



Car Clubs in New Developments

A review of experience and good practice in low car and car free developments (2003-2014)

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Executive Summary

This report provides a review of good practice and the experiences of key local authorities in implementing car free and low car developments over the ten-year period 2003-2014.

Summary of policy benefits of car clubs

The policy benefits of car clubs fall within five main areas:

- Reducing traffic impacts
- Reducing parking pressure
- Promoting modal shift and supporting broader transport objectives
- Enabling more intensive (and profitable) developments
- Improving the urban environment.

Key findings

Success factors

Car clubs are more likely to be successfully established within a development (or in a neighbourhood adjacent to a development) if consideration is given early enough in the planning process to its viability as a location. In evaluating this, there are several key factors which help to identify where car clubs might be successfully established in new developments. These include: population density, PTAL rating and availability of public transport, parking constraints, car ownership levels and other cultural and socioeconomic/demographic characteristics.

Roles of different actors in achieving success: developers, local authorities and operators

Generally, developers only consider including or funding car clubs where required to by a planning authority – however exceptions occur in cases where having a car club has been viewed as beneficial by a developer (even though it has not been mandated by the local authority). Firstly, it may be seen as beneficial because it increases the likelihood of gaining planning permission, with the given level of off-street parking. The second benefit arises from an assumption that the car club makes the development more saleable - because the target occupants are perceived to hold driving licenses but do not necessarily own cars.

Local authorities have been fundamental in the transition from ‘third sector’ pioneer car clubs to the involvement of both commercial organisations and social enterprises in expansion of the car club (or car sharing) sector. Local authorities have several key roles with respect to car clubs in developments:

- Creating the regulatory framework that requires a car club as part of S106 (S75 Scotland) agreement;
- Ensuring that the details of specific planning agreements are negotiated and delivered;
- Raising awareness and promotion of car clubs through sustainable travel awareness campaigns (in partnership with car club operators); and
- Enabling or facilitating any works to be undertaken on the public highway, notably the provision of on-street parking bays.

The attitudes and behaviour of operators show broadly similar approaches to judging commercial viability of locations and target groups, but not identical. As in all organisations, attitudes are likely

to reflect specific personnel as well as the developing experience of the organisation. However, in some cases operators have been willing to move into locations which another operator has vacated. Operators are a source of expertise and where local authorities have limited experience, working in partnership with operators can help to avoid basic errors (see case study of Cheswick Village, South Gloucestershire).

Role of planning and highway management tools: CPZs, residents' permits and graduated car club provision

A key factor in ensuring that car clubs are an appropriate addition, as well as attracting to a development the kind of occupants that are likely to use the car club, will be the local policy on parking provision and how it is delivered. In some cases, particular planning conditions can minimise the likelihood of more intensive car ownership than planned. Whether a new development is associated with greater parking problems is often a subjective debate: national or neighbourhood level statistics may or may not have relevance for specific sites, and it may only need a small number of vehicles to 'tip' a street from having adequate to inadequate parking capacity for the demand. Therefore, planning agreements may seek to control the future car ownership and parking behaviour of residents.

Many developments involving car clubs are delivered within Controlled Parking Zones (CPZs) or Residents Parking Areas (RPAs). The CPZ will generally exist in order to balance parking supply and demand, or restrain demand for traffic management reasons, or some combination of the two. However, some car clubs operate outside CPZs. Therefore, providing that the demand for car use without ownership is present and there are not problems with agreements being undermined due to occupants owning more cars than was intended, then a CPZ is not essential.

Planning agreements involving car clubs need, by design and communication, to be as resilient to future scrutiny as possible. There are examples in which actors may seek to have planning conditions removed. For example, the eligibility of residents of a development in New Church Road, Brighton and Hove for residents' parking permits was questioned, alongside a desire to see on-development car club bays removed¹. Similar concerns were raised in Ealing. A specific debate about the availability of parking permits for residents has been seen in Brighton and elsewhere. Restricting on-street permits to residents of new developments often arises as a result of a perceived parking shortfall in the area of the planned development. This issue is explored further in the case studies presented as part of this report.

As in the case of those factors that make car clubs relevant for new developments, there is no one set of regulations and conditions that are associated with successful car club operation. Some level of demand-over-supply parking pressure is likely to pre-exist in the locality or a car club is unlikely to be under consideration as part of the development. Sometimes unintended consequences (such as vehicles being acquired and parked in neighbouring streets) will emerge as the occupation of a development grows. Given the scale of future occupants and changing local conditions, it is not always possible for the car club to attract enough recruits to avoid this happening.

¹ Initially residents of the development were not able to apply for parking permits, however, after lobbying by residents, this condition was relaxed in 2015.

Role of incentive tools

In negotiating directly with developers or through conditions laid down in planning agreements, there is often the need for incentives to ensure early take-up of car club cars located on site – particularly in a development with very few residents. The measures used as incentives are designed to encourage residents to try out the car club and are usually in the form of free membership or drive time. The use of incentives may generate levels of demand which are not sustained beyond the timespan of the incentive. There is a risk that sudden withdrawal of incentives will leave a car club operator with an abrupt change in commercial viability. Ideally incentives should be designed to be withdrawn gradually, enabling a transitional management, for example, with efforts being put into signing up members beyond a development boundary in order to make the location sustainable.

Summary of conclusions

1. Car clubs can help to expand opportunities for developers to bring forward land in cities which otherwise might not have been commercially viable by:
 - a) Facilitating planning permission in high density developments that have insufficient land for parking or would need to build underground parking at high cost; and/or
 - b) Helping to achieve planning permission for developments with limited off street space for car parking in high/medium density urban areas.
2. With the growth of the sharing economy and introduction of one-way car sharing (DriveNow and GoDrive in London), developers plan for future consumers who do not aspire to or cannot afford car ownership. Car clubs will have an important role to play in offering a package of mobility options to new residents that do not already own a car and help them to maintain/continue to lead a car ownership free lifestyle.
3. Car clubs can help to fulfil local authority policies on congestion/traffic reduction, air quality and carbon reduction by tackling car dependency and ownership.
4. Promoting car clubs in development sites can help operators to expand the network in areas where the car club already exists and development is within or close to their existing area of coverage. In some circumstances car clubs in development sites on the edge of areas considered viable by car club operators, may over time help to expand the area of viable car club operation.
5. Introducing car club bays into development sites can free up space within the site that can then be used as additional amenity or play space.

1. Introduction

Overview of developer research

Low car or car free developments have secured planning approval in some locations through being allowed to offset the lack of parking with complimentary travel alternatives. As part of a strategy to improve access to public transport and encourage walking and cycling, residents and neighbours are provided access to shared cars (car clubs) recognizing that use of a car “from time to time” has become a part of urban living for many people. This report sets out an assessment of this approach.

As well as reviewing literature on this topic, we have researched and assessed experience from over a decade of delivering car clubs in 7 local planning authorities (LPAs) and in more detail in 11 new developments. These are developed as 18 case studies, which form the appendices to this report. The structure of this document is as follows:

- **Chapter 2** outlines the purpose of this report.
- Our methodology is described in **Chapter 3**.
- We have examined the extent to which car clubs in new developments deliver sustainable transport policies and the lessons to be learned from that experience. The evidence of car club’s contribution to sustainable transport is outlined in **Chapter 4**.
- **Chapter 5** outlines the policy benefits of car clubs.
- As a result of the discussion in chapters 5 and 6 we suggest how these lessons can be applied in the future to secure successful “low-car” development in **Chapter 6**.
- **Chapter 7** identifies specific design issues.
- The policy impacts of car clubs in new developments are discussed in **Chapter 8**.
- **Chapter 9** presents the conclusions of this report and makes recommendations for further research.

By providing access to a range of transport options as an alternative to on-site parking this policy attempts to influence the travel choices of residents and, in a few mixed developments, of employees. In some developments and in some cities we found examples where this appeared to be working well but it was not the aim of this study to quantify the impact on travel behaviour.

From the standpoint of developers, the placing of car club cars in (or on-street close to) property developments has reduced pressures for car parking spaces, permitted developments in high density areas with limited land for parking and in some cases increased the density of developments in the use of the available land. These issues are discussed in further detail in **Chapter 8**.

We do not know the level of cost savings resulting from the inclusion of car clubs in new developments (e.g. using land that would otherwise have been used for car parking) although in some cases the reduced parking requirement has been used to provide additional units of accommodation and/or amenity space, which is a valuable addition for either the developer or for residents.

We have reviewed the factors that affect the feasibility and success of such developments. These include the nature, scale, density and location of development (e.g. in relation to a range of transport options and availability of local services) where providing access to a car club car or cars will be viable once occupied.

We have also looked at the respective roles of the developer, the Local Authority (LA) and the car club operator in delivering successful car club and have discussed the policy implications in **Chapter 9**.

We have identified the planning tools, especially planning conditions, supplementary planning guidance (SPG) and planning agreements that have been used by LPAs. In the implementation of S106 (and S75 Scotland) agreements, we have looked at good practice in respect of financial arrangements and tariffs set by LPAs to fund the key elements of successful schemes. We have also identified the elements that contribute to the establishment of a successful implementation plan.

Finally, we are aware from research undertaken by Carplus of the potential benefits of carbon reduction and improved air quality from replacing private cars with car club cars. This is an important policy benefit that has only been calculated on a city basis. The policy benefits of car clubs are discussed in **Chapter 6**.

Why is this research important?

We need to maximise the potential of new development to reduce car dependency in the future. There is some evidence² from past practice that car clubs can reduce the traffic generation of new developments and increase the use of sustainable modes of travel by their occupants, as well as improving the use of land for development.

There is also some evidence that failures in the local application of policy and detailed implementation have led to the car club (where a car club is part of the “low-car” solution) not realising its potential and/or not helping to popularise the concept in the immediate locality.

Carplus produced a good practice guide in 2001, which was updated in 2010 and 2015³. In 2016 it will be further updated with the recent, independently researched case studies included in this study to provide evidence of what has worked in practice.

² Ball, C., Best, W., Ray, A., Seasman, A. (2001). *Achieving low car housing: the role of car clubs. A good practice guide for planners and developers*. Produced for the Regional Assembly for Yorkshire and Humberside

³ Carplus Trust (2010) *Car Clubs in Property Developments: A Practical Guide to Car Club Development*, Carplus Trust, Leeds, November, 2010 and Carplus Trust (2015) *Car Clubs in Property Developments, Carplus Good Practice Guidance*.

2. Purpose of this report

This report has been prepared primarily for those involved in the development process, to provide good practice as well as lessons learned from past developments. It also identifies some of the pitfalls to avoid and how these can be avoided.

The report aims to establish:

- The actions and factors that are needed to secure the potential advantages of including a car club in the development;
- Where a car club will be viable; and
- How the inclusion of a car club has benefitted key stakeholders.

In addition, this research demonstrates:

- What factors affect the viability and success of car clubs in new developments, including the nature and scale of development, its location in relation to other available transport means, access to local services etc.;
- The respective roles of the developer, the LA and the car club operator in delivering successful car clubs; and
- The planning tools, especially planning conditions, supplementary planning guidance and planning agreements, financial measures and steps that lead to successful implementation and help developers to meet planning obligations.

This project also aims to identify the benefits to stakeholders resulting from the successful inclusion of a car club within a new development, through:

- Amenity benefits, such as increased open or communal space;
- Increasing density/intensity of use of the site and any resulting increase in yields/profits;
- Reduced costs of providing car parking space and any additional profit on units (especially where there is a reduction in underground or multi-storey parking);
- Reduction in the need for off-site infrastructure improvements by reducing traffic impact of the development;
- Avoidance of other traffic management measures;
- Increased value of units with the car club service included in the sales particulars; and
- Providing access to car club cars for other local residents.

Following the publication of this report, existing Carplus guidance on car clubs in property developments will be updated. This will be available at <http://www.carplus.org.uk/tools-and-resources/guidance-briefings/>.

3. Research methodology

The main research method was semi-structured interviews with:

- local authority officers (and some councillors)
- developers (and some site managers)
- car club operators

These were mostly conducted in person; a few were by telephone. The topic guides, which set out the objectives and general areas of questioning for the interviews are included as Appendix B. These were not exhaustive; specific questions were also asked in each case; some of these were prompted by documentary analysis or by comments made in earlier interviews. The interviews were recorded, transcribed and the draft case studies were sent to the interviewees to give them the opportunity to make changes. In some cases, follow-up questions were sent by email or discussed by telephone; this occurred on some occasions where one interviewee raised an issue which prompted a response from another.

In addition, the development case study sites were visited, to take photographs and make observations about the local context, particularly with respect to parking in the vicinity. Documentary evidence was collected and analysed for each of the case studies; this typically included: council policies, records of past developments, relevant elements of planning applications, particularly Section 106 agreements, transport plans and site plans. The car club operators also supplied information about the usage of vehicles in or near to the case study developments.

Final versions of these case studies are presented in **Appendix A**.

Local Authority and developer case studies

| Case study location (bold) and development details | Interviews conducted by | Names of all interviewees |
|---|--------------------------------|---|
| City of Edinburgh Council Quatermile development Millar Crescent development | Chas Ball | Keith Stark, Andrew McBride, Gavin Brown |
| Bristol City Council Robinson Building Cheswick Village | Steve Melia | Phil Wright, Jerry Humphrys, Phil Woodhouse, Richard Clarke, Jane Woodhouse, David Burton, Alice Jennings, Richard Drew |
| Brighton and Hove New Church Road | Steve Melia | Peter Tolson, Deborah May, Cllr. Ian Davey |
| London Borough of Wandsworth Griffon Studios | Steve Melia | Andy Flood, Corey Russell, Julie Piesse |
| London Borough of Islington | Andy Wild | Eric Manners, Jonathan Hampson, Sabine Mosner |
| London Borough of Sutton BedZED | Andy Wild | Alex Forrest, Jo Taylor |
| London Borough of Ealing Grand Union Village development | Andy Wild | John Bowman, Keith Kelly, Richard Armitage, Tim Blackwell |
| London Borough of Haringey | Andy Wild | Edwin Leigh, Robert Henderson, |

| Case study location (bold) and development details | Interviews conducted by | Names of all interviewees |
|---|--------------------------------|--|
| New River Village | | Sabine Mosner |
| London Borough of Bromley Trinity Village | Andy Wild | Stephen Heeley, Alexander Baldwin-Smith, Kyle Fennell, Tim Blackwell |
| City of York Council Derwenthorpe | Andy Wild | Owen Daggett, Sara Costello, Andrew Bradley, James Williams |

In addition, the following representatives of car club operators were interviewed about the general context for car clubs in Britain and about the cities and development case studies in which they were involved:

| Car Club | Representative |
|-----------------|---|
| City Car Club | Keith Kelly |
| Zipcar | Jonathan Hampson, James Haywood and Adam Williams |
| Hertz 24/7 | Tim Blackwell |

Other car clubs were initially approached, but only those that had provided vehicles through S106 agreements in the case study areas were interviewed.

4. Context and benefits of car clubs

Car clubs: history and data

Car sharing clubs in the UK started in 1998 in Leeds and Edinburgh with schemes inspired by examples from Switzerland and Germany. They have been described as having experienced 'exponential growth' (Cairns, 2011, p11) so that today the models have diversified and the numbers involved have increased.

Carplus data show that there were around 32,000 members of car sharing schemes (car clubs) in 2007 in the UK and by 2010 the figure had risen to 146,000 members. By the end of 2015 there are 206,650 members and 3,600 vehicles operated in UK. Whilst the majority of car clubs today are run by commercial operators offering a back to base round trip service there are a growing minority of schemes that are different. Some are offering one-way (Drive Now), some are run by co-ops (Co cars) or community enterprises (Co-Wheels). There are also electric cars clubs and rural car clubs – and all these different models are likely to grow in the second decade of car clubs.

However, whilst the UK has a well-established sector, car sharing has been a phenomenon across the industrialised democracies, and the UK is best described as an early adopter rather than a pioneer.

The policy benefits of promoting car clubs in new development sites fall under five main areas:

- Reducing traffic impacts
- Reducing parking pressure
- Promoting modal shift and supporting broader transport objectives
- Enabling more intensive (and profitable) development
- Improving the urban environment

All of the benefits below depend upon a reduction in either car ownership or car use or both. In some cases, other factors such as parking restrictions may be the main factor reducing car ownership. In those cases, a car club vehicle may be viewed as a necessary service to support a low-car lifestyle in that area. It may be vital in order to gain acceptance of new development in those circumstances.

Evidence from the Carplus Annual Survey⁴ suggests that around a third of car club members have deferred a planned vehicle purchase since joining the car club and for every car club vehicle, members have sold approximately four vehicles. This equates to a reduction of approximately 23,700 vehicles removed from the streets across the UK. Whether this means car clubs *cause* lower car ownership, or whether they simply provide a facility for people who would have reduced their car ownership anyway, is difficult to prove but some of the international literature suggests that there is indeed a causal link.⁵ Obviously this will be stronger where there are other factors (e.g. parking restrictions, frequent public transport) limiting car ownership in the area.

⁴ Carplus Annual Survey of car clubs 2014/15, 2015 (England and Wales), Steer Davies Gleave (available on Carplus website <http://www.carplus.org.uk/tools-and-resources/annual-survey-of-car-clubs/>)

⁵ Cervero, R., Golub, A. and Nee, B. (2007) City CarShare: longer-term travel demand and car ownership impacts. Transportation Research Record: Journal of the Transportation Research Board. (1992), pp. 70-80.

Reducing traffic impacts

Car clubs can help manage traffic levels in new developments through encouraging new occupants to the site to use car clubs and public transport as alternatives to purchasing a car. In some cases, vehicles provided through a S106 agreement have also helped to reduce car ownership in the surrounding area, which may be just as important for developers and local authorities trying to minimise the traffic impact of a new development.

Reducing parking pressures

Relieving parking pressure, or enabling development to occur in areas of parking pressure, are two key advantages of car club provision, often mentioned in the case studies. They can also help to address the concerns of local residents about the parking impacts of proposed new developments. Both Transport for London and Transport Scotland recognise the role that car clubs can play in reducing parking pressure and also in reducing private car ownership. TfL also recognise that *'Car clubs are one solution in providing for Londoners' urban mobility needs, compatible with public transport, walking and cycling.'*⁶

Promoting modal shift and supporting broader transport objectives

In addition to car club members being less likely to own a car, they are also more likely to use public transport, and walk and cycle. Train travel amongst car club members is more than double the averages across the UK, with bus use around a third higher than average. Car club members are also around three times more likely than the average person across the UK to be a regular cyclist.

In Edinburgh, Bristol and other cities, car clubs are promoted as part of a portfolio of mobility options that includes public transport, walking, cycling and increasingly cycle sharing schemes⁷.

Enabling more intensive (and profitable) development⁸

Car club provision as part of a planning condition can help to support lower parking ratios, which would otherwise act as a constraint on the number of dwellings on a site. On some sites, this may be essential to permit development, which would otherwise be impossible. They can therefore play an important part in achieving the aims of national and local government to provide more housing and they can also help to make brownfield urban sites more profitable for residential development.

Improving the urban environment

The pressure on local authorities to increase the building of housing in their areas will increase the density of dwellings and people within urban areas. If this is done on a 'business as usual' basis it will also increase the density of parked cars, traffic, pollution and congestion. If these changes make towns and cities less attractive places to live, this will undermine their efforts to increase housing. Strategies to reduce concentrations of cars and traffic, and to improve the environment of urban

⁶ A Car Club Strategy for London, TfL and partners, 2015 (available at <https://tfl.gov.uk/modes/driving/car-clubs/how-car-clubs-work#on-this-page-1>)

⁷ Bristol City Council (2010) [Cabinet minutes](#). New Approach to Car Clubs in Bristol. Report of Strategic Director - City Development to the City Cabinet. Agenda Item 6, September 30th.

⁸ Proposal talks about "cost savings and amenity benefits of including car clubs in new developments". It is not clear what was meant by cost-savings. We do cover amenity benefits to some extent. Yes it's about viability of development with car club helping to secure planning consent and make best use of land.

areas undergoing housing growth, will be vital to supporting housing growth and car clubs will be a vital part of those strategies.

“Carfree” developments in continental Europe provide traffic-free semi-private space, play areas and green areas on land which would otherwise be used for parking. All of those developments offer car club vehicles as part of their mobility plans.⁹ Slateford Green in Edinburgh is a rare example of this approach in Britain. As pressures for more housing in urban areas intensify, this type of approach may become more relevant to British conditions.

Summary of evidence from Europe

The evidence reveals positive trends regarding the effect of car sharing (car clubs) on total distances travelled in cars, car ownership, numbers of cars being effectively removed from the streets, mode use of car sharers and reductions of drivers driving alone.

Very few dis-benefits of car sharing schemes are revealed in the studies reviewed. One logical dis-benefit is that whilst car sharing is more environmentally beneficial than private vehicle ownership, it is less beneficial, from environmental, street ambience, road safety and public health perspectives than walking and cycling, which it may in some instances replace.

Other issues are mentioned in relation to small scale rural car sharing schemes. These include the difficulties of finding staff to administer the scheme who have the prerequisite skill sets and also making the scheme financially viable (Integrated Transport Planning Ltd, 2004). However, evidence suggests that financial viability in urban areas is less problematic. A key factor for the economic sustainability of a station-based scheme is that each car should be patronised by a sufficient number of householders in its vicinity.

Finally, the evidence suggests a number of clear benefits to the global environment (CO₂ and other emissions), neighbourhoods (reductions in numbers of vehicles driving and parked in the city) and the individual member (avoiding the complexity, administration and expense of owning a motor vehicle.)

⁹ Melia, S., Parkhurst, G. and Barton, H. (2010) [Carfree, Low Car - What's the Difference?](#) World Transport Policy & Practice. 16 (2), pp. 24-32.

5. Car club policy in the UK

Car club policy in the UK has generally been devolved to a local level. In most cases policy is set out in local planning documents (local development frameworks and supplementary planning documents) and local transport plans. The policy framework does however vary across authorities – some English unitary authorities have collaborated on planning and transport policies. In the future, areas covering several planning authorities but which have a combined transport authority with overarching transport policies covering several metropolitan authorities.

In Scotland, City of Edinburgh Council (CEC) has pioneered use of planning agreements to facilitate development in high-density areas and use developer funding to expand the car club network. CEC adopted formal planning guidance on car clubs in 2004 and it is now an integral part of its development planning policy. More recently other cities like Aberdeen have followed this approach.

In London, overarching planning and transport policy is set out in the London Plan (and Mayor's Transport Strategy) and then at a borough level in Local Implementation Plans (LIPs). In London, the development of the Car Club Strategy for London (2014)¹⁰ will guide the expansion of car clubs in the capital over the next ten years. The Strategy has been developed by the London Car Club Coalition, which includes Transport for London (TfL), the car club operators, Carplus, London Councils and the BVRLA.

From the research undertaken in this study, it has become clear that some local authorities do not have a formal written policy on car clubs in new developments. In Bristol, for example, there is no written policy on car clubs, only a mention in the Core Strategy. In York, there is a similar situation with no formal policies on car clubs in statutory documents but the planning team actively use S106 agreements and planning conditions to ensure that car club provision is negotiated as part of new development sites.

Some London boroughs have more formal policies that promote car clubs in new developments than others. Ealing have a formal policy included within their UDP that states that low car housing is suitable if, amongst other things, a developer agrees to contribute to a car club.

Where this research has uncovered examples of best practice in car club policy, we have identified these within this report.

¹⁰ <https://tfl.gov.uk/modes/driving/car-clubs/how-car-clubs-work>

6. Car clubs in new developments – identifying success factors

Car clubs are more likely to be successfully established within a development (or in the neighbourhood adjacent to a development) if consideration is given early enough in the planning process to its viability as a location. Early consideration enables a thorough assessment of the development's potential characteristics, such as density and parking ratios and allows the car club to be promoted to prospective occupants, prior to completion.

Other key factors relate to the context within which the development is proposed. These are outlined below. Some of them are what car club operators would call “essential” rather than “desirable”. Above all, high density areas with parking constraints are the most likely to support successful car club operations – assuming the area is well connected to services and employment areas.

There are several key factors which help to identify where car clubs might be successful in new developments. These are as follows:

- Population density
- PTAL rating/availability of public transport
- Parking constraints
- Car ownership levels
- Socioeconomic/demographic characteristics
- Cultural factors

Most of these individual factors are correlated with other factors in the list. It is hard to rank them in order of priority, as much will depend on local situations.

The proximity of good public transport supply, generally quantified in London using PTAL ratings, is often seen as the most important factor. For example, Brighton and Hove's Local Plan refers to car clubs being most suitable “in locations with good access to public transport and local services where there are complementary on-street parking controls”. In the case of Ealing, the development of Crossrail through the Borough was seen as a factor potentially changing the socio-demography, as well as the long-distance connectivity, and hence potentially increasing car club potential.

However, some successful examples (Sutton) do not have high PTAL ratings. One reason for this is a technical one: that the spatial analysis (e.g. at electoral ward level) may not be at a sufficiently fine scale, and a site is actually more accessible than implied by the PTAL rating of its wider area. Another reason is that public transport may not be the main mode used by car club members: the case for public transport supply being very important is dependent on assumptions about the target group combining public transport use with car club membership, rather than walking and/or cycling with car club membership. In the case of the Derwenthorpe development in York, along with the car club, the initial phases of the development have good walking and cycling accessibility (ten minutes by bike to the city centre on a traffic-free path). York has one of the most developed cycling cultures in the UK. So in this context, providing residents with good cycle provision (and promotion) may be as important, if not more so, than the public transport improvements included in the S106 agreement.

Population density may be even more important, in providing sufficient absolute demand, given that membership rates in a given spatial population are likely to be low, even at neighbourhood level. However, this may be taken for granted in contexts such as London, where population density is rarely anything other than high, except for areas within the outer boroughs. Outside of London, it appears to be a factor, which has supported strong development in Brighton and Edinburgh. Indeed, some commentators foresaw that despite attempts to deregulate land use in order to speed up housing capacity delivery, urban intensification was inevitable, and that this would favour car clubs.

In Ealing, the extension of the car club service into the Northolt area of the Borough (see Grand Union Village case study), which does not have, by London standards, high population density, high PTAL or access to local services, is an indication of the new frontiers for car club expansion. Similarly, in the London Boroughs of Sutton (see Sutton case study) and Bromley (see Trinity Village case study), car clubs are tentatively expanding or consolidating in areas with more suburban characteristics.

Similarly, parking constraints are identified as an important means of restraining car ownership levels, and hence use of a car club, but are not the only factor restraining car ownership. Lifestyle or culture can be a factor. The Wandsworth student hall example in fact identified that the target group was largely made up of international students that were not much interested in car use at all, whether via a self-owned car or membership of a car club. Ten car club cars were apparently viable in that locality, in a context of only moderate or low parking restraints for long-established residents.

On the other hand, the BedZED development in Sutton showed the importance of culture in people joining a car club. The development was specifically marketed on its clean environmental characteristics. New residents relocating from central London where parking constraints were high, into a location with fewer parking constraints, might arrive without a car and choose not to own one, even though the new neighbourhood is more car friendly, if provided with a car club alternative. Similarly, Brighton was seen by car club professionals as ‘acting like a suburb of London’ due to the popularity of commuting, with weekday train travel being combined with a mobility mix including car club and public transport outside of the working day.

In Bristol, income was seen as a relevant variable in explaining use, with most of the vehicles stationed in affluent areas with some concerns about the viability of the Easton cluster – a lower income area.

Similar to the PTAL approach to quantifying the ‘supply-side’ of the local transport market, it is possible to quantify socio-cultural factors through Mosaic analysis of the spatial distribution of socio-consumer groups associated with car club propensity, such as in Brighton ‘Group E: *educated young single people living in areas of transient populations*’.

Socio-demographic factors are relevant but should perhaps not be overstated: suburban, low-density, multi-bedroom housing on the Bristol fringe is more likely to be unsuitable for car clubs as a result of the high car ownership of those developments (linked to low parking constraints) than because they tend to be occupied by families with children: the same families located in inner-city, high density, parking-constrained London boroughs might well be car club users.

These success factors have been present to varying degrees in each of the case studies undertaken during this research. The table below shows the presence of the success factors in relation to 4 developments in London (mostly in outer London) and one in York and presents an assessment of the success of the car club in each case:

| Development | Local Authority | Parking pressure around the development (e.g. CPZ) | Parking ratio (spaces per unit) | PTAL score / access to public transport | Scale / Density of the development | Proportion of social / affordable units | Successful and sustainable car club and travel patterns? |
|----------------------------|---------------------------------------|--|--|--|--|--|--|
| Grand Union Village | London Borough of Ealing / Hillingdon | Some CPZ, some on-street parking is available on and residential roads near to the development | 0.87 spaces per dwelling | PTAL 3 has local bus services but nearest station with access to central London is Greenford 4.5Km away. | 960 dwellings 44.2 dwellings / Ha | 35% affordable / key worker | Eventually, but significant problems when on-site car parking was not effectively controlled. Now supports three vehicles. |
| New River Village | London Borough of Haringey | Yes, the development is surrounded by CPZs | 0.68 per dwelling | PTAL 4 – good PT links to central London with Hornsey station and Turnpike Lane less than 1km away | 622 dwellings 15 acre, 6.7ha 93 dwellings per hectare | 25% RSL and shared ownership | Very successful. City Car Club has 3 cars here and would like more. |
| Trinity Village | London Borough of Bromley | No CPZ, parking is available in neighbouring residential streets | 1 - 1.5 per dwelling (1.5 for 3 + bedroomed units) | PTAL 3 - Good bus access to Bromley and Orpington town centres / train stations, but no direct rail to central London. | 632 dwellings | 96 dwellings (26%) are 'social' housing units | Currently two cars, one of which may remain commercially viable after S106 support ends. |
| BedZED | London Borough of Sutton | No CPZ, parking is available in neighbouring residential streets | 0.5 / unit | PTAL 4 – good train / tram access to Victoria and other parts of London. Hackbridge station is 0.5Km away | 82 houses and 17 live/work apartments 58 dwellings per Ha | 50%: 25% for shared ownership and 25% social housing for rent. | Initially 3 cars on-site, now 1 on-site and two relocated to developments nearby. |
| Derwenthorpe | City of York Council | No CPZ, parking is available on-street on the site and in neighbouring residential streets | 1 car parking space per unit | Bus service to city centre (2Km away) + direct off-road cycle route to city centre. | | | Car club is currently ok, remains to be seen whether it succeeds post-S106 funding. |

Comparing these case studies, the most successful developments (in terms of achieving low-car objectives and viable car clubs) have been those with high population density, in areas well served by public transport and where car parking has been restricted both within the development and its environs (exemplified by the New River Village case study). However, the striking feature is that not all success factors have to be present to secure sustainable transport patterns and successful car clubs, success has been achieved in areas of relatively low housing density, for example BedZED in Sutton, where the car club has remained viable 13 years after start-up and the development remains popular. One important lesson is that where some of the 'predictor' factors are weak or absent, then other factors (see below) assume greater significance.

Two other secondary factors are also identified:

- Co-location and clustering of cars
- Presence of spatially-overlapping user groups

The provision of 'alternative' car club vehicles in a neighbourhood cluster has multiple benefits: a further vehicle within walking range in case the nearest one is booked; a variety of vehicle types within a radius or at the same location. In some cases, the clustering of vehicles in the same neighbourhood is seen by the professionals (i.e. experienced members of the car club sector) as a key factor in providing reassurance to members that cars will be available when required.

Operators are unlikely to be attracted to provide a car club in a stand-alone development, isolated from existing car clubs, unless it is large enough to support at least one vehicle and/or has other 'key factors' to ensure success (e.g. BedZED in Sutton). In Bedminster, Bristol, for example, an additional car secured in a development had complemented an existing cluster. Similarly, in Edinburgh the case study for Millar Crescent show how well the addition of a third car to a cluster in the Morningside district resulted in high utilisation of all three and significant take up from a new development.

However, the importance of clustering would benefit from further investigation as some of the clusters identified in the research are not particularly proximate and it is questionable how attractive the second-choice car would be for someone accessing it on foot.

'No development is an island': there are few developments that are large enough to support a dedicated, exclusive car over the long-run solely from amongst the occupants of a particular site. However, there are several cases in which the combination of off-site and on-site resident or business users makes the difference between a car club being viable, or not. Here, LAs can make a direct difference by using car clubs themselves to provide the pool car facility for travel in the course of work. For example, in the case of York City Council, a number of City Car Club cars are block-booked 08.00-18.00 but available to the public out of office hours, greatly enhancing the viability of the city's car club.

In Ealing, the use of car club cars by council staff, both for work and through a facility that extended work membership for paid private use, is an important factor in achieving a relatively high ratio of members to cars - an average of 70 members per car.

Summary

Whilst there is a fairly clear list of primary and secondary factors associated with success, and some factors will be more often shown as important compared to others, 'top-down' location searching

has its limits: the relevance of the factors to the specific potential site under examination will always need critical assessment, or else sites with potential might be ruled out.

Similarly, in Edinburgh, the planning officers assessing proposed development have developed a good feel for where a car club will work. With the benefit of over 10 years of local developments with car clubs in the planning conditions, this has started to be integral to the planning culture of the city. However, there is a moment in the process before the conditions are finalised where the local manager of operator, City Car Club is consulted. His comments on the viability of a planned development and possible links to the existing car club network help to inform the process.

Roles of different actors in achieving success

Developers

Generally, developers only consider including or funding car clubs where required to by a planning authority (e.g. Redrow, Cheswick Village, Bristol area case studies; MNM Developments, Millar Crescent, Edinburgh case-studies).

However, exceptions occur in the cases in which having a car club is not mandated by local planning policy but is:

- seen to increase the likelihood of a development being granted planning permission with a given level of off-street parking and/or
- likely to make the development more saleable (because the target occupants are perceived to hold driving licences but not necessarily own cars)

Car clubs can be seen by developers as a relatively low-cost, deliverable part of a planning agreement around transport and access. For example, a bus service to a large development at an early stage of build-out can be expensive from the point of view of a developer and unattractive from that of the public transport company. It will be obvious if running largely empty, and appear a 'white elephant', creating the impression that buses are not and will not be used. A car club is less conspicuous in that respect, and also has a lower absolute cost commitment, so is in some ways better suited to provide an alternative to car ownership in the early phases, although not all residents will have driving licences, so the commitment to provide public transport services is, in due course, likely to remain important.

A few developments, taken forward by specialist developers with a stronger commitment to sustainable development, include a car club service as part of design ethos e.g. BedZED, Derwenthorpe. However, those developers and occupants are thought to represent a specific market niche - which may have potential for expansion.¹¹

More generally, developers who understand the car club concept tend to have fairly clear and shared perceptions about when they are relevant. For example, the developer of the Robinson's Building in Bristol judged that occupants of one-bedroom flats would not necessarily expect parking, whereas those in the market for two-bed accommodation would be more likely to want it. An attractive building in the right location could overcome limited parking, by being able to attract sufficient demand from those for which parking was an option rather than an essential.

¹¹ See: Melia, S., Barton, H. and Parkhurst, G. (2013) Potential for carfree development in the UK. *Urban Design and Planning*, 166 (2). pp. 136-145. ISSN 1755-0793 Available from: <http://eprints.uwe.ac.uk/13180>

Local Authorities

LAs have been fundamental in the transition from ‘third sector’ pioneer car ‘clubs’ to the involvement of commercial organisations and social enterprises in expansion of the car club sector.

Local authorities have several key roles with respect to car clubs in developments:

- Creating the regulatory framework that promotes them, such as requiring car clubs as part of S106 (S75 Scotland) agreements;
- Ensuring that the details of specific planning agreements are negotiated and delivered;
- Raising awareness and promotion of car clubs through sustainable travel awareness campaigns (in partnership with car club operators); and
- Enabling or facilitating any works to be undertaken on the public highway, notably the provision of parking bays.

Notably, these functions are likely to involve different parts of an LA’s ‘executive’. The time taken for highway departments to secure changes on-street can sometimes be a frustration for operators. However, this description of the process followed in Bristol suggests that on-street bays are not straightforward to deliver: the Council follows a formal consultation process before installing new bays, which involves local members and the Council’s legal department and can take up to 9 months, partly due to workload issues (particularly in the legal department) with multiple projects progressing at the same time.

The officers felt that the process seemed rather bureaucratic and “could probably” be streamlined, although they were not entirely sure of the reasons for all the different stages. Similarly, on occasion it was felt by operators that planning agreements could have been drafted in a ‘tighter’ way by local authorities and that some developers were able to exploit loopholes.

In contrast, having a local plan or local implementation plan with specific targets for car club growth is helpful in providing a framework for dealing with specific applications. Alternatively, as in Edinburgh, having a clearly published tariff of contributions for developers has contributed to widespread acceptance of the inclusion of car clubs in most developments in higher density urban areas of the city. So, where a car club is part of the planning approval the maximum cost, depending on the scale of the project, is predictable.

Operators

The attitudes and behaviour of operators show broadly similar approaches to judging commercial viability of locations and target groups, but not identical. As in all organisations, attitudes are likely to reflect specific personnel as well as the developing experience of the organisation. However, in some cases operators have been willing to move into locations which another operator has vacated.

Operators are a source of expertise and where local authorities have limited experience this can help to avoid basic errors (see case-study, Cheswick Village, South Gloucestershire).

Inter-relationships

Early involvement of operators is critical if the car club implementation is to be more than a temporary phenomenon to secure planning consent. This should take the form of pre-application discussions between potential operators, the developer and the local planning authority to assess

the potential viability and feasibility of providing bays and/or vehicles, or whether, indeed, support for a nearby existing service might be more appropriate.

Some case-studies (Brighton, Bristol) showed a more ‘applied’ LA involvement in the early years of car club development. For example, both had originally collected funds from developers due under S106 agreements for car clubs, but in recent years had replaced this approach with one involving developers and operators dealing directly. Bristol had actively moved away from administering the funding as the Authority had formed the view that the cumulative funding being held for car club development was not justified by the rate of spend¹².

There are though benefits to LA involvement in funding. The extension of the car club into the Northolt and Greenford areas of Ealing was facilitated by the pooling of S106 contributions from a number of small developments. This would not have been possible without coordination. The involvement of City of Edinburgh in managing the S75 funding contributions has ensured a degree of confidence in the process from all stakeholders, which on issues as sensitive as parking has been important. So where development planners are experienced at including a car club in the provision, they use consultation with the operator, as in Edinburgh, to confirm that a new location will fit into the existing network and where to recommend suitable on-street parking to the parking team.

Role of planning and highway management tools in success

A key factor that ensures that car clubs are an appropriate addition, as well as attracting to a development the kind of occupants likely to use a car club, will be the local policy on parking provision, and how it is delivered. LAs can specify parking standards, i.e. the minimum or maximum number of car parking spaces they expect to see included in planning applications for a given amount of development, typically related to the number of bedrooms per unit in the case of a residential scheme.

Low-car and car-free housing schemes give a car option in the occupants’ mobility mix. This means they can sometimes receive planning permission in situations in which an application not designed around lower-than-typical car ownership would not. Whilst some developers are concerned to consider how a development will ‘work’ into the future, others focus more on the period up until the development is fully sold.

In some cases, particular planning conditions can minimise the likelihood of more intensive car ownership than planned. For example, the Derwenthorpe development near York has a low parking standard for a suburban development of 1.1. However, a covenant prevents owners letting the residences, preventing occupation by short-term residents who may have lower community engagement than longer-term residents and who may seek to ‘externalise’ the costs of excess-over-planned car ownership onto neighbours. However, independent evaluation had in fact shown that the owner-occupants were not all ‘living within their parking capacity means’, with some households having two or three cars, rather than one.

The specific circumstances of each development may differ from the general situation in the neighbourhood, so neighbourhood level statistics may or may not have relevance for specific sites; it may only need a small number of vehicles to ‘tip’ a street from having adequate to inadequate parking capacity for the demand. Therefore, planning agreements may seek to control the future car

¹² Such a problem may have been specific to that time and place and may be less likely to occur in future following the introduction of the Community Infrastructure Levy and the narrowing of S106 criteria.

ownership and parking behaviour of residents even in areas where parking is not perceived to be a general problem.

Controlled Parking Zones (CPZs)

Many developments involving car clubs are delivered in CPZs or Residents Parking Areas (RPAs). The CPZ will generally exist in order to balance parking supply and demand, or restrain demand for traffic management reasons, or some combination of the two. However, some car clubs operate outside CPZs. Therefore, provided that the demand for car use without ownership is effectively created, and there are not problems with agreements being undermined due to occupants owning more cars than was intended, then a CPZ is not essential.

The history of parking controls in Bristol provides some useful lessons. Car clubs initially spread in areas where there was parking pressure but no controls. The central Controlled Parking Zone has been a later arrival because of the revenue loss and administrative complications involved in reallocating bays in controlled areas. The officers' comments about the spread of Residents' Parking Zones may be relevant to other areas. Their message is that authorities should think about car clubs when they are planning new CPZs because the demand for car clubs may grow within them and it will be more difficult to install additional bays later.

The history of the car club at Grand Union village shows the difficulty in a big development of operating without a residents' permit system in a design framework that aspired to be low car. Not only did the success of the car club dwindle in the face of relatively unrestricted car ownership, but the alternative travel options have not proved as attractive as anticipated, despite continued efforts by the travel plan consultant (see case study). At a late stage a CPZ was introduced to regulate the relatively chaotic parking that has developed as the estate is nearly complete.

Restriction of residents' permit eligibility

Planning agreements involving car clubs need, by design and communication, to be as resilient to future scrutiny as possible. There are examples in which actors may seek to have planning conditions removed: the eligibility of residents of a development in New Church Road, Brighton & Hove, for residents' parking permits, combined with a desire to see on-development car club reserved bays removed. Initially residents of the development were not able to apply for parking permits but after lobbying by residents, this condition was relaxed in 2015. Similar concerns were raised in Ealing.

A specific debate about the provision of permits (or not), has been seen in Brighton and elsewhere. It focuses around the level of on-street parking capacity and utilisation in the locality, with some politicians (and officers) linking the restriction on residents of new developments being entitled to on-street permits to the identification of an actual parking shortfall. If it becomes a clear principle that existing parking capacity problems are necessary before residents of new developments are restricted from applying for on-street permits, this will tend to limit the opportunities for lower-car development (although Wandsworth suggests this is not absolute). Recent legal advice suggests that planning obligations used to secure car-free development need to comply with the requirements of S106 of the Town and Country Planning Act, 1990. For a car free obligation to constitute a planning obligation it must restrict the development or use of land in a specified way.

In Edinburgh, the use of a covenant to prevent residents of a car free development being able to successfully apply for parking permits was applied to new occupants Millar Crescent (see case study)

as part of closing of a loophole that became evident in earlier developments (see Quartermile case-study).

Graduated car club provision

Planning agreements have used operator utilisation rates to trigger the provision of additional car club vehicles for example at Trinity Village (see case-study). In this case, subject to the demand achieving specific levels (e.g. 25% of vehicle-hours utilised), additional cars will be funded and the service expanded.

Summary

As in the case of those factors that make car clubs relevant for new developments, there is no one set of regulations and conditions associated with successful operation. Some level of demand-over-supply parking pressure is likely to pre-exist in the locality or a development with a car club is unlikely to be under consideration. Thought will need to be given as to whether unintended consequences (such as vehicles being acquired and parked in neighbouring streets) are likely to emerge, given the combination of expected future occupants and local conditions.

Role of incentive tools

In negotiating directly with developers or through conditions laid down in planning agreements, there is often a need for incentives to ensure early take up of cars located on site – often in a development with very few residents. The measures used as incentives are designed to encourage residents to try out the car club. Apart from the costs and the commitment, this involves going through the online or phone based signing up process, which involves a licence and status check.

Information on these incentives needs to be available before people move in – preferably to people thinking of buying/renting through the sales office staff.

Free membership is offered for a specific period (often less than a year to allow a trial of the service). In some cases, the offer for an initial year is for discounted membership. This is usually combined with a certain amount of free ‘drive time’ usage to enhance the concept of a trial. In London where more than half of properties are rentals and turnover of residents is frequent, it is sometimes difficult to ensure that car club membership is retained by the incoming residents¹³.

Whilst funding is usually by the developer it may be capped at a pre-set level of take up. Sometimes this is matched with a financial contribution from the car club operator. Securing car club members who are also active users at the early stage in occupation can be critical to building up utilisation and avoiding car club vehicles suffering from flat batteries due to underuse. More important is the visibility and word of mouth promotion - although if a car is very busy, the parking bay is of course often vacant.

The use of incentives may generate levels of demand which are not sustained beyond the timespan of the incentive, and as with Grand Union Village (see case-study), early clusters of cars are reduced once the usage settles down.

¹³ This also raises questions about how car club membership is transferred to new residents, if indeed this does happen at all in practice.

Summary

There is a risk that sudden withdrawal of incentives will leave a car club operator with an abrupt change in commercial viability. Ideally incentives should be designed to be withdrawn gradually, enabling a transitional management, for example, with efforts put in to signing up members beyond a development boundary in order to make the location sustainable. It is also preferable that the operator has been able to make the location self-sustaining by the point that the incentives are withdrawn. In practice though, sustainability is sometimes not achieved in this timescale.

7. Specific design issues

Location of car on site or on-street nearby site

Some local authorities, such as London Borough of Sutton, have encouraged location of car club bays on development sites to preserve on-street parking capacity and to avoid the conflict that can arise with local residents in some neighbourhoods about dedicated on-street parking. Developers may also welcome the psychological ‘ownership’ factor of the vehicle being on-site: in one case-study (Trinity Village) a car was liveried as exclusively available to residents of a Bromley development.

However, on-street location, in contrast, emphasises the wider availability and relevance of the car within the local community, and is the preferred option of LAs like Brighton and Edinburgh. LAs also have much more control over on-street bays. Off street bays can be withdrawn at any time or the developer may change their mind and change the usage of on-site bays from car club to provide residents parking. In this case the LA may not be aware of this change.

Developers are likely to favour provision of on-street bays if they feel access to the car by outsiders will compromise site security and seclusion. There are cases in which a compromise has been sought, by placing the car at the periphery of a site: technically on the land of the development but apparently on public space. This may raise issues of parking bay maintenance if the ownership responsibility is not clear.

A further type of compromise, noted in the Brighton case-study, is that car club cars located on private land may not need to be accessible to public members ‘24/7’, although this may jeopardise the operators view of what is a viable location.

Design features to promote use of car clubs and compliance with parking restrictions

There is a balance to be struck between developments having clear demarcation and allocation of parking rights and restrictions, with intensive instructional signage creating an ‘official’ air, and trying to create a welcoming environment that treats users of the space as responsible and considerate, and not needing intensive instruction and enforcement. Problems can be created by introducing car club bays in underground car parks – access issues involving keys and fobs can cause problems for users trying to access the vehicle. In some underground car parks mobile reception is not very good – this means that the car club operators systems sometimes struggle to make contact with the vehicles which can lead to other operational issues.

Physical location and a sense of community ownership were two other important factors:

“We’ve had issues in the past where bays have maybe been located in places that are perceived as being not safe. [If the bay is] adjacent to a park, it obviously means it may be dark and slightly intimidating. So I would always say that I think where it works the best is when it’s in the middle as close as you can be to a dense housing area...I think visibility is also important for marketing the vehicle.”

One incident, where a community initially objected to the perceived loss of parking space brought a ‘community leader’ into discussions with the Council (Bristol).

“The interesting thing for me was the Community Leader really took it on himself to always keep an eye on this vehicle... if another vehicle parked in the bay, he would go out and tell 'em "No, don't park in the bay. This is the car club..." So it became a part of the community.”

The use of cycle parking at car club bays is a design feature that ensures access to a wider neighbourhood. This has been sporadically trialled in a number of the LPAs outside London and has been installed as commonplace in various London Boroughs (e.g. Lewisham, Lambeth, Hackney, Islington, Camden, Greenwich) installing cyclehoop parking at most car club bays over the past five years.

8. Conclusions

Introduction

Car clubs are now well-established in some areas, making it possible to draw on that experience from the early-adopter cities and boroughs. A clear policy framework is desirable but equally important is practice in securing contributions where appropriate.

Timing is important – it requires early stage intervention to get agreement – the timing of S106/S75-funded interventions is important to provide people with services and alternatives to car ownership at the point of occupation. Car clubs work as part of a wider travel plan, whether it is nominal or active.

Clarity at the planning stage is important to provide developers with certainty about their contribution and what is expected, but S106/S75 should not be so narrowly defined that they cannot adapt to changes in circumstance (e.g. delays in phasing of the development).

Success criteria include high population density, low car parking and good public transport accessibility. Developments need most, but not necessarily all of these to deliver a success with a viable car club. Where some success criteria are weak, then others assume greater importance.

General conclusions - car clubs in urban developments

1. Car clubs can help to expand opportunities for developers to bring forward land in cities which otherwise might not have been commercially viable by:
 - a. Facilitating planning permission in high density developments that have insufficient land for parking or would need to build underground parking at high cost; and/or
 - b. Facilitating planning permission for developments with limited off street space for car parking in high/medium density urban areas.
2. With the growth of the sharing economy and introduction of one-way car sharing (Drive Now, London), developers plan for future consumers who do not aspire/cannot afford car ownership. Car clubs will have an important role to play in offering a package of mobility options to new residents that do not own a car.
3. Car clubs are helping to fulfil local authority policies on congestion/traffic, air quality and carbon reduction by reducing car dependency and car ownership.
4. Car clubs in urban developments help operators to expand their networks in areas where car club services already exist and the proposed development is within or close to area of coverage.
5. Finally, car clubs in urban developments free up space within development sites that can be used as additional amenity or play space.

Stakeholders – why are some supportive and some are not

| Stakeholder | Supportive | Not supportive |
|------------------|--|--|
| LA | Enables low car/car free housing development – heads off local objections | No existing car club programme |
| | Helps secure more housing in high density areas | Has existing car club but directs S.106/S75 to other capital programmes |
| | Part of strategy to reduce impact of car ownership in congested cities | Lacks a track record in administering funds for this purpose; Unaware of successful implementation |
| Developer | Has good project but limited or no space for of street parking | Unaware of successful implementation on either small or large scale developments |
| | Customer driven – accepts there is a market for properties with little or no residents parking | Perception/reality that sales are less likely without parking for residents |
| Operator | Success factors appear positive after completion and occupation | Not viable long term even with incentives |
| | Locations fits with growth of local car club network | Demographics and location not good for pioneering new concept |

9. Recommendations

As a result of the research undertaken to inform this report, the following recommendations on the development of S106/S75 agreements involving car clubs are made:

1. We suggest that there should be a requirement for developers / applicants to engage in pre-application discussions with car club operators and the local planning authority to assess the potential viability and feasibility of providing a car club bay(s) / vehicle(s) for the development. An important point is clarity, i.e. that all parties are clear what they are entering into and what their commitment is.
2. Having a local implementation plan (or Local Transport Strategy) with specific targets for car club growth is helpful in providing a framework for dealing with specific applications.
3. It is helpful to avoid ambiguity in the wording of the S106/S75 agreement. The agreement should include a sound, reasoned justification for including car clubs within a S106 agreement, to ensure that there is a robust defence in the event of an appeal¹⁴. This should also include a clear reasoning as to how the specific measure will mitigate the external impacts of that development.
4. Local authorities and operators should consider incentivising the uptake/use of a car club in a new development. This will help to ensure that levels of awareness are higher and also that new residents hopefully do not purchase a car if the car club is available from when they first occupy their new home.
5. Car club operators should allow (and encourage) shared use of the car club by residents in streets surrounding the development.
6. Local authorities should consider the opportunities available to pool S106/S75 contributions from a number of small developments to provide a car club bay near to the development sites.
7. Local authorities and car club operators should actively consider the opportunities for expanding the car club network around new transport infrastructure (e.g. Crossrail in London and potential extensions of the Edinburgh tram). This advance planning will help to ensure that population growth isn't mirrored by traffic growth.

¹⁴ Including clear evidence of the benefits of car clubs in terms of traffic demand-management, including reduced parking demand, reduced traffic generation and pollution.

10. Appendices

List of case studies included as appendices:

| Case study location (bold) and development details |
|---|
| 1. City of Edinburgh Council 1a. Quartermile development 1b. Millar Crescent development |
| 2. Bristol City Council 2a. Robinson Building 2b. Cheswick Village |
| 3. Brighton and Hove 3a. New Church Road |
| 4. London Borough of Wandsworth 4a. Griffon Studios |
| 5. London Borough of Islington |
| 6. London Borough of Sutton 6a. BedZED |
| 7. London Borough of Ealing 7a. Grand Union Village development |
| London Borough of Haringey 8a. New River Village |
| London Borough of Bromley 9a. Trinity Village |
| City of York Council 10a. Derwenthorpe |