the UK. In the early 1960's car ownership grew dramatically in the UK as did the development of more roads. With more roads came the development of out of town, car based developments. The necessity for people to travel by car to access modern facilities such as supermarkets, leisure centres and work also increased. Car ownership was still for the privileged minority and offering lifts to friends or colleagues without cars was a common part of the culture and the start of informal car sharing. In the 1970's the process of organising society around the car became acceptable and in the late 1980's car ownership had grown so that just over a third of the adult population owned a car, leading to a rise in single occupancy car journeys and a decline in informal car sharing.

With the turn of the century pressure to reduce the number of single occupancy car journeys has become a key target for central government. Our over-burdened transport network cannot cope with the number of cars. Local congestion, pollution and subsequent health issues are causing a steady rise in the development of 'soft measures' that aim to reduce car usage. 'Soft Measures' are a key feature of most UK Local Transport Plans and measures to encourage more sustainable journeys are

being looked for. Establishments where parking spaces are limited have been trying to implement car reduction schemes such as post code parking (restricted on site parking for employees who live within walking and cycling distance from work) and to encourage informal car sharing.

Car sharing software designed to cut single occupancy car driving existed but take up was limited. No formal car share schemes had been implemented in the CIVITAS area. The majority of organisations left it to individuals to make their own car sharing arrangements as formal car sharing was considered to be outside the scope of an employers responsibility or influence.

There was an official car share scheme running at the local authority but this was in need of re branding. The local authority had no staff with designated car share responsibilities or expertise and there was no budget set aside to market or implement a car share scheme.

B3 Actual implementation of the measure

The measure was implemented in the following stages:

Stage 1 : Time and resource allocated (May 2005 – June 2005) Funding for the re-branding was agreed and ongoing costs of using the software were negotiated with the software supplier.

Stage 2: Update to existing car Share facility, Re-Brand and Re-Launch (May 2005 – June 2006) A professional marketing organisation was appointed to re brand the look of the car share initiative for the Norfolk Public Group. DIVA the appointed company designed a new car share suite of promotional material for both management and users. The website was also re branded and launched at the Royal Norfolk Show in June 2006.

Stage 3: Identified target establishments (May 2005 – September 2006) Organisations with the potential for car sharing were approached. The workplaces with large numbers of employees and a history of on site car parking issues were identified as being the most likely to benefit from a formal car share scheme.

Stage 4: Approached target businesses (September 2005 – November 2007)

The following businesses in the CVITAS area were targeted as establishments suffering with chronic parking issues for both staff and visitors.

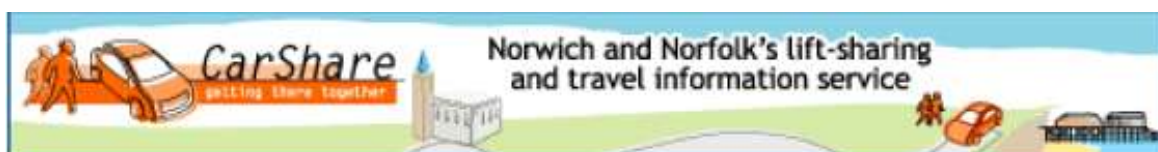
- Norwich City Council (Norwich CC),
- Norfolk County Council (Norfolk CC),
- Norfolk & Norwich Hospital (N&N)
- University Of East Anglia (UEA)
- Norwich Union (NU)
- Norwich City Football Club (NCFC)

Businesses were contacted to set up car share schemes.

Stage 5: Public Groups set up (September 2005 – November 2007) Public groups were set up to increase match rate between members of the private groups. These included the main overarching group for the general public, Norwich Commuters and the Royal Norfolk Show a large Norfolk event that causes serious traffic problems on the road network each year due to the volume of vehicles converging on one site on the outskirts of the CIVITAS area.

Stage 6: Implement Marketing & Campaigning (July 2005 – ongoing through life of project) Some of the organisations held events to launch and promote their schemes supported by the measure leader.

- **Broadland Business Park** held a week long launch supported by radio advertising each day at commuter times. During the week a mobile presentation vehicle toured the interested businesses on the two business parks and offered information and demonstrations of the website giving interested people the opportunity to sign up to the scheme. The vehicle was moved to a different key location each day to ensure that awareness of the launch was not missed by potential car sharers. The presentation vehicle was manned by 4 people each day who ensured that as many people as possible that approached the display unit were made aware of the scheme, how to access it, what it's benefits were and a brief explanation of how it worked. The presentation vehicle was fitted with comfortable sheltered seats with web access so the presenters could demonstrate the on line system in real time. It was essential that these people had a good understanding of the workings, usability and benefits of using the system in order to communicate well to those interested. This included being able to answer the negative questions and comments such as working shifts and having no one living in their area to car share with. In conjunction with the roaming presentation vehicle, there were key sites where displays were set up on the foyer and staff cafeterias of the larger businesses, these displays were manned throughout the day. Homeserve, Bertram Books, Trillium, Circle Anglia, and Lakeside 500 all hosted these displays. Free entry into a prize draw was also offered as an incentive to commuters who signed up to the scheme during the promotion week. All cars on the park were leafleted with the car share flyers and merchandise in the form of car share branded mousemats, stress cars, bugs and pens were distributed to those taking an interest.



- **Norfolk County Council** held promotion events during Green Transport Week offering free entry into a prize draw. The Council also operated a pledge scheme giving free entry into a prize draw for commuters making sustainable travel pledges.
- **Norwich City College** held a Green Travel Day and staff were on hand to offer advise and demonstrate the car share web site to interested commuters. The college also ran a pledge tree initiative and gave out car share branded merchandise to commuters signing up to the General Public Group.
- **University Of East Anglia** held several promotion events coordinated by the personal travel plan adviser. This involved giving out information to interested commuters and giving prizes for those signing up to the car share scheme. It was

important to answer concerns for personal safety raised to reduce the concerns for personal safety which were cited as the main barrier to joining the scheme.

- The scheme for the **Drayton & Taverham Commuters** was launched during National Liftshare Day on 14 June 2007. The car share brochures and flyers were given out to all potential car sharers through the six Taverham and Drayton Schools. The event attracted media attention from both TV and radio stations and enjoyed free advertising of the initiative through local newspapers. Advice and resource was also taken to the 'Taverham Green Christmas Fayre' to encourage commuters to sign up to the scheme.

Stage 7: Schools approached to pilot different approaches to car sharing. (May 2006 – May 2008) Notre Dame a large faith school in the CIVITAS area with a wide catchment of pupils accessing the school from all over Norfolk was approached to trial a school version of car sharing at www.schoolrun.org the school had developed a travel plan and the mode of travel survey showed a high potential for car sharing to school. The school was offered a discounted rate to try an online car share scheme called 'School Run'. Cluster schools in the CIVITAS area were offered the chance to encourage parents to car share from the school to workplaces in Norwich. Another school cluster in the CIVITAS area is piloting a big promotion of car sharing with large area maps and flyers promoting car share at parents evenings.

Stage 8: Barriers to car sharing (May 2005 - June 2008) Staff concerned about the safety of car sharing were directed to the information on the website:-

How can people be guaranteed their safety?

All Liftshare schemes offer a complete section on the safety of car sharing and can be found in the Safety section of your schemes web site. It is recommended that any sharer meets their potential match in a public place prior to sharing, that they inform friends, colleagues and family who they are sharing with and that they check ID before sharing.

The Liftshare system does allow members to specify the type of person that they wish to car share with, for example, a female only wishing to share with another female, a non-smoker with a non-smoker etc.

What if a member has a bad experience with a car share?

Make it known that this is very rare. Any bad experience should be reported to the scheme car share manager who can then in turn deal with the situation in a reasonable manner.

Is there any liability on behalf of my organisation if something happens to an employee whilst sharing?

The Liftshare scheme is solely a matching service. Any safety precautions must be taken by the sharer themselves although basic safety advice is available from the website. Liftshare's Terms & Conditions clearly state that Liftshare or its schemes takes no liability for damages. Please see Terms & Conditions document.

What happens if having met a potential sharer, a member is not happy to share?

A member is under no obligation to share a journey once they have found a potential match. At any point a member can change their mind.

What if a car share arrangement fails?

For Private Group schemes, consider offering a Guaranteed Ride Home scheme for your colleagues.

B4 Deviations from the original plan

The deviations from the original plan comprised:

Deviation 1 Target group expanded to include organisations working on travel plans.

As the original businesses struggled with membership numbers and take up of car sharing schemes remained stubbornly low organisations developing travel plans were offered the opportunity to develop car share schemes as a measure within their travel plan. The following organisations have set up car share schemes.

- Broadland Business Park (BBP)
- May Gurney (MG)
- Drayton & Taverham Commuters
- Independent Schools Cluster

Deviation 2 Change of target business.

One of the original target businesses withdrew from the car share scheme at Broadland Business Park due to relationship issues with Liftshare the service provider. The Norwich Union who were the largest commercial employer on the business park following a car share pilot decided to implement their own National Car Share scheme with JamBusters another UK car share software provider. Norwich Union are currently in negotiations with JamBusters to develop bespoke Norwich Union software for all their car sharing requirements and as a consequence were unable to participate in the car share launch at Broadland Business Park. It was decided to include St Andrews Business Park in the launch to compensate for the drop in potential car share numbers that could impact on the viability of the scheme.

Deviation 3 Change of arrangement with supplier of car share software.

The original arrangement between Norfolk County Council and Liftshare.com featured the ability to set up additional private groups under the main public group free of charge. This arrangement was changed by Liftshare without prior negotiation or consultation with Norfolk County Council. When the decision to charge for the private groups was challenged by Norfolk County Council Liftshare insisted that the new charges were justified in light of the upgrades and improvements to the website. As the original agreement was not binding the new terms were implemented and there was little Norfolk County Council could do about this.

B5 Inter-relationships with other measures

The measure is related to other measures as follows:

- **Measure 11.3** - Travel Planning. Car sharing is a measure within a travel plan. Car share schemes that are introduced as part of a travel plan will have the advantage of being part of a wide range of measures and stand a better chance of being properly resourced, promoted and monitored. The travel plan measure has

been implemented from within the same team implementing the car share measure so there has been a natural cross over of activities.

- **Measure 9.2** - Developing a Car Sharing Club (City Car Club) The potential for car sharers to join car clubs is very high with 63% of car club members selling their private car and 43% increasing their use of public transport and sustainable travel modes. People who have positive experiences of car sharing to work generally start to use their cars less. It is this behavioural change to car sharing that can lead people to explore the possibility of living without a car and the next stage change to joining a car club. Car share schemes can be supported by car clubs at work so that employees who need to drive as part of their job do not have to own or bring a car to work. The city car club have been given contact details of all the workplaces who have developed car share schemes. City Car Club gave a presentation to the business network group at the Broadland Business Park to progress this link with car sharing.

C Evaluation – methodology and results

C1 Measurement methodology

C1.1 Impacts and Indicators

Detailed description of the indicator methodologies:

- **Indicator 1 (Number of members in group)** – Potential car sharers register on the site and complete their personal, travel and journey details. These are saved under the group they have elected to join. The figures in indicator 1 are the tallied number of members for each group. The figure for the general group includes the total number of members in the other 12 groups plus additional members who do not belong to any of the groups.
- **Indicator 2 (CO2 saved)** also Guard indicator 8 – This indicator is an estimate of the amount of CO2 that has been saved as a result of the members' registered shared journeys. The indicator is the sum of all the saved journeys from the individual group members and which totals the calculated CO2 emissions from the saved single occupancy journeys. This indicator can only be an estimate as it is based on the number of miles not travelled in a particular vehicle.
- **Indicator 3 (Miles Saved)** – This indicator is the estimated number of miles that have been saved by the single occupancy car journeys that have not been travelled due to registered car sharing journeys. This means that the journey would have been travelled had the driver chosen not to car share. The miles saved indicator is an estimate of the total number of miles saved for each group.
- **Indicator 4 (Money saved)** – This indicator is a calculation of money that has been saved by the car sharing individuals. By removing the single occupancy car journey the consumption of fuel for that journey has not occurred. The estimated cost of that journey is the financial saving to the individual. This calculation is based on the current fuel prices and consumption for the particular vehicle. The financial saving to the individual is an estimate. All money saved is totalled for each of the groups.

NB Indicators 2,3 and 4 take account of the previous mode of travel, which may not be car.

C1.2 Establishing a Baseline

Baseline data of previous mode of travel used has been collected by all the car share members. This is gathered from all the commuters as they enrol on the website. The table shows previous mode of travel for the 2164 registered car sharers and gives an accurate baseline.

Fig.1 Previous Mode of travel

Previous Mode of Travel used for the car share trips registered					
Drive alone	Give a lift	Get a lift	Bus	Train	Other
76%	3%	1%	8%	7%	5%
1646	65	21	173	151	108

C1.3 Building the business-as-usual scenario

For the purposes of this evaluation Victoria House a business in the centre of the CIVITAS area has been used to illustrate this scenario. Staff travel to work surveys were undertaken in 2002 and again in 2007. Victoria House surveyed approximately 300 members of staff, representing one third of their work force. The business shares similar parking issues with other city centre organisations and shares similar access to public transport. In 2002 21.9% of their staff normally car shared to work. When resurveyed five years later this had dropped by 0.7% to 21.2% in 2007 and can be used as a business as usual scenario.

It can be assumed that a proportion of commuter travel is undertaken by informal car sharing and that this level might stay fairly consistent over a period of five years if no promotion of car sharing or official scheme is adopted.

C2 Measure results

Following the rebranding of the car share norfolk website see www.carsharenorfolk.com car sharing 12 car sharing schemes were set up.

The following table lists the car share schemes that have been set up for the measure. The information has been populated from the car share tool, figures calculated from the information collected by the individual commuters. The commuters become members of the car share scheme when they register their personal details. When their journey is matched with another member their activity contributes to the data used to evaluate the measure.

No data was available for the two new establishments at the point of evaluation but the scheme will be monitored and evaluated for the establishments post submission.

The table shows 0 where indicator entries fall below lowest common denominator.

Fig.3 Table showing data collected for the period Sep 2005 – May 2008

	Impact	Indicator 1	Indicator 3	Indicator 3	Indicator 2	Indicator 4
		Members (approx pot. members)	miles saved	km saved p.a.	tonnes CO2 p.a.	£ saved
1	Broadland Business Park	38 (2000)	3,721	5,954	0.99	£852
2	Drayton & Taverham Cluster	4 (unlimited)	0	0	0.00	£0
3	N&N Hospital	179 (3000)	65,036	104,058	17.27	£14,888
4	Norfolk County Council	206 (2000)	100,656	161,050	26.73	£23,041
5	Norwich City Council	17 (700)	0	0	0.00	£0
6	Norwich Commuters Club	130 (unlimited)	101,723	162,757	27.02	£23,286
7	Norwich City Football Club	26 (unlimited)	5,416	8,666	1.44	£1,240
8	Norwich Independent Schools	New 08	-	-	-	-
9	Norwich Union (Pilot)	26 (1000)	22,846	36,554	6.07	£5,230
10	Royal Norfolk Show	14 (unlimited)	663	1060.8	0.18	£152
11	University East Anglia	287 (30,000)	101,414	162,262	26.94	£23,215
12	May Gurney	New 08	-	-	-	-
13	Private Groups	927	401475	642360	106.63	£91,902
14	General Public Group	1240	592215	947544	157.29	£135,565
15	Total	2167 (unlimited)	1,395,165	2,232,264	371	£319,370

Notes:

Miles saved (with the current level of sharing) = (total annual mileage of all journeys/2) X (number of matched journeys/number of journeys)

Tonnes of CO₂ is saved based on an average vehicle emission of 166g/km (see also measures 7.2 and 11.3)

Money (£) saved based on average 7.53 litres per 100 km fuel consumption (see also measures 7.2 and 11.3) and average fuel price per litre of £1.90.

The results are presented under sub headings corresponding to the areas used for indicators – economy, energy, environment, society and transport. The figures take into consideration the previous mode of travel as these have an impact on the results.

There have been no major external factors impacting on the results as the political and economic climate have been stable throughout the measure implementation.

The data has been collected and collated electronically and has been verified by the National Lift share system

C2.1 Economy

The table above gives an indication of the amount of money saved during the project on fuel and car running costs (including average maintenance, tax and insurance) by the members of the formal car share schemes. Collectively the members of the private groups saved £183,805 and £135,565 was saved by the public group. These figures represent the estimated amount of money saved on fuel and car running costs from the members' registered journeys. By not undertaking the single occupancy car journeys and replacing this journey with a car shared journey the members saved fuel and the running costs of a single occupancy vehicle. The total saved by this car sharing measure is £319,370 these figures have been calculated by the on line car share tool and taken from the live statistics of the groups on the car share site at www.carsharenorfolk.com the calculations are based on the formula devised by the UK's leading car share company Liftshare.

Savings made by the workplaces were an incentive for establishments considering implementing a car share scheme. The cost of implementation (including employing someone to run promotions and marketing and providing resources and incentive schemes could be off set by reducing the car parking spaces at the establishment. The annual cost of each parking space varies widely from typically £500 to £3000 a year. Although the establishments in the project did not close any of their parking spaces the potential to do so was noted and would be the aim of any car share scheme.

Administrators typically spend 30 minutes/week looking after their system for every 20 parking spaces their organisation has. The cost of an administrator is typically £10/hour.

The costs for setting up and licensing a private liftshare system start from £500/year. The costs of incentivising car sharing vary widely but an average would be £200 per 20 spaces per year. (This includes things like offering guaranteed ride home, reserved parking space, monthly prize draw). The costs of marketing car sharing should relate to the total number of parking spaces. Marketing material should typically cost £200 per 20 parking spaces.

C2.2 Energy

The table above also indicates the fuel savings delivered by the measure. The individual members of the car share group register their journey that they wish to share. When the journey is matched with a car share partner the saved energy of the changed journey is calculated. The private groups saved fuel on 802,950 miles being driven and 592,215 miles were saved by the public group.

The collective saving for the whole car share scheme is 1,395,165 miles. This is an estimate of the number of miles saved by sharing the registered journey and not travelling by single occupancy vehicle. These figures have been calculated by the on line car share tool and taken from the live statistics of the groups on the car share site at www.carsharenorfolk.com the calculations are based on the formula devised by the UK's leading car share company Liftshare. This takes into account a business as usual effect from a UK perspective and not the calculations from C1.3 above.

C2.3 Environment

The measure implementation has saved a total of 371 tonnes of CO2 with 213.7 tonnes from the private groups and 157.3 tonnes saved by the public group. These figures have been calculated by the on line car share tool and taken from the live statistics of the groups on the car share site at www.carsharenorfolk.com the calculations are based on the formula devised by the UK's leading car share company Liftshare.

C2.4 Transport

With 76% of the commuting car sharers previously travelling by single occupancy cars it can be claimed that approximately the CIVITAS measure implementation has removed 1647 single occupancy cars from the network at peak times. This contributes to the reduction in congestion and reduces a significant burden on the road infrastructure and car parking at establishments. These figures have been calculated from the registered journeys that have been matched with car share partners. The calculator tool is built into the online car share system and based on the formula devised by the UK's leading car share company Liftshare.

C2.5 Society

From surveys undertaken at the following workplaces some qualitative data has been extracted to illustrate further measure outcomes.

Norwich Union who have promoted informal car sharing and promoted and piloted a formal car share scheme. They increased car sharing by 2% modal shift points from their baseline in 2004 of 8% to 10% car sharing in 2008.

Similar carshare survey questions were asked of Norfolk County Council staff and the results showed that although car sharing for usual commutes to work had stayed at 4% from 2004 to 2008 the 2008 surveys showed that 23% of the staff occasionally car shared to work which represented an increase of 8% from the 2004 baseline of 15%.

Attitudinal car share surveys carried out at Norfolk County Council in 2008 with 1300 members of staff produced the following results.

These questions are based on the concerns raised by citizens during face to face promotions of the car share scheme at the individual sites. Sharing with a stranger was the only safety concern raised during these interviews.

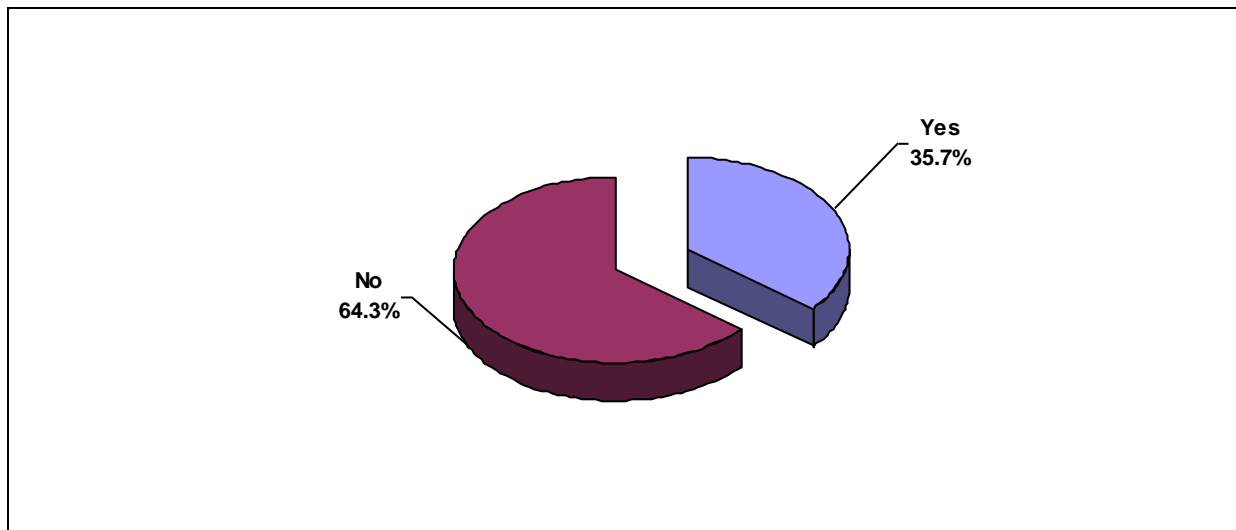
Fig.4

If you have not considered car sharing to/from work is there a particular reason?	
I have do considered car share	14%
Family responsibilities prevent it	15%
Inconvenience outways benefits	24%
Don't want to share with stranger	6%
Difficulty with work hours	23%
Unlikely to find co sharer where I live	13.5%
Unaware of NCC car share scheme	2.5%
No idea what car sharing is	0%

If you do car share to work what motivated you to do so?	
Car share at work made easy	1%
Difficulties with parking at work	16%
Environmental concerns	15%
Was easy as co-sharer lived near by	25%
Like being driven sometimes	8%
Reduced motoring costs	23%
Other	12%

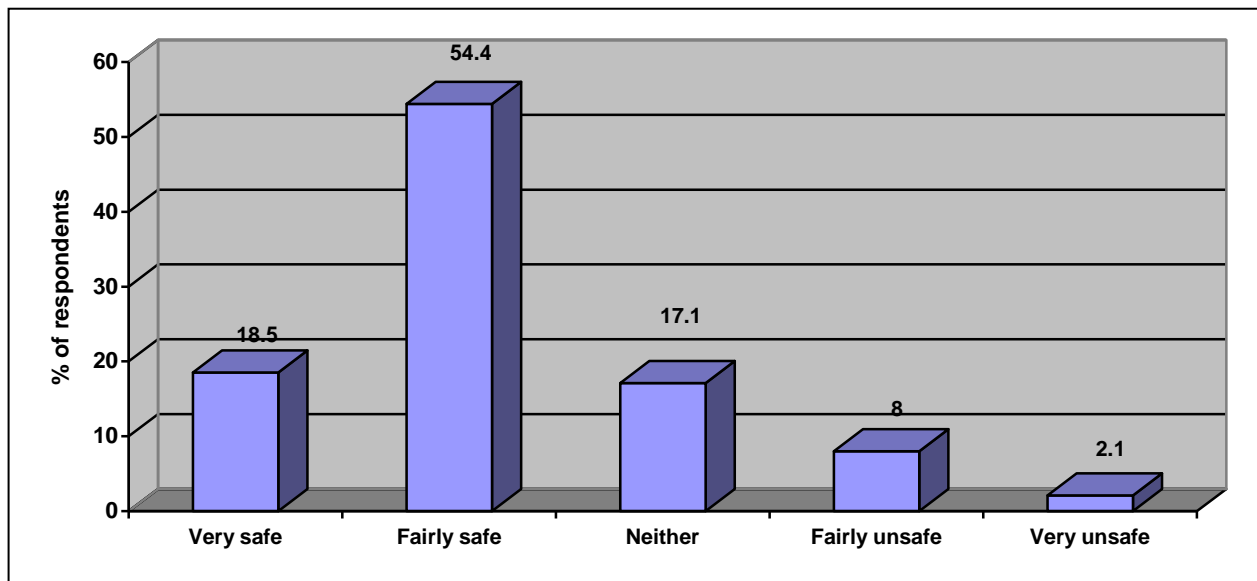
Telephone surveys were also undertaken in the CIVITAS area (The urban area of Norwich) giving the following results

Fig.5 Have you heard of any car sharing scheme in Norwich? Valid respondents 805



The following question was asked to respondents who had heard of the car share scheme in Norwich

Fig.6 How safe do you feel car sharing is as a form of transport? Valid Respondents 287



Members of the car share scheme are anonymous so they are not included in this data set as it is the results from a random telephone survey.

Some experience of the car share scheme is going to be collected from the individual private groups in their travel plan annual surveys which will take place in April 2009 for the first time, too late for the purposes of this evaluation.

C3 Achievement of quantifiable targets

Fig.2

No.	Target	Rating
1	To re-launch and re-brand an existing car-pooling web tool	**
2	To sign up 3 businesses per year over 4 years to the car sharing scheme, either as private or public group members.	**
NA = Not achieved 0 = Not achieved * = Substantially achieved (at least 50%) ** = Achieved in full *** = Exceeded		

C4 Up-scaling of the results

C4.1 Up-scaling of results locally

The measure set up 14 schemes, with 2167 members saving an estimated 371 tonnes of CO2 by a reduction in 1,395,165 commuter miles and removing 1646 vehicles from peak time traffic. Offering the same type of scheme across Norfolk to establishments developing travel plans or establishments with car parking issues could potentially have the same impact. With potentially each scheme averaging 180 members (based on the average take up of the scheme within an average organisation in the measure).

It is assumed that with the same amount of activity at the measure organisations the upscaled results with the top 100 employers in Norfolk could see members of the Norfolk public group increase to 18,000. With the upscaling of this measure the associated reductions in congestion and environmental pollution would be significant. It is assumed that the uptake will be similar as the establishments are all Norfolk based and the schemes would target the daily commuters in a similar way.

Reduction in 2,500 tonnes of carbon and 13,700 fewer cars on the road at peak times is something to be seriously considered. These calculations are based on the schemes that have been set up through this measure. The potential for schemes to deliver higher rates of reductions in pollution and congestion would depend on the improved measure implementation, marketing techniques and including eco driving tips and training for all car share members, or free membership of a car club etc.

From the attitudinal research it is clear that saving money is a big motivation for car sharers and campaigns with greater emphasis placed on the savings could be more effective.

C4.2 Upscaling of results Nationally

45% of UK workers would be more likely to work for an employer who offered an easy-to-use car sharing system, according to research published by internet job site reed.co.uk.

Currently although transport problems cost British business £5 billion a year in lost productivity, only 5% share a car to work, according to research by reed.co.uk published on 2008. This new study surveyed over 3,000 people, and reveals that if reliable arrangements were arranged by employers nine times as many individuals would use car share systems.

This could mean up to 4.7million less cars on British roads on a daily basis, 16% of the total registered in the UK. Reduced congestion would in turn lessen lateness and transport stress, as well as reducing petrol consumption.

C5 Appraisal of evaluation approach

The evaluation was straight forward and there were no complications. The data from the car share tool made the data collection simple and straightforward and provided a solid base for evaluation.

The areas to be evaluated had been clear from the onset so they were built into the data collection tool. This method of evaluation is recommended for future measures.

C6 Summary of evaluation results

The key results are as follows:

Key result 1 – Raised public awareness and improved perceptions of car sharing by dispelling some of the car share myths and barriers to car sharing particularly perceptions of safety among the general public. The public survey carried out in the CIVITAS area (The Norwich urban area) showed that over one third (35.7%) of 805 respondents had heard of the car sharing scheme in Norwich. One respondent in fifty (2.1%) knew the car sharing scheme was called 'CarShareNorfolk.com', nine tenths (91.6%) said they did not know what it was called and just over one in sixteen (6.3%) thought it was called something else. Over seven tenths (72.9%) of respondents felt car sharing was either a very safe (18.5%) or a fairly safe (54.4%) form of transport, whilst just one tenth (10.1%) felt it was either very unsafe (2.1%) or fairly unsafe (8.0%).

Key result 2 - Modal shift outcomes were positive with sites contributing to the move away from single occupancy car trips.

Key result 3 – The measure implementation has saved a total of 371 tonnes of CO₂. Reduction in miles travelled on the roads by the commuters was 1,395,165 miles contributing to reduced congestion. Total amount of money saved by the citizens who were members of the car share scheme was £319,370.

D Lessons learned

D1 Barriers and drivers

D1.1 Barriers

- **Barrier 1** – Driver psychology. There is a definite reluctance for people to use the internet to find co sharers. Some of this reluctance is based on a genuine fear for personal safety unresolved by safety precaution information. Some is to do with personal inconvenience and a fear of losing independence. People value their independence and enjoy the personal freedom to come and go as they please. Having to change a routine to fit in with another can be very challenging. There is also a social barrier and fear that any potential co sharer could turn out to be incompatible and that ending the car share arrangement could be awkward.

- **Barrier 2** – Lack of integration with other modes has also been a barrier, car sharing as a stand alone solution closes down the options for people to mix and match their sustainable travel modes. People who live within walking or cycling distance of a potential car sharer have not been catered for and this is narrowing down the potential for car sharing. The ability to have car share pick up points at bus and train stations and bus stops would widen the field of potential car sharers.

- **Barrier 4** – Where there is ample free car parking at workplaces and where there is no pressure on parking staff are not motivated to car share.
- **Barrier 5** - Essential car use and the need to use cars during the working day is often cited as a barrier to car sharing. This can be resolved by having cars and bicycles available for staff to use during the day.
- **D1.1.1 Barriers for Management**
 - **Barrier 6** – Smaller businesses do not have enough staff to form a critical mass of potential car sharers. Area car share schemes can overcome this barrier but staff are reluctant to share with people from other organisations as they are concerned that they will not know the potential car sharers.
 - **Barrier 7** – Negative inter modal shift could be a barrier in locations that rely on public transport to ferry staff from outlying villages, removal of a service due to a drop in patronage could have devastating effect on rural locations who rely on numbers to maintain a public transport service. Staff changing from walking and cycling to car sharing is another barrier, with targets to improve health and fitness in both children and adults some organisations are reluctant to endorse car initiatives through concern that car sharing will detract from the health agenda.
 - **Barrier 8** – Lack of financial support and commitment to the car share scheme from senior management is a key barrier. Car share schemes need to be fully resourced to support marketing, allocating priority car share spaces and providing incentives to staff and rewards to those who do is all part of overcoming the barriers to car sharing. Knowing that senior management are leading by example sends a positive message to staff and shows management endorsement for the scheme. Where this does not happen it is a huge barrier.

D1.2 Drivers

- **Driver 1** – Recent rising fuel prices have been a boost to car share numbers. As the cost of motoring increases people who have not previously considered car sharing are tempted to explore this possibility.
- **Driver 2** – Management support for car sharing has been very high in most cases, but support for the initiative is not enough. The CIVITAS initiative has been able to attract some additional active implementation by putting resource and funding behind it.
- **Driver 3** - Part of a wider spectrum of travel options. Where car share schemes have been promoted alongside other modes of sustainable travel the concept of car sharing is more acceptable. It is seen as part of the range of environmentally friendly or healthy options and widens the appeal. It also encourages flexibility as car sharing can be seen as something that is undertaken occasionally when it is convenient and not a huge undertaking that is inflexible and difficult to get out of.
- **Driver 4** – Parking issues and restricted on site parking is the most effective driver. Where businesses are struggling to reduce the number of cars due to reduced or overloaded car parking, measures to manage the parking through charges or non parking days have seen more interest in car sharing and a bigger commitment from management to support and resource the initiative.

D2 Participation of stakeholders

- **Stakeholder 1** – Liftshare.com, the measure has used the software supplied by Liftshare.Com. There has been little involvement with the measure implementation beyond supplying the software. A marketing booklet has been supplied to the individual sites by Liftshare but no participation in any of the public facing promotion events has been undertaken. There has been no support or expert advice from the suppliers for the companies to help establish their car share schemes.
- **Stakeholder 2** – Carbon Connections, a private profit making organisation is a HEIF-funded investment project utilising £3 million for carbon reduction activities. Based at UEA, Carbon Connections supports innovative projects in carbon reduction using partnership model. The aim is to facilitate knowledge transfer between universities and research laboratories and the business community to speed commercial development of carbon savings projects, whether technological or behavioural in focus. The Carbon Connections car share project has used survey data and research from this measure to try to establish the business case for car sharing. The project with other stakeholders:- University Of East Anglia, CRED, Norfolk County Council, The Open Universty, Norwich Union and Liftshare.com hopes to make the business case for car sharing and provide statistical data to support the benefits of car sharing. The group meet regularly to exchange and develop the project strategy.

D3 Recommendations

- **Recommendation 1** – To continue promotion of the public Norfolk Car Share scheme through ongoing publicity. To establish a rolling programme of supported campaigning highlighting the personal financial savings. Hold regular champion training events to include specific focus on car share marketing and promotions. Feature access to Personal Travel Advisers in all travel plans to deliver behavioural change.
- **Recommendation 2** – To continue to offer car share as public or private groups to all travel plan establishments, including residential developments where car clubs will also be set up for new residents who are being accommodated in housing with limited car parking. To ensure that budgets for all travel plan initiatives are secured to ensure implementation.
- **Recommendation 3** – To explore innovative ways to integrate car sharing into other areas of business travel and to promote this effectively. To ensure that Eco driving and access to car clubs are part of any car share package.
- **Recommendation 4** – The car share measure is worth while and could easily be taken up by other cities. Car share schemes need to be pro actively implemented by the establishments who need to take responsibility and ownership of the scheme and find ways to increase membership. The success of any scheme relies on critical mass and it is important to run promotions for the scheme on a regular basis to ensure that schemes attract new members to replace people who have moved away and to attract people who may have a change in circumstance or become interested in the car share scheme.

D4 Future activities relating to the measure

As part of the Local Area Agreement Norfolk County Council has selected a range of 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. Implementation of the measure has established that car sharing can be monitored more effectively if it is part of a travel plan that promotes other modes of travel and supports a car park management strategy.

Growth bids for large residential areas in Norfolk include a request for travel plan and measures that include car share schemes. 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 car share schemes.

A Smarter 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 provides an overarching strategy for the future of this measure.

The government sees corporate social responsibility as the business contribution to sustainable development goals. All businesses will be encouraged to demonstrate accountability of their economic, social and environmental impact. Adoption of a car share scheme will mitigate their environmental impact and reduce issues with employee and customer access, congestion, air pollution and CO2 emissions, addressing both its own competitive interests and the interests of wider society.