The Highland Council

City of Inverness Area Committee – 2nd December 2014

Agenda Item	11
Report No	CIA/64 /14

Carbon CLEVER Update

Report by Head of Policy and Reform

This paper provides Members with an update on a number of Carbon CLEVER projects which are under development or have been implemented in the Inverness Area including a feasibility study into the potential of an Inverness car club.

1. Background

1.1 At a meeting of the Highland Council in June 2013, Members agreed to an initiative to achieve a carbon neutral Inverness in a low carbon Highlands by 2025, Carbon CLEVER.

1.2 The Council has a commitment in its Programme, "Working together for the Highlands, 2012-17", that it will maintain its commitment to Scotland's Climate Change Declaration and work with everyone to achieve a Carbon CLEVER Highlands by 2025 (a carbon neutral Inverness in a low carbon Highlands).

1.3 There are a number of projects and actions currently being developed and delivered as part of the Carbon CLEVER initiative. Updates on a number of these projects in the Inverness Area are detailed in this report.

2. Car Club – Feasibility Study

2.1 At the meeting of the City of Inverness Area Committee, 4th March 2014, the potential of an Inverness Car Club was discussed. A city car club can reduce the perceived demands on households to own cars and reduce car ownership, which is the most successful way to reduce mileage. Car club vehicles are typically small with a modern engine and have very low associated carbon emissions. Such schemes are operated in many Scottish cities and can be operated using a commercial or not for profit models. The Climate Change Team, Chief Executive's Office have been working with Carplus, a not-for-profit, environmental NGO, to understand the feasibility of an Inverness car club.

2.2 In September 2014, Carplus commissioned transport consultant Steer Davies Gleave to analyse the potential of developing a car club in Inverness. The study (Appendix 1) analyses the potential demand for a car club in Inverness; summarises the environmental and societal benefits of developing a car club; and provides guidance as to potential development actions and timeframes required to build the customer base.

2.3 The study explores the potential customer base by using a variety of data sources that are known to indicate the likelihood of individuals to use a car club. It uses this information to map potential demand and suggests optimal locations for vehicles to be located.

2.4 The study uses demographic data and compares it with information from other

car clubs from across Scotland to determine the size of a car club Inverness could support. These findings were validated by a series of stakeholder engagement activities undertaken to gather qualitative data and to inform the guidance for developing a car club.

2.5 The report recommends Inverness could initially support a car club of around ten to fifteen vehicles. It suggests that an agreement with a large organisation, such as the Highland Council, to use vehicles for staff travel could increase the early economic viability of a car club.

2.6 The study highlights the process and next steps for developing a car club in Inverness. This would involve Highland Council producing a tender document in conjunction with Carplus and other stakeholders for a car club operator to invest in Inverness. Other cities have utilised central government funding for vehicles and supplied support to the operator to secure parking bays and signage, and the potential of this is currently being investigated. It is proposed that a report giving further details of any tender proposal is presented at Resources committee on the 21st January 2015.

3. Carbon CLEVER project updates

3.1 Millburn Road Cycling Corridor

The cycle route was officially launched on the 7th November 2014, having been completed one week ahead of schedule. The route provides an active travel link from the city centre to the Inverness Beechwood Campus. This will help people to make short journeys in the city on foot and by bicycle, reducing congestion and carbon emissions, and improving health outcomes. The total cost of the route improvement was £733,000, with 60% of this funding from external sources (£280,000 European Regional Development Fund, £80,000 HITRANS, and £73,000 from developer contributions).

3.2 Carbon CLEVER Cycles

The Carbon CLEVER Cycles electric bike hire scheme was launched on 18th August, 2014. The scheme allows residents, businesses and visitors to hire one of 12 e-bikes from two locations in Inverness (Council Headquarters on Glenurquhart Road, and Falcon Square). The aim of the scheme is to promote active travel, save people money, and reduce congestion and carbon emissions. Four of the twelve e-bikes have been block-booked from the scheme operator, Co-Wheels, to allow Council staff to use an e-bike during office hours. This will help to promote active travel, improve the health and well-being of staff whilst reducing grey-fleet journeys, carbon emissions and costs, thus directly supporting the aims of Carbon CLEVER.

3.3 To date, over 2,000 km has been cycled on the e-bikes, and over 80 people have signed up to the scheme. A workshop was recently held to evaluate the scheme to date, and this has resulted in the identification of a range of potential measures to further increase membership and usage in 2015.

3.4 Energy Saving Expo

The Energy Saving Expo was held at Eden Court on October 24th and 25th, and was co-sponsored by the Carbon CLEVER initiative. Transport, renewable energy, and energy efficiency solutions were showcased at the event to give businesses and individuals the chance to find out more about these and to ask

any questions they may have. The Expo allowed people to test drive electric vehicles, try electric bicycles, find out about the benefits of renewable heating solutions, speak to the citizen's advice bureau, and get a range of expert advice. 19 exhibitors attended on the Friday, and 17 on the Saturday. Over 200 members of the public and 50 businesses attended the event.

3.5 Carbon CLEVER Conference

The Carbon CLEVER conference was held on the 17th November 2014 at Highland Council HQ, Inverness. Approximately 120 delegates attended from the private, public and third sectors, and from community groups. The conference theme was collaboration, and how we can work more effectively together to achieve a Carbon CLEVER future.

3.6 Carbon CLEVER Community Grant Fund

This grant fund was launched at the Carbon CLEVER conference, with the deadline for applications for the first round of funding (£100,000) the 6th April 2015. The fund has been established to enable Highland communities to reduce their own greenhouse gas emissions, take leadership on carbon reduction, and engage with others, raising awareness and promoting low carbon behaviour. Local projects will help to achieve a carbon neutral Inverness in a low carbon Highlands by 2025.

3.7 Commonwealth Games Legacy Cycle Rack

Following the Commonwealth Games, applications were invited to acquire one of the Commonwealth Games' Legacy cycle racks in order to help improve cycling facilities across Scotland. In September, the Climate Change Team lodged an application with Cycling Scotland for a Legacy cycle rack, after a requirement for better cycle parking was identified at the Town House, Inverness. In early November, it was confirmed that the Council's application had been successful, and the Legacy cycle rack will be installed by the end of 2014 (TBC), providing space for 10 additional bicycles at the Town House. The estimated cost of the rack, delivery and installation is £800, with the Council required to contribute £100.

3.8 LED Street Lighting

At a meeting of the Highland Council on the 30th October 2014, Members agreed to allocate up to £425,000 to upgrade LED street lighting across the Highlands in a spend to save initiative. A number of the street lights to be upgraded under phase 1 and 2 of the project are in the Inverness city area.

3.9 Green Bus Fund

Stagecoach have secured investment from the Scottish Government Green Bus Fund for the additional costs involved in deploying five plug in electric buses on their service 7 (City Centre to Lochardil, Ardross Terrace and Culduthel Farm) and service 9 (South Kessock to Raigmore Estate via City Centre) with fast charge points at Stagecoach's Seafield Road bus depot. This will amount to over £1 million of private and public investment in public transport in the Inverness.

4. Implications

4.1 Resource Implications: An Inverness car club would help citizens to save money by reducing private car ownership. Resource implications to the

Council are still to be identified, but using a car club for certain grey fleet journeys would lead to potential cost savings.

4.2 Equalities Implications: Car clubs can reduce inequalities by enabling a wider group of people to have access to a vehicle when they need it, whilst reducing the requirement for households to own their own vehicles. Car club fleets in other Scottish Cities have a wide variety of vehicles, including wheelchair accessible vehicles.

4.3 Climate Change/ Carbon CLEVER: Carbon CLEVER projects help to reduce carbon emissions and therefore help the Highland region support the Scottish Government targets as laid out in the Climate Change (Scotland) Act 2009.

4.4 Legal, Risk and Gaelic Implications: None arising from this report.

4.5 Rural Implications: In addition to the projects being developed in Inverness, Carbon CLEVER is delivering projects across the Highlands. Car clubs can also prove viable in rural areas and this will be considered through the proposal for a car club in Inverness.

Recommendation

Members are asked to:

1. Consider the potential benefits of an Inverness car club and agree that the Climate Change Team, with stakeholders, develop a tender proposal.
2. Note the progress of Carbon CLEVER projects in Inverness outlined in Section 3 of the report.

Designation: Head of Policy and Reform
Date: 20/11/2014
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Appendix 1

steer davies gleave

Inverness Car Club Feasibility Study

Report
November 2014

Carplus

Our ref: 22731701
Client ref:

steer davies gleave

Inverness Car Club Feasibility Study

Report
November 2014

Carplus

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Client ref:

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Executive Summary

Overview

This study, commissioned by Carplus, and The Highland Council, seeks to determine the feasibility of developing a car club in Inverness. Analysis of Scotland's car club market, funded by Carplus through the Developing Car Clubs in Scotland (DCCS) programme in 2011, undertaken by Steer Davies Gleave, identified Inverness as one of the top 6 large urban areas in Scotland in which to develop a car club. In addition to this, £1m of funding from Transport Scotland has been made available to introduce electric vehicles to the car club fleet in Scotland, in locations such as Inverness.
In 2013, the Highland Council led Carbon CLEVER initiative was launched which includes the target of a carbon neutral Inverness in a low carbon Highlands by 2025. A key strategic theme of this initiative is reducing emissions associated with transport. As such, car clubs could play a vital role in this for a number of reasons, such as by providing access to efficient and electric vehicles.

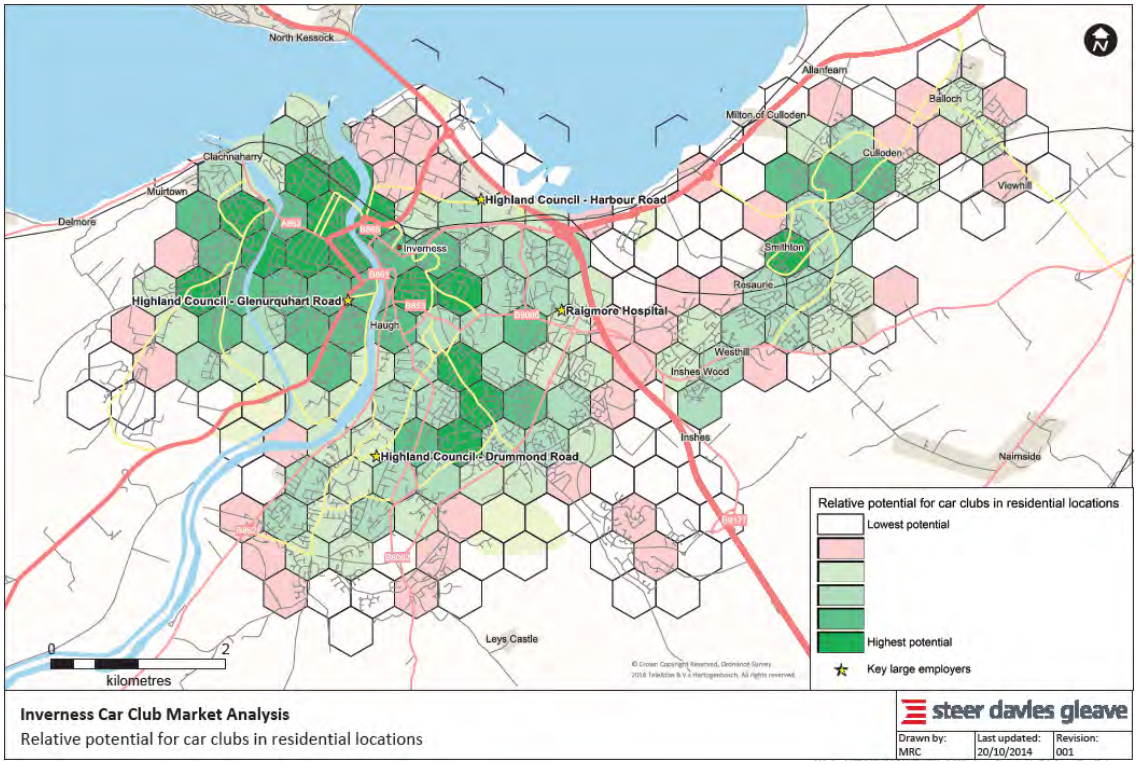
Identifying the Market

Comparing Inverness to other locations in Scotland where car clubs have been successful shows the following factors which indicate that Inverness would be a good potential location for a car club scheme:

- A good mix of people travelling to work by non-car modes;
- Population demographics with an above average propensity to join a car club; and
- Population with above average qualifications.

Overall the population density of the city is lower than in some other successful locations, which indicates that the scheme should be initially focused in the denser, more central part of the city.
Inverness has almost 600 businesses which are considered to have a high potential to use car clubs, in business sectors including public administration, health and professional services.
Based on the criteria for residential demand we have analysed, the map in Figure 0.1 shows the relative potential for car clubs in residential locations. The map also highlights key business locations, including three Highland Council sites and Raigmore Hospital.
Given the demographic and economic profile of the town, we estimate that a car club network in Inverness could initially support around 15 car club cars, including at the key business locations noted above. It is recommended that an initial scheme is focused on areas of higher potential demand in the city centre and neighbouring areas, with the potential to expand to locations such as Culloden and Smithton through a secondary scheme expansion, once the initial scheme has been established. There is also potential for additional demand from organisations such as LifeScan Scotland (also on the Raigmore Hospital site), the Highlands and Islands Enterprise and the forthcoming Inverness Campus.

Figure 0.1: Relative Potential for Car Clubs in Residential Locations



Stakeholder, Business and Public Engagement

The involvement of a key employer, whether the Highland Council or NHS Highland at Raigmore, either as an active part of car club development or a contracted user, will be important to ensure a sufficient base level of usage for the scheme outside of residential use peak periods of evenings and weekends. There is further potential for car clubs to be offered to tourists through hotels, although this would require some further work to facilitate on the spot booking of cars, without pre-registration. Engagement with the Highland Council and Raigmore Hospital regarding potential use of car clubs was positive. Inverness Chamber of Commerce and Inverness Business Improvement District were also supportive of plans for a car club scheme in the city.

Analysis of Fleet Data

Analysis of fleet data from Highland Council, NHS Scotland and Highlands and Islands Enterprise shows a high level of mileage carried out by the grey fleet. For example, the Highland Council alone records 6.6 million miles of grey fleet mileage. Although significant reductions in grey fleet mileage have been achieved by Highland Council in recent years, further reductions in grey fleet mileage, and associated costs and emissions could be made in each of these organisations through the use of car clubs.

Conclusions

Car sharing has the potential to generate numerous benefits across Inverness: from convenience and financial savings for car club users to reduced urban congestion, lower emissions of greenhouse gases and fewer cars parked on residential streets and car parks. Car clubs can also facilitate changes in staff travel to encourage lower carbon, cleaner, safer travel through use of forward looking policies and managed staff travel.

Our analysis concludes that on the basis of the underlying population and business characteristics of Inverness a car club would be feasible. We would recommend agreement is sought with Highland Council and/or Raigmore Hospital and the car club operator for use for an agreed number of vehicles to provide the scheme with sufficient weekday use to ensure economically viability.

1Identifying the Market

Relative Car Club Market Size

1.1 To identify the relative market size for car clubs in Inverness we have benchmarked existing car club operations in Aberdeen, Edinburgh, Glasgow and Dunbar.

1.2 Using this information and relative differences in the demographic profile of the locations we have estimated the number of car club cars required.

1.3 We have analysed the following factors (which affect demand for car clubs) to provide a context for Inverness, compared to established car club locations:

- Population and population density (higher densities increase potential);
- Travel to work (lower car use can increase potential);
- Car ownership (descriptive factor, car ownership levels can influence marketing strategy);
- Access to local services (greater provision of local services can increase potential);
- Qualifications (higher qualifications can increase potential);
- Income (higher incomes can increase potential); and
- Smarter TravelStyle[1] (demographics receptive to car clubs can increase potential).

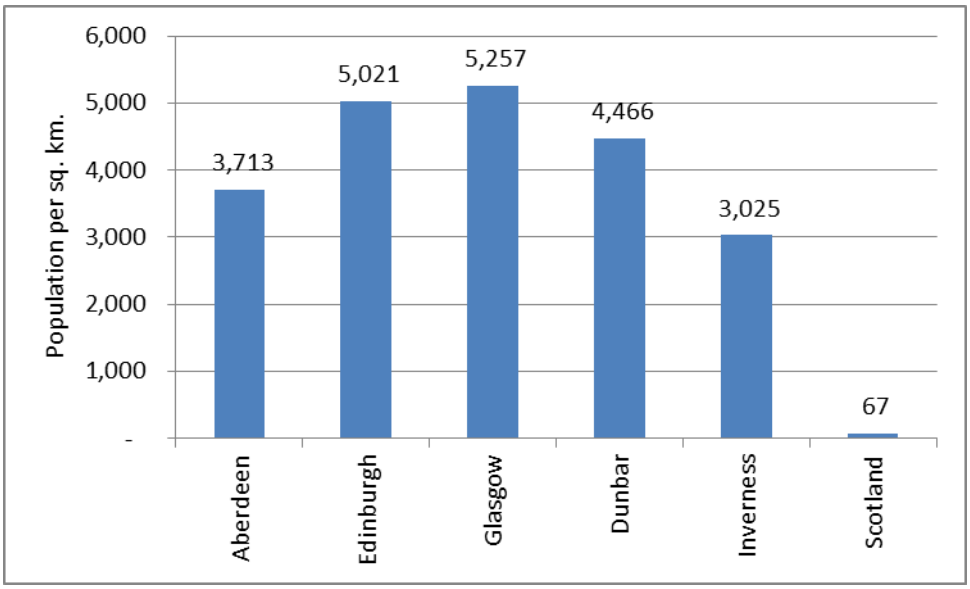
Population and population density

1.4 Population and population density are both important for car club potential. Higher population densities allow a larger market for any particular car club car. High population density also typically results in other pressures which benefit car clubs, such as restricted parking availability, lower than average car ownership and good access to local services.

1.5 As shown in Figure 1.1, comparing Inverness to other existing car club locations, population density is generally lower than other locations considered, albeit reasonably comparable to Aberdeen.

[1] Smarter TravelStyle is a demographic profiling tool developed by Steer Davies Gleave which incorporates Mosaic and actual travel behaviour data.

Figure 1.1: Population Density by Benchmark Location

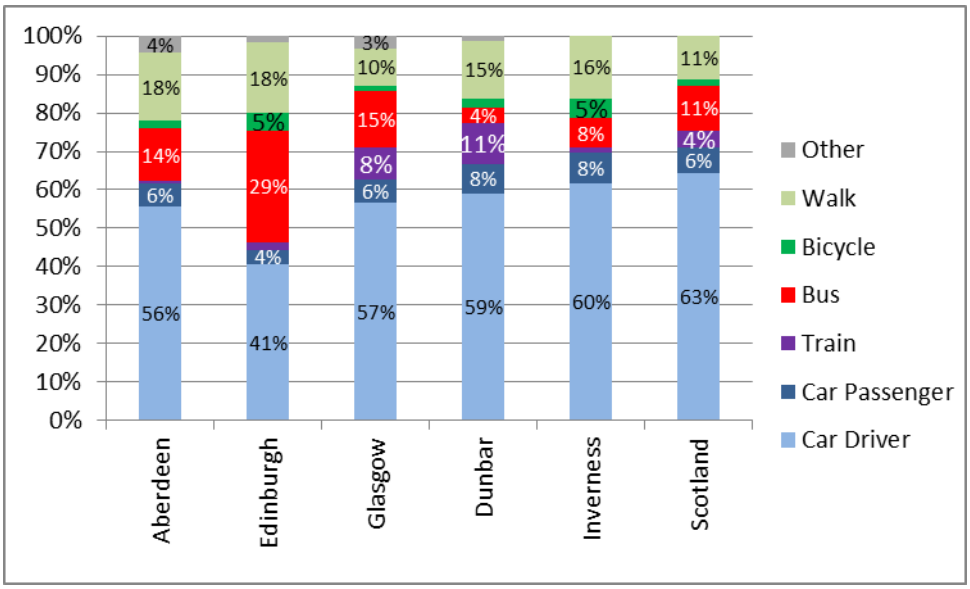


Travel to work

1.6 There is a strong link between car club membership and levels of public transport use, walking and cycling. People who make trips by public transport, on foot or by bicycle are more likely to be car club members than people who make the majority of their trips by car. Also, people who join car clubs tend to increase their use of public transport, walk and cycle more often.

1.7 As shown in Figure 1.2, comparing Inverness to other existing car club locations, Inverness has an above average level of people who walk to work, and comparably high share of people who cycle to work. Bus use however, is lower than national averages and all case study locations except Dunbar.

Figure 1.2: Travel to Work Mode by Benchmark Location

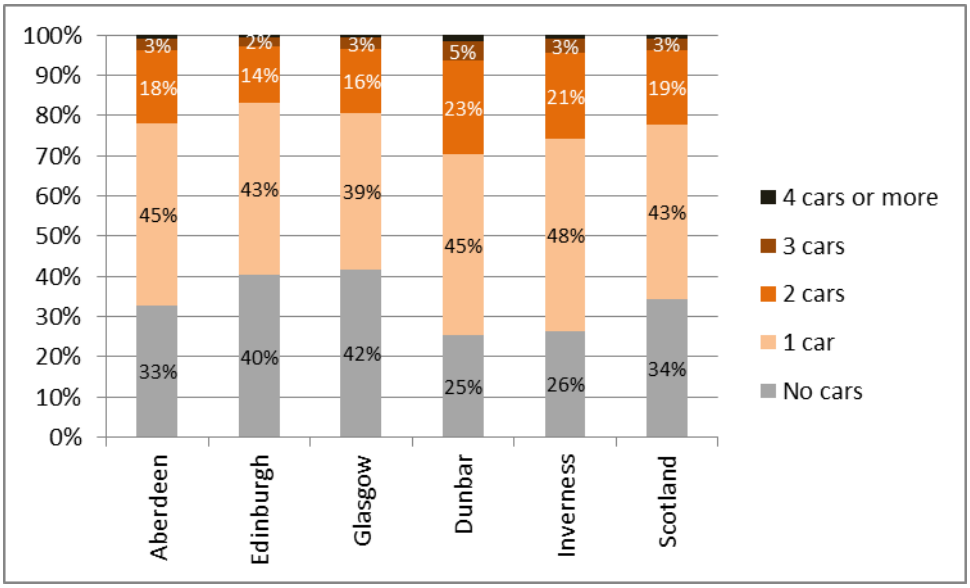


Car ownership

1.8 The effect of car ownership levels on car club membership depends on the type of location. For urban areas, such as Inverness, car club membership can replace a first or second car, whereas for more rural areas, car club membership is less likely to be a viable alternative for the first car in a household, if they are reliant on the car on an everyday basis.

1.9 As shown in Figure 1.3, car ownership levels in Inverness are slightly higher than the national average, although 26% of households do not have access to a car.

Figure 1.3: Car Ownership by Benchmark Location



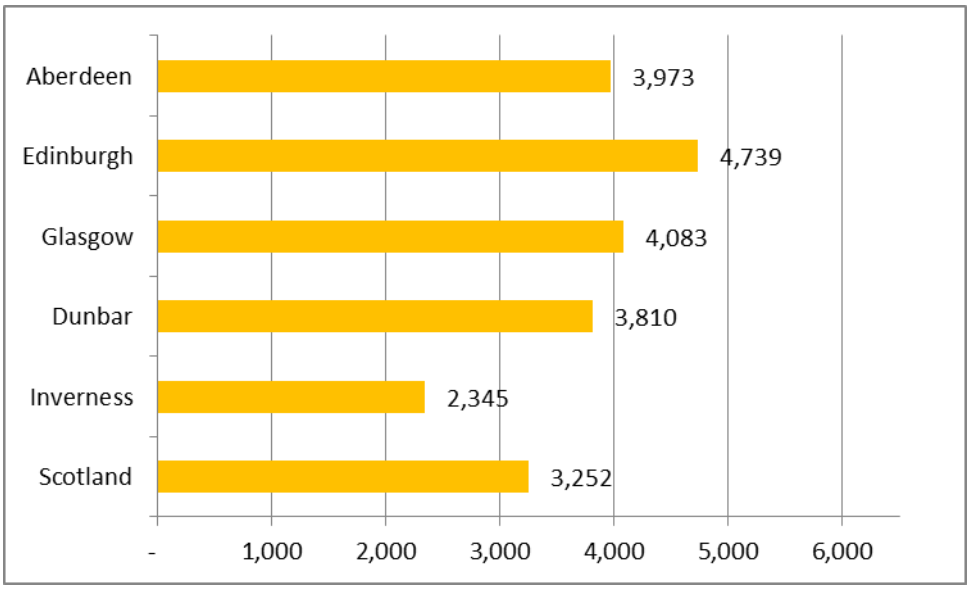
Access to local services

1.10 People who have good access to local services have less need to drive, therefore car clubs are potentially an attractive option, providing occasional access to a car, but reducing the need to own a car.

1.11 The Index of Multiple Deprivation ranks locations by access to services (Doctors, Post Office and shopping facilities) by walking and public transport. The higher the rank, the better the access to services.

1.12 Compared to the cities of Edinburgh and Glasgow, Inverness has more limited access to services by walking and public transport. This is also the case comparing to national averages, although the scores for the city are not poor, this may limit car club potential to some extent.

Figure 1.4: Access to Local Services by Benchmark Location

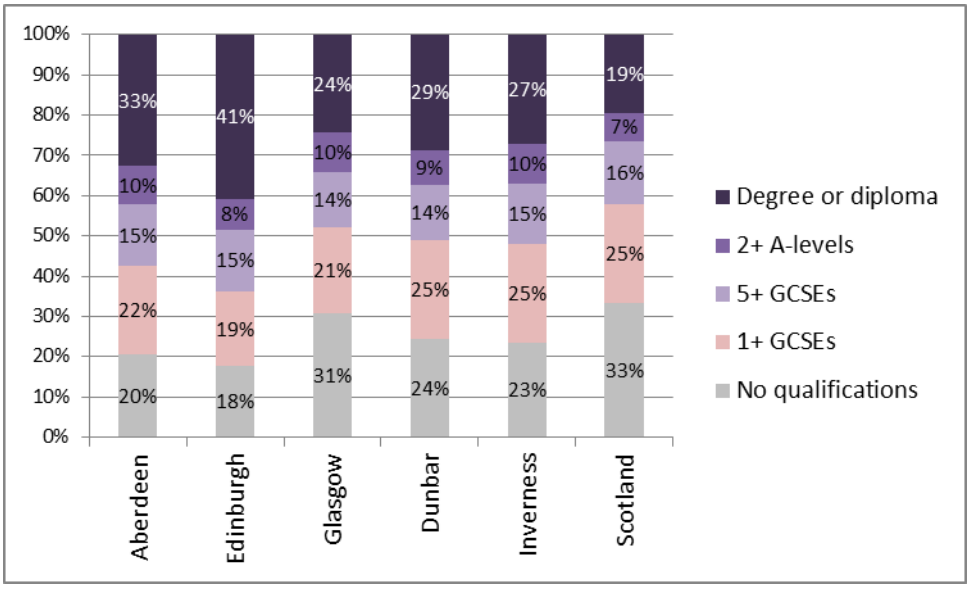


Qualifications

1.13 Higher levels of qualifications were found to be a key driver for car club demand in a study undertaken by the Economist Intelligence Unit for Zipcar.

1.14 Compared to national averages, Inverness has high levels of people with a degree or diploma. These above average levels of qualifications are likely to encourage car club membership.

Figure 1.5: Qualifications by Benchmark Location



Smarter TravelStyle

1.15 The demographics of the residential population have an important effect on the take up of car club membership. We have used our Smarter TravelStyle population segmentation to reflect how likely different residential populations are to join a car club.

1.16 Smarter TravelStyle is a bespoke geodemographic classification tool developed by Steer Davies Gleave to help plan and implement sustainable travel or travel behaviour change projects. Smarter TravelStyle is based on the Mosaic system which classifies postcodes into 67 types. Mosaic has been developed by Experian, the UK's largest owner of consumer data. Over 400 variables were used to build the classification, around half from the Census.

1.17 There are nine segments within Smarter TravelStyle, each with its own characteristics. The segments categorise individuals according to, amongst other things, their attitudes, and propensity to respond to different measures and policies. The graph in Figure 1.7 shows the relative likelihood of each segment to join a car club, and has been informed by membership information provided by car club operators. An index value in excess of 100 shows an above average propensity to join a car club. Based on this analysis Affluent Professionals, Suburban Families, Traditional Values, Metropolitan Success and Career Oriented segments have the highest propensity to join a car club if one is provided within close proximity. Those segments with an index value of under 100 have a below average propensity to join a car club.

1.18 Figure 1.6 shows that in Inverness, 62% of the population are in one of these key Smarter TravelStyle groups. This is higher than any of the existing car club locations, which indicates that the population are likely to have an above average propensity to use a car club, given they are introduced in suitable locations.

Figure 1.6: Smarter TravelStyle by Benchmark Location

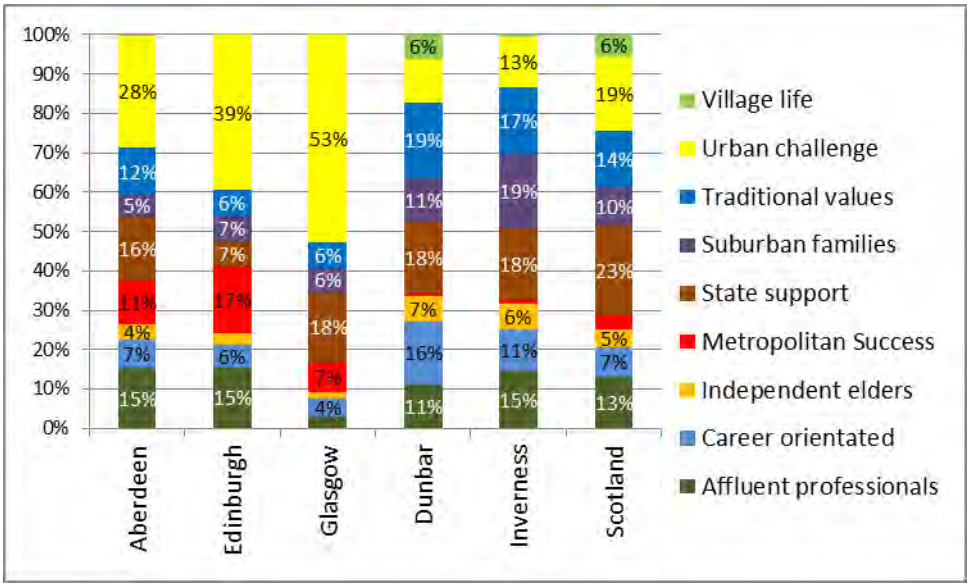
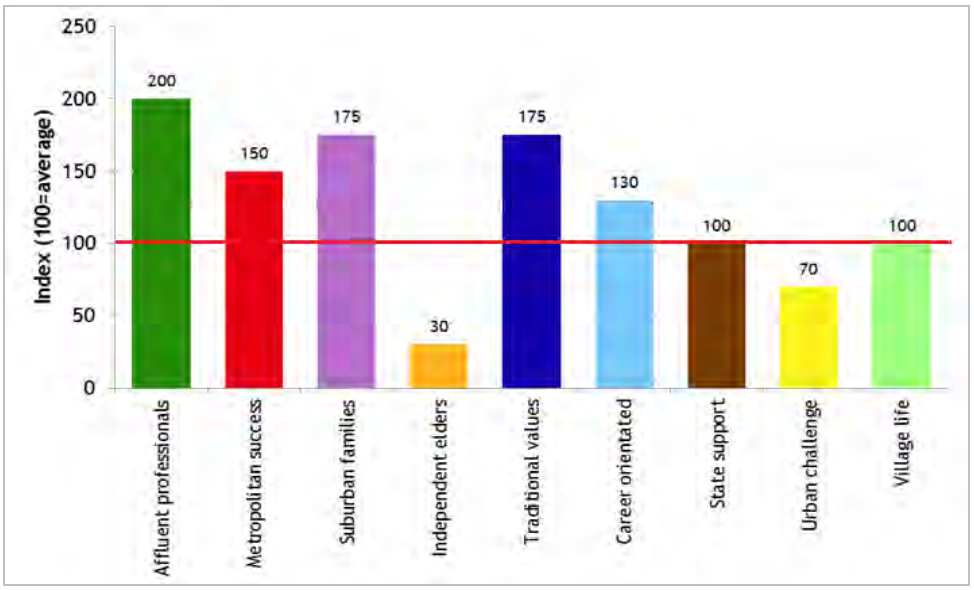


Figure 1.7: Propensity to Join a Car Club by Smarter TravelStyle Group

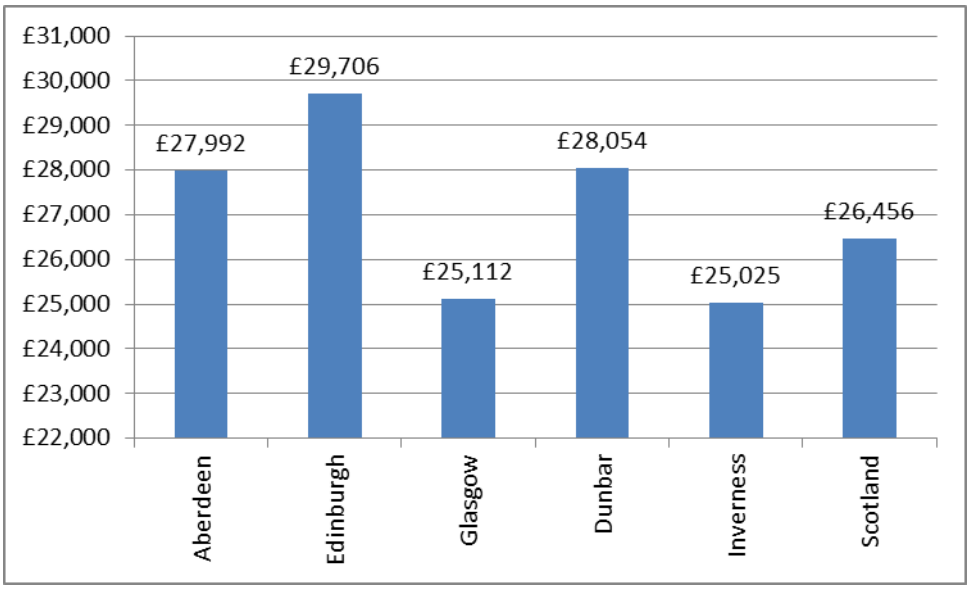


Income

1.19 Research we have undertaken for London Boroughs has shown that people with above average incomes have a higher propensity to become car club members than people with below average incomes.

1.20 Figure 1.8 shows the average household income for each benchmark location. Average incomes in Inverness are slightly below the Scottish average, on a par with income levels in Glasgow.

Figure 1.8: Average Household Income by Benchmark Location



Suggested number of car club cars required

1.21 To estimate the number of car club cars required in Inverness we have considered the current car club provision in each the benchmark locations and also relative differences in the demographic profile of the locations.

1.22 Table 1.1 shows the number of car club cars, population and relative number of cars by population for each benchmark location. The provision of car club cars per 10,000 people ranges from 0.3 in Glasgow (noting that this includes the whole of Glasgow, although the scheme only covers part of the city) to 4.7 cars per 10,000 people in Dunbar.

Table 1.1: Car Club Cars and Population by Benchmark Locations

Location	Number of Car Club Cars	Operator	Date established	Population	Cars per 10,000 population
Edinburgh	133	City Car Club	1999	482,000	2.8
Glasgow	31	City Car Club	September 2010	1,209,100	0.3
Dunbar	4	SpareWheels	May 2011	8,500	4.7
Aberdeen	26	Co-wheels	April 2012	207,900	1.3

1.23 When considering the potential provision of car club cars in Inverness the provision in Edinburgh and Dunbar are the most relevant. In Glasgow the scheme is relatively small, compared to the size of the city and in Aberdeen the scheme is still relatively new, with potential to expand. We have therefore considered the potential number of car club cars required in Inverness with reference to provision in Edinburgh and Dunbar.

1.24 The population of Inverness is currently 61,200 people. Using the figure of 2.8 car club cars per 10,000 people for Edinburgh, Inverness could support around **17 car club cars**.

1.25 Using the figure of 4.7 car club cars per 10,000 people for Dunbar, Inverness could support **29 car club cars**.

1.26 These can be considered realistic numbers for an established car club in Inverness, given the profile of the town, which although has suitable demographics and an educated population, has factors which may limit potential membership, which include below average access to services and population density.

1.27 We would therefore recommend a smaller initial scheme size, of **10 to 15 cars** focussing on the areas where demand is likely to be greatest, as detailed in the following chapter.

Mapping the Local Residential Potential

1.28 In this section of the report we have identified and mapped key factors which influence car club membership and usage to determine relative car club potential across Inverness.

1.29 We will assess car club potential amongst both residential and business users. To assess residential car club demand we have considered the following data sources:

- Population density (higher densities increase potential);
- Travel to work (lower car use can increase potential);
- Car ownership (descriptive factor, car ownership levels can influence marketing strategy);
- Access to local services (greater provision of local services can increase potential);
- Qualifications (higher qualifications can increase potential);
- Smarter TravelStyle[2] (demographics receptive to car clubs can increase potential).

[2] Smarter TravelStyle is a demographic profiling tool developed by Steer Davies Gleave which incorporates Mosaic and actual travel behaviour data.

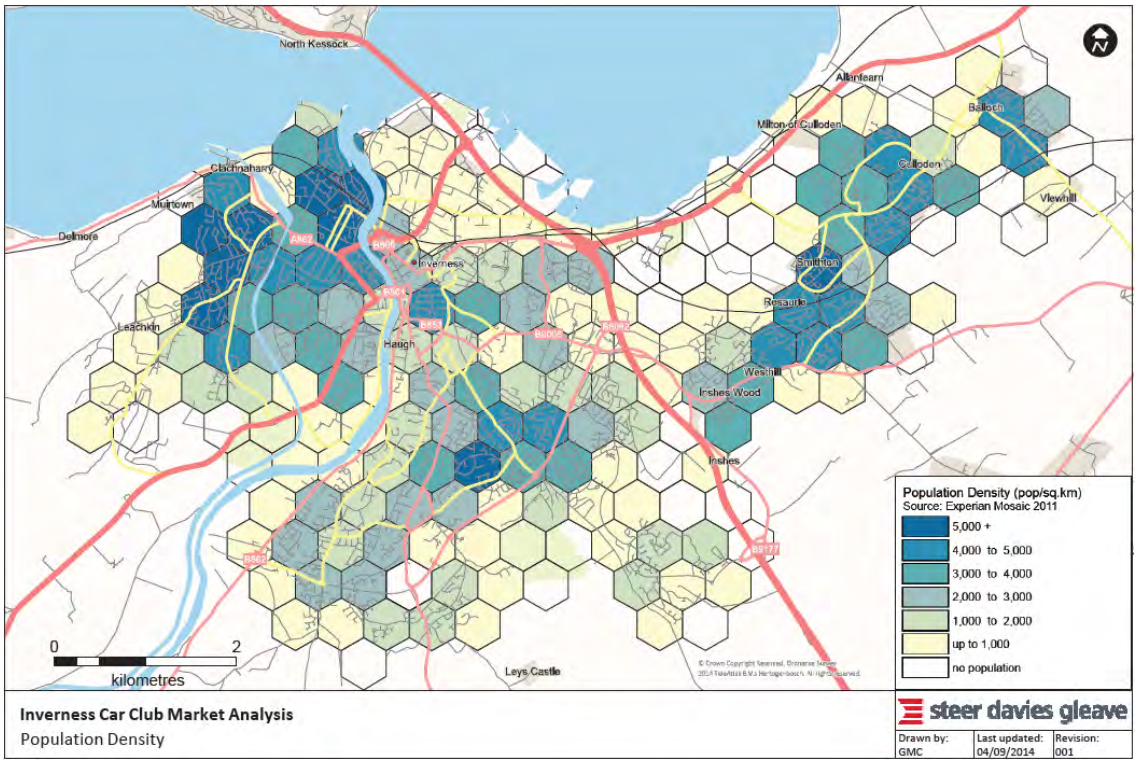
Population density

1.30 The map in Figure 1.9 shows the population density of Inverness. Locations with higher levels of population density are more able to support car clubs, through higher levels of demand, than areas which have lower population levels.

1.31 The population density of Inverness is greatest to the west of the city centre, particularly around Telford Road and in the Scorguie and Kinmylies areas to the west of King Brude Road/General Booth Road.

1.32 Other parts of the city area with higher population density include Smithton, Culloden and Balloch in the east and, in the south of the city, the area immediately to the north and east of Balloan Road.

Figure 1.9: Population Density



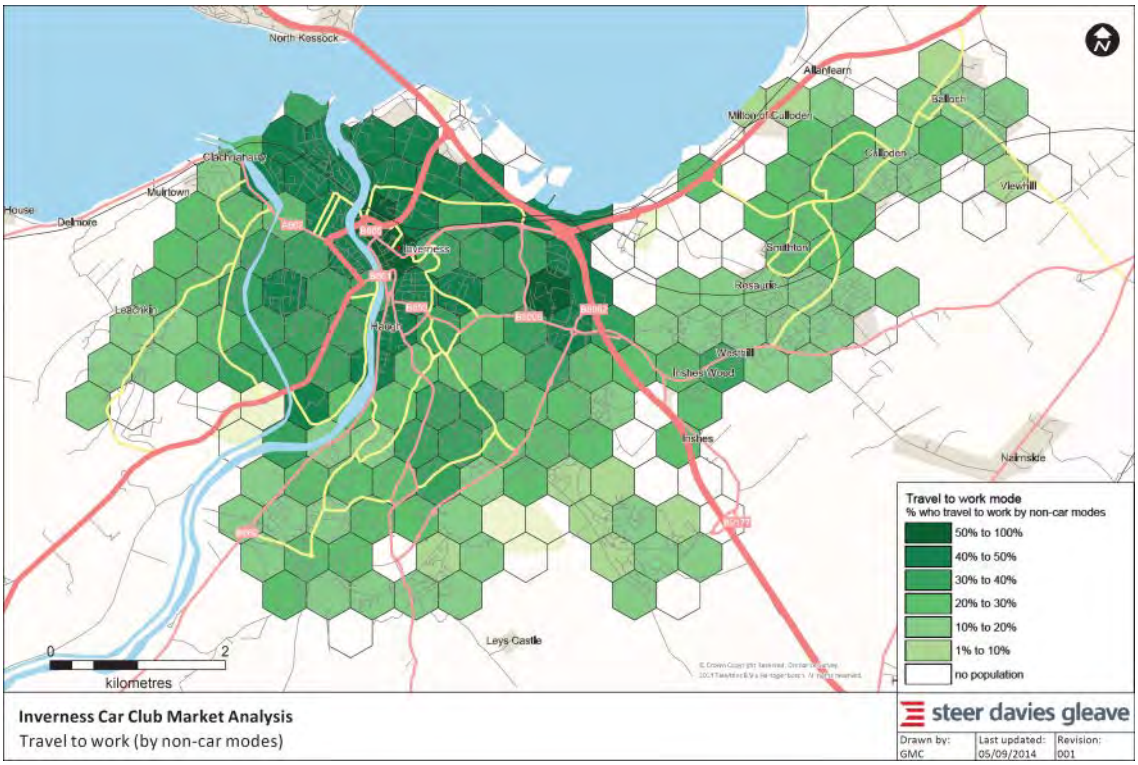
Travel to work

1.33 The map in Figure 1.10 shows the proportion of people in employment who travel to work by non-car modes. People who travel to work by more sustainable modes (walking, cycling and public transport) are more likely to be interested in joining a car club, as they are not reliant on using a car for commuting purposes.

1.34 Across Inverness there is a distinct geographic pattern of people who travel to work by non-car modes. The highest levels of non-car commuting are in the centre, north and east of the city, with high levels of non-car commuting (in excess of 50% in some places).

1.35 Further away from the city centre, non-car commuting becomes less common, although many areas still have reasonable levels of non-car commuters (with several locations between 20% and 30% non-car commuters).

Figure 1.10: Travel to Work by Non-Car Modes

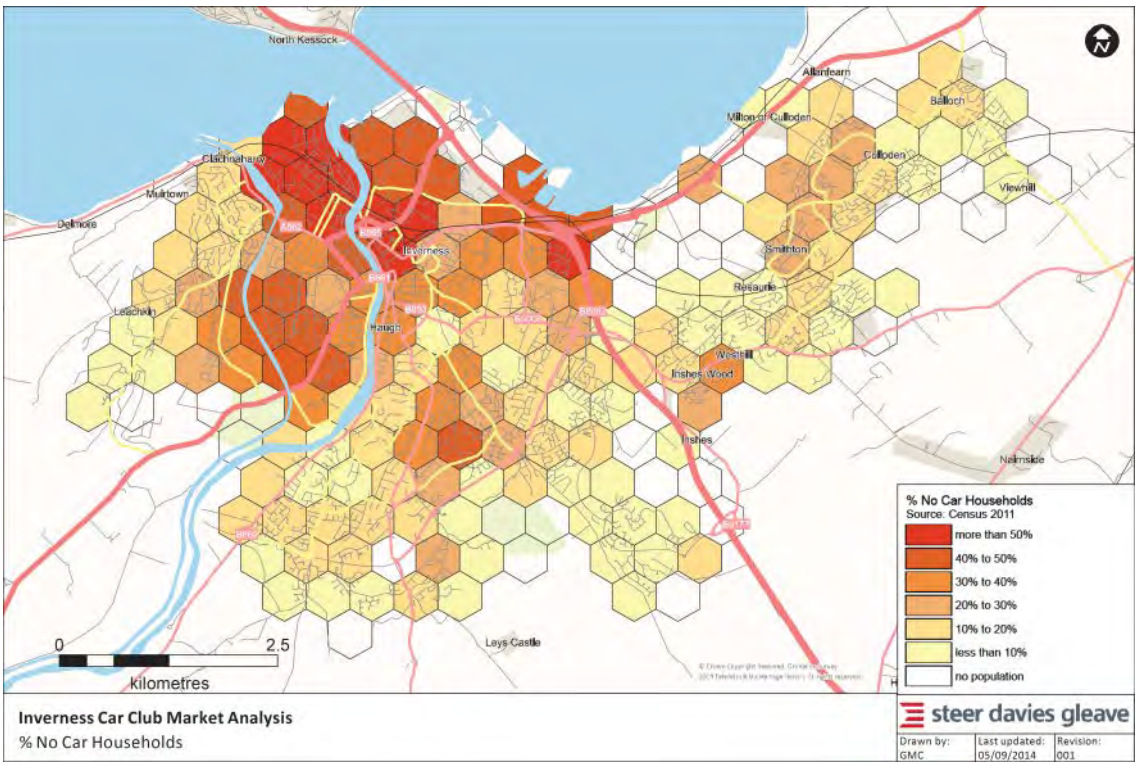


Car ownership

1.36 The map in Figure 1.11 shows the proportion of households without access to a car. Car clubs can be attractive both to people who do not own a car, those who own a car but drive infrequently and households which own one car, providing access to an additional when the first car is in use.

1.37 Car ownership levels are lowest in the centre of the town with many locations with more than half of all households without access to a car. Car ownership levels are higher towards the south and east of Inverness, which mirrors the lower levels of non-car commuters shown in Figure 1.10.

Figure 1.11: Households Without Access to a Car



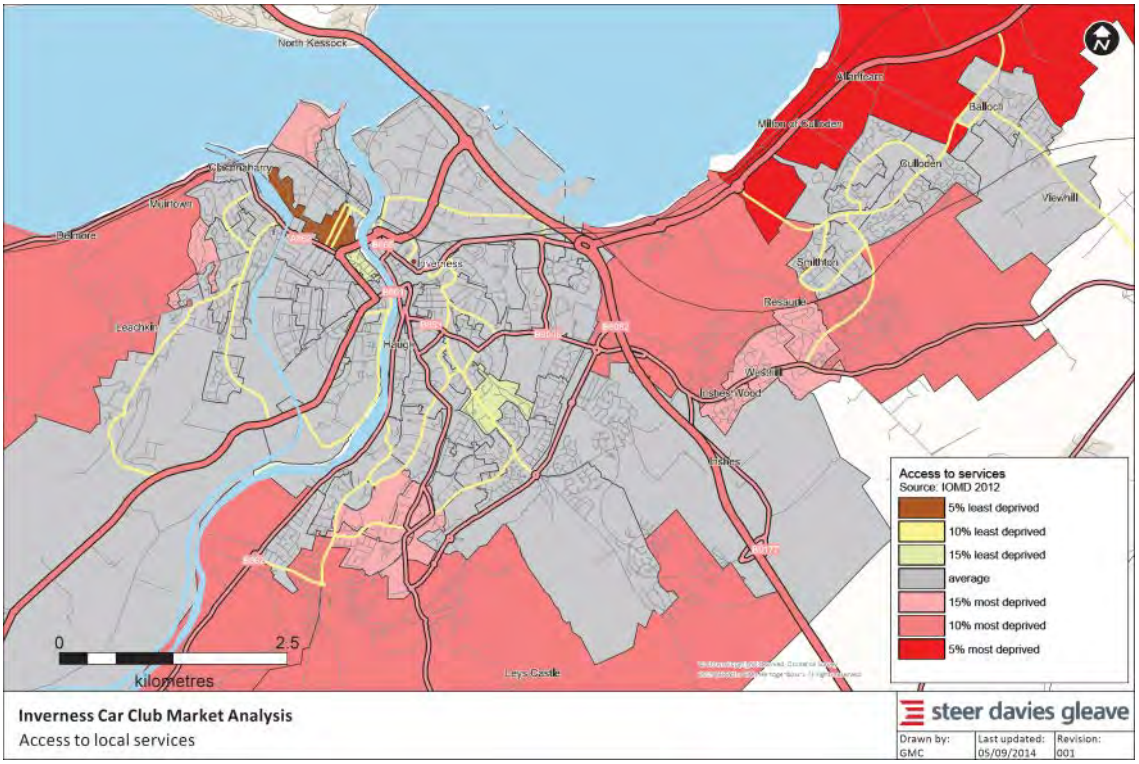
Access to local services

1.38 The Index of Multiple Deprivation classifies locations by access to services (Doctors, Post Office and shopping facilities) by public transport. The higher the score, the better the access to services. The map in Figure 1.12 shows levels of deprivation based on access to services.

1.39 Across Inverness access to services is generally reasonable, with the city centre and most of the suburbs having low or average levels of deprivation. This indicates that access to services for those without access to a car is average or good, and hence not a barrier to joining a car club with individuals needing frequent access to a car.

1.40 The more rural parts of Inverness have more limited access to services by public transport and are therefore considered more deprived based on this measure. It is likely that these areas will be more car dependent for many necessary trips, and therefore it may be difficult to those populations to change from single private car ownership for car club membership.

Figure 1.12: Access to Local Services

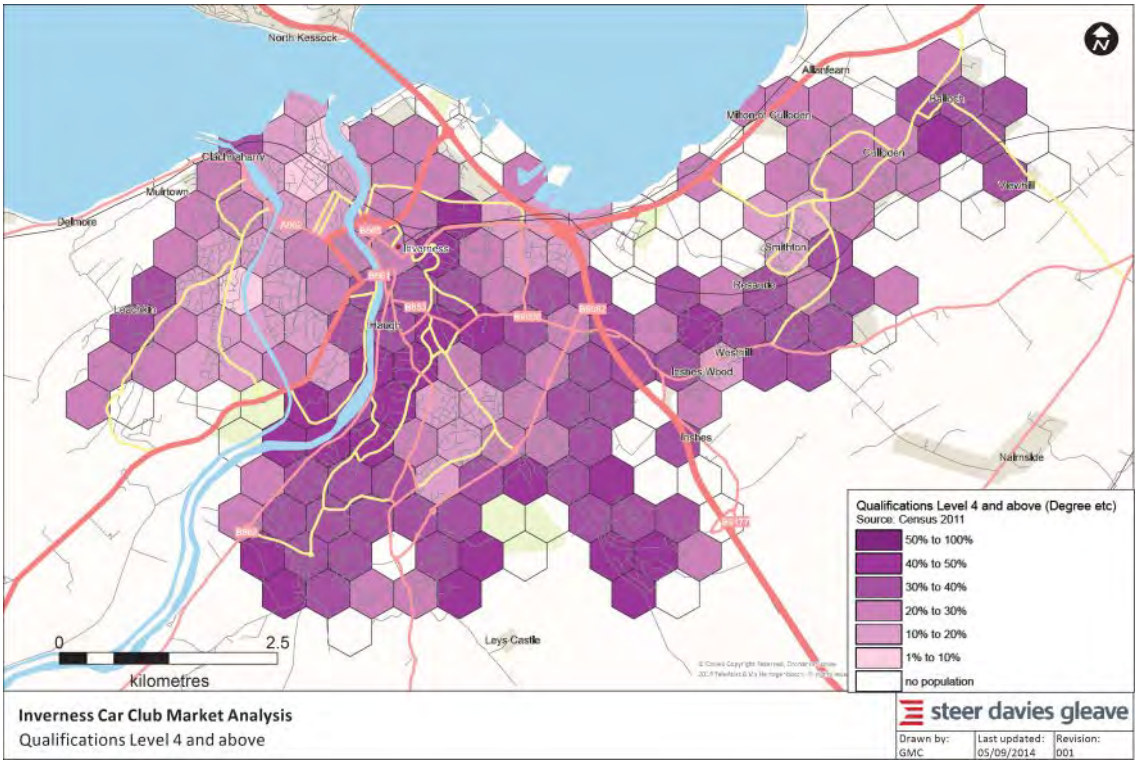


Qualifications

1.41 The map in Figure 1.13 shows the proportion of individuals who are educated to degree level or higher. Members of car clubs, in particular individuals who are early adopters of car clubs, tend to have higher levels of qualifications. It is therefore important to consider levels of qualifications when deciding where to introduce new car club locations.

1.42 Across Inverness levels of qualifications are generally high. Locations where qualifications are particularly high include a corridor immediately to the south of the city centre bounded by Culduthel Road to the east and Island Bank Road to the west, the area of Milton of Leys in the south-east and Balloch in the east.

Figure 1.13: Individuals with Degree Level Qualifications or Higher



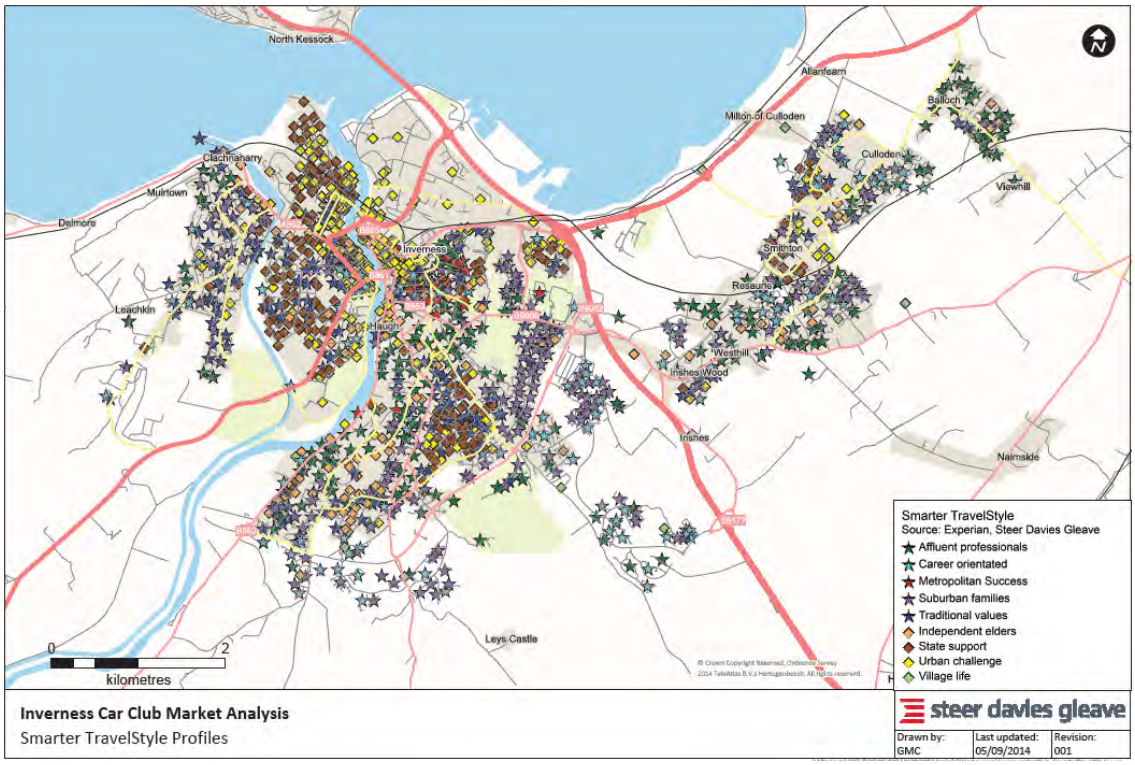
Smarter TravelStyle

1.43 Smarter TravelStyle is a bespoke geodemographic classification tool developed by Steer Davies Gleave (and described in more detail on page 5).

1.44 Based on the Smarter TravelStyle groups which are present in Inverness, the groups Affluent Professionals, Traditional Values, Metropolitan Success, Suburban Families and Career Orientated have an above average propensity to join a car club, if a car club car is located close to where they live. These groups are clustered in the following areas:

- The eastern areas of Westhill, Resaurie and Balloch (Affluent Professionals and Career Orientated);
- The south-west corridor between Culduthel Road and Island Bank Road (Affluent Professionals);
- The areas of Drakies, to the south of Raigmore Hospital and Kinmylies to the west of the city (Suburban Families and Traditional Values);
- The city centre (all three groups but particularly Metropolitan Success).

Figure 1.14: Smarter TravelStyle



Mapping the Local Business Potential

1.45 To assess business car club demand we have analysed information about businesses in Inverness using data from National Statistics UK Business Counts.

1.46 This has been undertaken by identifying the locations of businesses with high potential for car club use. Businesses have been classified as High/Medium/Low potential users based on previous analysis of business car club users in other locations and professional judgement. We have classified businesses based on their likely propensity to use car club cars below:

Table 1.2: Expected Propensity to Use Car Clubs by Business Type

High potential to use car club cars	Medium potential to use car club cars	Low potential to use car club cars
Education	Finance and insurance	All other businesses including: Accommodation and food services, Manufacturing, Construction, Agriculture, Mining, Transport and Property
Professional, scientific and technical	Information and communications	
Business administration and support services		
Health		
Public administration		

1.47 Across Inverness we have weighted each business by multiplying the number of businesses in each Scottish Intermediate Zone (the most detailed geography the data is available at) by the following factors to reflect potential demand:

- Business classified as high potential × 1.5
- Businesses classified as medium potential × 1
- All other businesses × 0.25

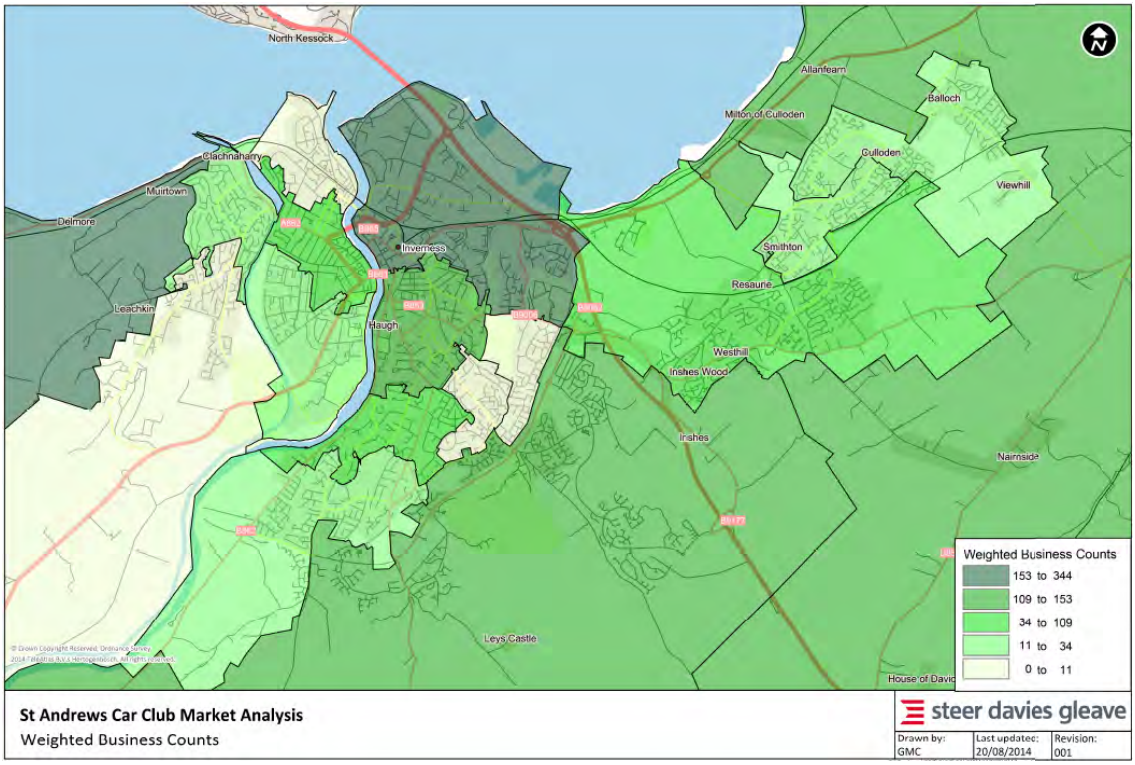
1.48 Table 1.3 details our analysis. We have estimated that Inverness has just over 1,400 businesses which are potential car club members. It should be noted that only a relatively small proportion of these are likely to become car club members in the short to medium term.

Table 1.3: Potential Business Demand for Car Clubs

Potential to use car club cars	Number of businesses	Weighted number of businesses
High	580	870
Medium	225	225
Low	1.335	334
Total	**2,140**	**1,429**

1.49 The map in Figure 1.15 shows how potential demand for car club use is located geographically across the city. Demand is highest in the city centre and immediately to the south. The ward to the west of the city centre which shows high levels of demand is of less interest as is a large ward, and largely outside the potential area for a car club in the urban area of Inverness.

Figure 1.15: Potential Business Demand for Car Clubs



1.50 To ensure a critical mass of users, contracts with large organisations, such as the Highland Council and the NHS at Raigmore Hospital with placement of sufficient cars close to these larger users will be important. Although Accommodation providers are typically low users of car clubs, car clubs could be of interest to hotel guests given the high volumes of tourists using Inverness as a base for a visit to the Highlands and a suitable commercial arrangement.

2Stakeholder, Business and Public Engagement

Introduction

2.1 In September 2014 we engaged with Highland Council, NHS Highland, Inverness Business Improvement District, Inverness Chamber of Commerce, Scottish Natural Heritage, Highlands & Islands Enterprise, local community organisations, members of the public and local businesses to gauge the level of interest in a car club. Highland Council was instrumental in facilitating this engagement exercise.

2.2 Prior to meetings with the public and local stakeholders, material explaining how a car sharing club works and how both organisations and private individuals can benefit from one was widely circulated, using websites and by e-mail, reinforced by press and radio coverage.

2.3 A two-day series of activities took place in Inverness during the week commencing 29th September 2014 led by Richard Armitage, on behalf of our team. Local stakeholders were also contacted by phone and e-mail where a face-to-face meeting was not possible. Engagement activities comprised:

- Meetings with stakeholders from Highland Council, NHS Highland, Inverness BID, Inverness Chamber of Commerce, and Scottish Natural Heritage;
- A lunchtime stakeholder workshop at The Town House; and
- An evening public meeting at The Town House.

2.4 At all meetings, Richard Armitage or Daniel Greig, Policy Co-ordinator - Climate Change, Highland Council, explained how a car club works and answered queries about car clubs. Overall, 28 individuals were engaged including local stakeholders and members of the public. This section summarises the findings of the engagement process.

Highland Council

2.5 Stakeholders consulted at Highland Council included the Integrated Transport Manager, Human Resources Manager (Organisational Development), Transport Development Officer, Policy Co-ordinator (Climate Change), Principal Policy Officer (Climate Change), and two elected members.

2.6 The Council has adopted, or is in the process of adopting, a series of policies that, taken together, are creating the conditions in which a car club can succeed. In particular, there is the Carbon CLEVER Programme, which commits £1m per annum to investment in carbon reduction actions and states that Inverness is to be carbon neutral by 2025. Other helpful policies include the Green Transport Strategy and the work done to date to reduce staff travel on Council business. The Council is working with Sustrans to promote cycling and improve

cycling infrastructure. The Council has a staff car pool that deploys one electric vehicle, and it is backing the e-bike hire scheme being operated by Co-Wheels.

2.7 The Council is still working through potential policy conflicts or barriers to sustainable travel. These include the relatively low cost of parking in Inverness, compared, for instance, with Glasgow and Edinburgh, where car club membership and use continues to rise. A Stagecoach 52-week Zone 1A Megarider from Culloden to Inverness would cost £521 or £43.42 pcm, only just less than an Inverness multi-storey car park permit of £50 pcm. It was suggested that development control is light touch at present, when it comes to sustainable transport measures being conditioned through the planning process.

2.8 All the stakeholders we met from the Council suggested the concept of a car club could fit well with current policy developments, complementing the existing and forthcoming carbon reduction initiatives.

Inverness Chamber of Commerce (ICC)

2.9 The Chief Executive explained that the ICC has 420 members, with membership much wider than just Inverness.

2.10 There are organisations and sectors that the ICC considered worth contacting with regard to a car club, including Highlands and Islands Transport Partnership (HITRANS), local business parks, the airport and hotels, such as Kingsmills, Thistle Hotel (which has a Europcar car rental desk), Mercure, and Penta. It should also be considered what the car club might offer the new Inverness Campus.

2.11 The ICC is in a strong position to help market the car club to local businesses and employers.

Inverness Business Improvement District (BID)

2.12 The Inverness BID manager explained that the BID covers 450 trading businesses and 250 private property owners. The centre is dominated by the hospitality, property and retail sectors, with a limited amount of office space and no car hire company presence.

2.13 A car club would first and foremost have to offer value for money, as it was suggested that sustainable travel would not be perceived as the key selling point by local businesses.

2.14 The Mercure Hotel, an active BID member, may be worth approaching for a parking space, especially if it wished to offer its guests a car club option.

2.15 Inverness's largest private sector employer, Lifescan Scotland Ltd., was discussed, as it has over 1,000 employees, and is based next to Raigmore Hospital. In turn this is located next to the Inverness Campus that is being promoted by Highlands & Islands Enterprise.

Scottish Natural Heritage (SNH)

2.16 The Vehicles Officer manages the SNH in-house fleet and car rental. They use the Masternaut key fob [**www.masternaut.co.uk**] for SNH's own vehicles, which provides high quality data, including actual fuel consumption figures.

2.17 SNH already operates a strict travel hierarchy that staff follow when arranging meetings and planning any associated travel (or travel substitution). There is a driving at work policy and an awareness of work related road risk. In-house, SNH has an intranet based system for booking everything, including meeting rooms, video conference facilities, and the vehicles, and there is

an on-line travel and accommodation expenses system. All of these measures are aimed at discouraging use of the grey fleet.

2.18 The issues were also discussed by telephone with the 'Greening the Workplace Officer', who felt that SNH could assist with marketing a car club to SNH staff who live in Inverness. She could see the advantages of having access to a car without having to own it and the knock-on effects this could have by giving SNH staff access to vehicles available for occasional use (for work or domestic purposes). The Officer was intrigued by the idea of adding value to the SNH pool fleet by making these cars available for paid use outside the times they would use them for business (e.g. weekends).

NHS Highland at Raigmore Hospital

2.19 The Professional Lead for Soft Facilities Services sets the standards and monitors catering, laundry, transport and so on. He sets all NHS Highland's transport policies. The Transport Manager post, which is a joint initiative with Highland Council, is vacant. In addition, there is an on-going transport review by NHS Scotland, which may lead to the regionalisation of transport management. NHS Highland is considering running an in-house combined hire car and staff car pool service, so the timing of this study is good.

2.20 The Transport Manager provides overall management of the hire cars and staff car pool (about 180 cars), but the day-to-day management is local. The Manager has to ensure technical compliance e.g. making sure lease cars are staying within the mileage limits agreed with the leasing company. Discussions are taking place with a car rental company about its services, including its pool car offer with in-car telematics.

2.21 It was noted that the Hospital has residential accommodation for nurses and doctors on site, who could be a target group for use of a staff car pool fleet, fitted with telematics, in the evenings and at weekends.

Highlands and Islands Enterprise (HIE)

2.22 The Finance Manager responsible for the HIE Travel Team explained that they encourage staff to use public transport. However, many staff use their own car for business travel and to get to and from work. HIE has no staff car pool. Their arrangements with car hire companies include delivery to the home address of the staff member. One source of business travel is staff moving between the HIE premises in Dingwall and Inverness.

2.23 It was noted that SEPA (Scottish Environmental Protections Agency) has a staff car pool, including a Toyota Prius hybrid, at its offices in Dingwall Business Park.

The Town House Meetings

Stakeholder Workshop

2.24 A presentation outlining the principles of car club operation and its impact was made at the Workshop by Richard Armitage. The explanation of how a car club works included:

- In-car telematics - smartcard locking and unlocking;
- The on board digital communication unit; and
- The car club method, such as the vehicle key left in the glove box and the convenience of the fuel card.

2.25 The discussion identified:

- Potential car club members may want to be able to travel to Edinburgh or Glasgow and use the local car club;
- Prior interest in establishing a car club in Muir of Ord, Black Isle;
- Interest in a solution that may suit the rural situation, such as peer-to-peer car sharing via an online organiser such as easyCar Club; and
- The University of Highlands & Islands, which is shortly moving to new site at Inverness Campus, has new student accommodation in Inverness for 150 students, who could find a car club very helpful.

Evening Meeting

2.26 There were 5 attendees at the evening meeting, including two local ward councillors. The discussion identified:

- A potential corporate user of the car club;
- An individual who does not currently have a car but lives in the centre of Inverness, and who felt the car club would be most useful; and
- A possible source of finance to kickstart a car club, using Section 75 contributions from the developers currently active in Inverness.

2.27 The potential difficulty of identifying on-street parking spaces that can be dedicated to car club cars could be solved at least in part by Highland Council providing spaces at the Town House and at Glenurquhart Road.

Press Coverage

2.28 A press release was drafted for the Highlands Council PR team, who issued it to local, regional and national media prior to the public meetings:

www.highland.gov.uk/news/article/8024/could_a_city_car_club_benefit_you

2.29 The *Highlands & Islands Press & Journal* ran an item entitled "Inverness car club plan" on 27th September 2014 and BBC Radio Scotland gave us coverage on 29th September 2014.

Other Stakeholder Input

2.30 We had e-mail contact with the operations director of a local social enterprise, Highland Home Carers, and with the Federation of Small Businesses' Development Manager for the Highlands and Islands. Although it was not possible to follow these through due to lack of time, it is worth noting that both individuals asked to be kept informed of the outcome of the study.

Overview

2.31 There are many positive actions on sustainable transport and staff business travel taking place in Inverness at present. Besides those listed above, there is the Velocity bike hire, bike repair and 'bike culture' café, which is financially supported by the Climate Challenge Fund, and recently a local bus operator (Stagecoach) announced it is introducing five new electric Optare Solo buses to run on local services including their Inverness-Raigmore link.

2.32 Highland Council will be key to the development of a successful car club in Inverness. Any proposal to set a car club up will need to ensure that the financial costs and its contribution to meeting the Carbon CLEVER Programme carbon reduction commitment are carefully calibrated.

3Analysis of Fleet Data

Introduction

3.1 The viability of a car club in small towns and cities can be underpinned by a major employer making use of the vehicles during the working day when the demand from private users is at its lowest.

3.2 In general, journeys that might transfer to a car club include bus and coach but the use of public transport should be encouraged as part of any Travel Hierarchy (see Appendix A) and it is not normally desirable or cost effective to transfer this mileage to a car club.

3.3 The modes that might have a lower cost, a lower environmental impact and improved safety if transferred to a car club include taxi journeys, hire car trips, pool car mileage and grey fleet travel (use of private cars reimbursed using a mileage rate). Of these the main target for transfer to a car club is the grey fleet mileage.

3.4 There are four major public sector organisations in Inverness which have grey fleet mileage and might be able to make weekday business use of a car club:

- **Highland Council** - 6.9 million grey fleet miles per annum at HMRC rates.
- **NHS Highland** - no published grey fleet mileage, other transport equals 6.6 million miles per annum.
- **Scottish Natural Heritage (SNH)** - only 17% of mileage is grey fleet. Extensive use of a pool fleet.
- **Highlands and Islands Enterprise (HIE)** - 400,000 miles at a cost of £179,000 paid at HMRC Rates.

3.5 Of the 6.9 million miles driven by Highland Council staff in 2013/14 an estimated 1.8 million miles were driven by staff based in Inverness and the surrounding area in their own cars (grey fleet). Just over 0.28 million grey fleet miles were driven by staff based at the main site on Glenurquhart Road.

3.6 The two NHS Highland hospitals in Inverness (Raigmore and New Craigs) are located in parts of the town where there is relatively low residential demand for public use of a car club and, based on experience at other NHS Hospitals, it is probable that their requirement would be better served by a dedicated managed pool fleet. However, at Raigmore, there may be the opportunity for shared private use of that fleet by staff living on site in the staff accommodation.

3.7 SNH is located on the western edge of Inverness and, as already indicated, has in place a robust travel policy and a good travel management system to reduce all driven mileage. It has reduced grey fleet mileage to only 17% of overall road mileage. SNH did express an interest in using the car club to reduce the use of taxis especially if vehicles were located at the railway

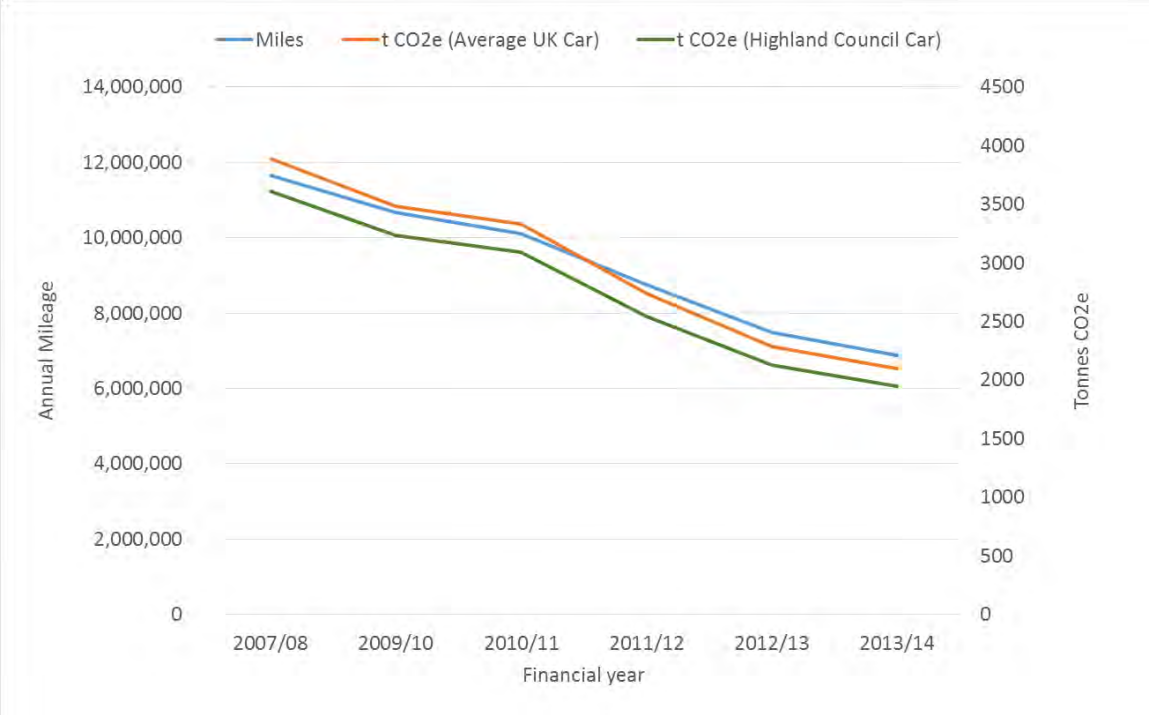
station. It is not clear whether this would be a cost effective use of a car club vehicle due to long dwell times at the SNH site.

3.8 HIE has a town centre location but did not fully engage with this project. Grey fleet mileage in 2013/14 was 400,000 miles which is lower than anticipated for the nature of the organisation. It was reimbursed at HMRC rates. It is possible that HIE is making significant use of hire cars, it does not have a lease car scheme.

3.9 Of these four organisations, Highland Council appears to be the local organisation best located to make cost effective use of a car club. The council reimburses most grey fleet drivers using the HMRC rate (£0.45/mile) and in 2013/14 the total spend on the grey fleet in the Inverness area was £851,000. During that period some drivers were reimbursed under the NHS Agenda for Change rate of £0.67/mile. These were mostly located at Raigmore Hospital and Ness Walk. It is assumed these are community care staff who have been transferred over from the NHS and have TUPE[3] rights to the NHS scheme. There were also a number of staff in receipt of £822 for which no mileage was recorded.

3.10 The historic data (Figure 3.1) shows that Highland Council has already achieved a significant reduction of 41% in its grey fleet mileage since 2007/08 and alongside this an equivalent reduction in carbon dioxide emissions. (Note: 2008/09 data is missing). This follows on from the implementation of the recommendations in an Energy Saving Trust (EST) Green Fleet Review.

Figure 3.1 Highland Council Grey Fleet Mileage and Carbon Dioxide Emissions 2007 to 2014



3.11 The two values for carbon are calculated based on the Defra average UK car and on the Highland Council average grey fleet car which in 2013/14 had emissions 7% less than the national average (paragraph 3.34). Missing from this analysis is pool, lease and hire car

[3] Transfer of Undertakings (Protection of Employment). The TUPE rules apply to organisations of all sizes and protect employees' rights when the organisation or service they work for transfers to a new employer.

mileage so it is not possible to determine the overall impact as some mileage may have transferred from the grey fleet to one of the other fleets.

3.12 Highland Council has a lease car scheme and in the mileage reporting these users were identified from the lower mileage rates paid for fuel only. Total grey fleet and lease fleet mileage for the "top five" Inverness sites is reported in the following tables.

Table 3.1: Highland Council Grey Fleet Mileage 2013/14 – Top Five Inverness Sites

Site	Mileage	Mileage Cost
Glenurquhart Road	282,920	£128,418
Harbour Road	138,449	£65,837
Drummond Road	106,874	£48,588
Limetree Avenue	105,678	£44,445
Leachkin Road	83,114	£37,861
Totals	717,035	**£**325,149

Table 3.2: Highland Council Lease Fleet Mileage 2013/14 – Top Five Inverness Sites

Site	Mileage	Fuel Cost
Glenurquhart Road	292,463	£40,507
Drummond Road	58,596	£7,426
Harbour Road	54,087	£7,152
Diriebught Road	43,632	£6,730
Ardross Street	29,759	£6,238
Totals	478,537	**£**68,053

3.13 From this data set it is clear that the three main sites for travel are Glenurquhart Road, Harbour Road and Drummond Road. Between them they account for over half a million grey fleet miles and just over 400,000 lease fleet miles.

The Grey Fleet at Highland Council

3.14 This is the fleet mileage most likely to transfer to a car club and so it would be good practice to establish a profile of this fleet in order to determine all the benefits of a change including cost, carbon reduction, air quality improvement and better safety for all road users.

3.15 Unfortunately, the Vehicle Registration Mark (VRM) was not captured alongside the claims mileage and after discussion with the team at Highland Council it was agreed that the paper based claims forms from the 275 Inverness staff who made claims in April 2014 would be recovered and the detailed vehicle and claims data entered into an Excel spreadsheet.

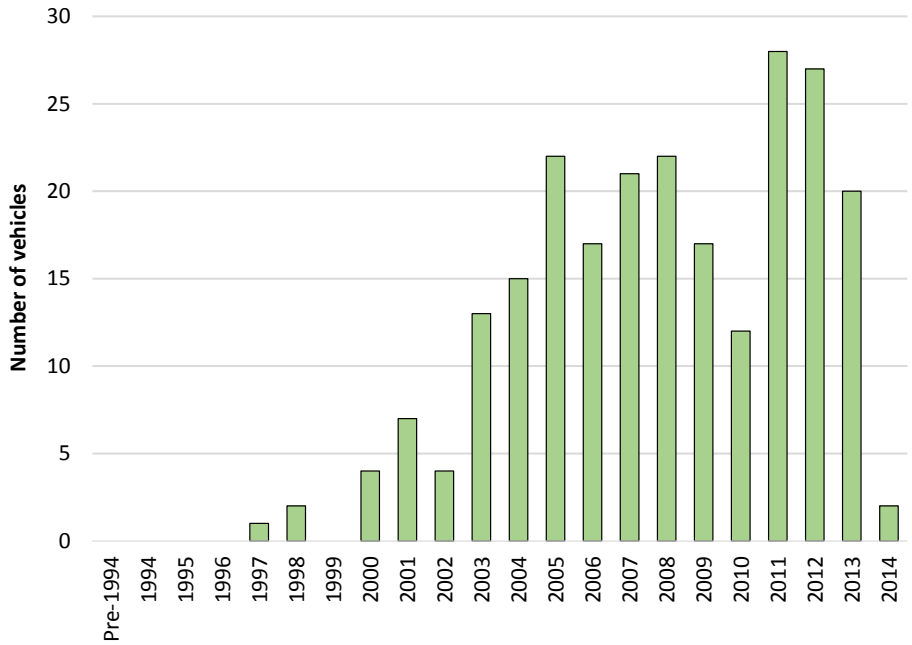
3.16 In total 262 vehicle registrations marks were captured and of these 27 were not recognised by the DVLA (a 10% failure rate is average and is usually due to miss-keyed entries – by the claimant or the claims processor). Of concern were the seventeen staff who made 245 claims, drove 6,245 miles but did not declare a VRM on their expense form.

3.17 The grey fleet may seem to be an easy option for the Council but the lack of VRM records would suggest that the Council does not fully meet its duty of care to ensure that the fleet of vehicles it is procuring by this route is fit for purpose, roadworthy, insured and adequately maintained – and has records to prove it. This finding is covered in more detail in Appendix B.

3.18 Using the DVLA data from the 235 valid VRMs it was possible to profile the fleet and consider its age, carbon emissions, air quality emissions and safety standard.

3.19 As might be expected, the grey fleet has a wide age range (Figure 3.2). However, the average age of sample was 5.9 years which is significantly less than the UK national fleet average age of 7.9 years, unusually low for a local authority grey fleet and may reflect the sample size – in 2013/14 just over 2,250 staff based in the Inverness area made a claim for mileage – or it may be reflection of it being a Head Office group of staff in the sample who will tend to be in more senior posts.

Figure 3.2: Highland Council Sample Grey Fleet Age Profile 2013-2014

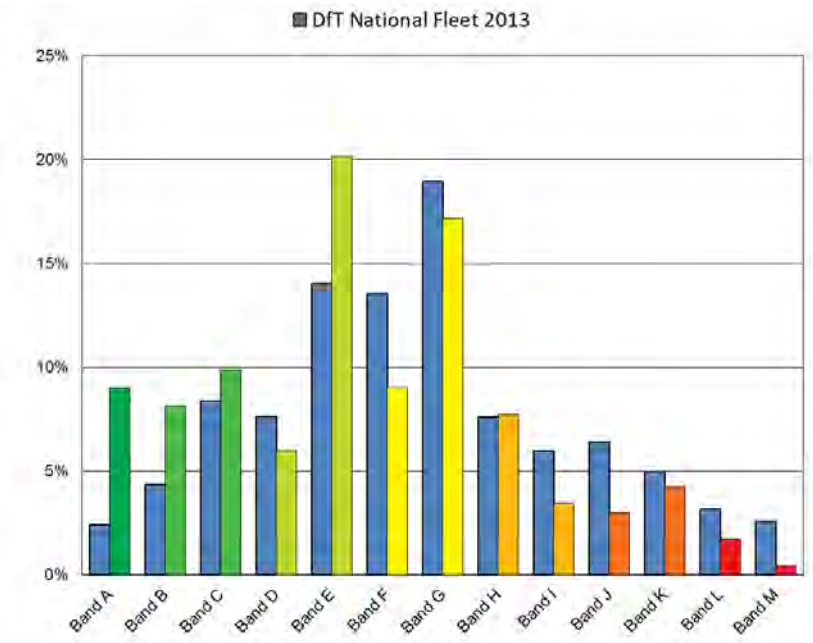


3.20 The oldest vehicle in the sample was a 1997 diesel executive car. It met the Euro 1 standard for emissions and achieved a New Car Assessment Programme (NCAP) rating of 2 Stars in safety testing.

3.21 The newest vehicle was a 2014 small family car which meets the Euro 5 emission standard and has achieved an NCAP 5 Star+ safety rating having been tested to the higher (+) standards in 2012.

3.22 The carbon profile (Figure 3.3) shows that HC grey fleet drivers are more likely to own a low carbon car than the national (UK) population with a significantly higher proportion of Band A and Band B vehicles in the fleet. However, there are also some high emission vehicles in use, the highest being a 2005, V6 diesel four wheel drive (4x4) with emissions of 271 g/km which will cost about £0.24/mile for fuel. It is an NCAP 4 Star vehicle.

Figure 3.3: Highland Council Sample Grey Fleet VED Profile vs. UK National Fleet

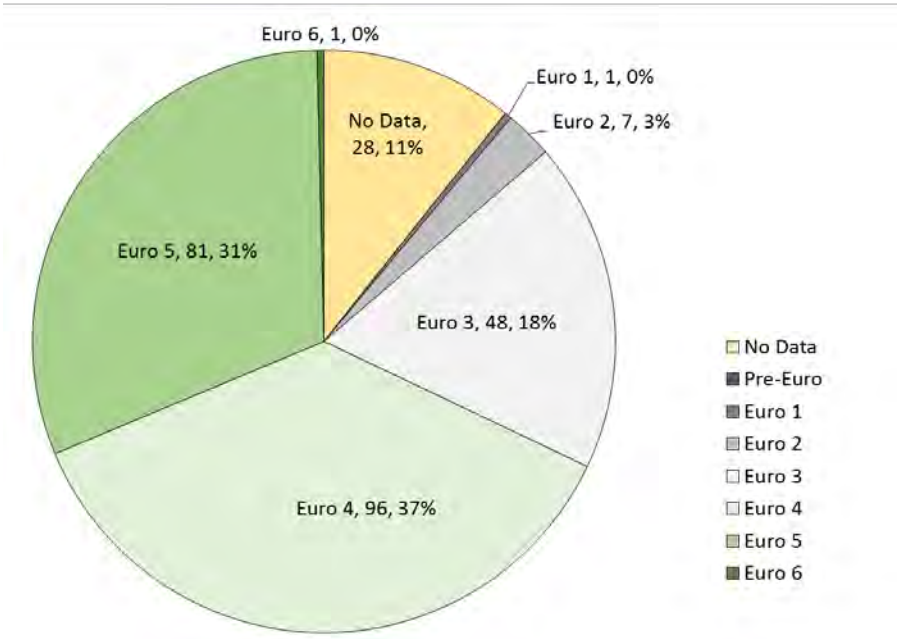


3.23 One employee was driving a 2012 electric small family car which has no tailpipe emissions and an NCAP 4 Star+ safety rating. Its published (**VCA Website**) fuel efficiency is 4.6 miles/kWh which is equivalent to 0.163 kWh/km; this includes a 21% "real world" uplift in line with the Energy Saving Trust (EST) methodology. UK average grid emissions are 0.4943 kg CO_2e/kWh so this EV has a carbon equivalence of 66.8 gCO_2e/km.

3.24 The lowest emission internal combustion engine (ICE) vehicle in use was a 2013, diesel small family car (supermini class) with emissions of 87 g/km (106 g/km after correction for "real world" use). It meets the Euro 5 emission standard and has achieved an NCAP 5 Star+ safety rating. It will travel over three times as far on each litre of fuel as the 271 g/km V6 diesel 4x4 at a cost of about £0.08/mile.

3.25 In terms of the impact on air quality a significant proportion (32%) of the sample grey fleet does not meet the minimum acceptable Euro 4 standard. The only Euro 6 vehicle was the electric car (see Figure 3.4).

Figure 3.4: Highland Council Sample Grey Fleet Euro Profile



3.26 The Euro 4 standard was introduced in 2005/06 and Euro 5a in 2009/10 with a small upgrade to Euro 5b in 2011 to control the number as well as the mass of particulates. The current standard is Euro 6 which came into force for all new-to-market models from the 1st September 2014 and will be mandatory for all new cars from 1st September 2015.

3.27 In general petrol vehicles are cleaner than diesel vehicles and it is not until Euro 6 that the standards almost converge. It is possible to move from a Euro 3 petrol car to a Euro 5 diesel and significantly increase the nitrogen oxide emissions. Because petrol is usually burnt in the engine as a vapour not a liquid petrol cars do not produce measurable levels of particulates.

3.28 The city centre of Inverness is to become an Air Quality Management Area (AQMA) after councillors agreed to the formal declaration on the 2nd September 2014. Detailed monitoring of nitrogen dioxide levels along Queensgate and Union Street in 2013 found that the highest annual mean nitrogen dioxide concentration recorded at one site was 46.3 ugm^3 which exceeds the national air quality objective of 40 ugm^3. This pollutant is primarily produced by diesel engines (Table 3.3) and in humans is associated with respiratory illness.

Table 3.3 Comparison of Euro 5 vehicles showing variation in NO_X emissions by fuel type.

Make and Model	Fuel Type	CO_2 g/km	Nitrogen oxide (NO_X)	Particulates
VW Golf TDI Stop-Start	Diesel	98 g/km	119 mg/km	0.3 µg/km
Ford Fiesta Stop-Start	Petrol	99 g/km	15 mg/km	Not applicable

Make and Model	Fuel Type	CO_2 g/km	Nitrogen oxide (NO_X)	Particulates
Toyota Prius Mk III	Petrol/Electric	92 g/km	6 mg/km	Not applicable
Nissan Leaf	Electric	0 g/km	0 mg/km	Not applicable

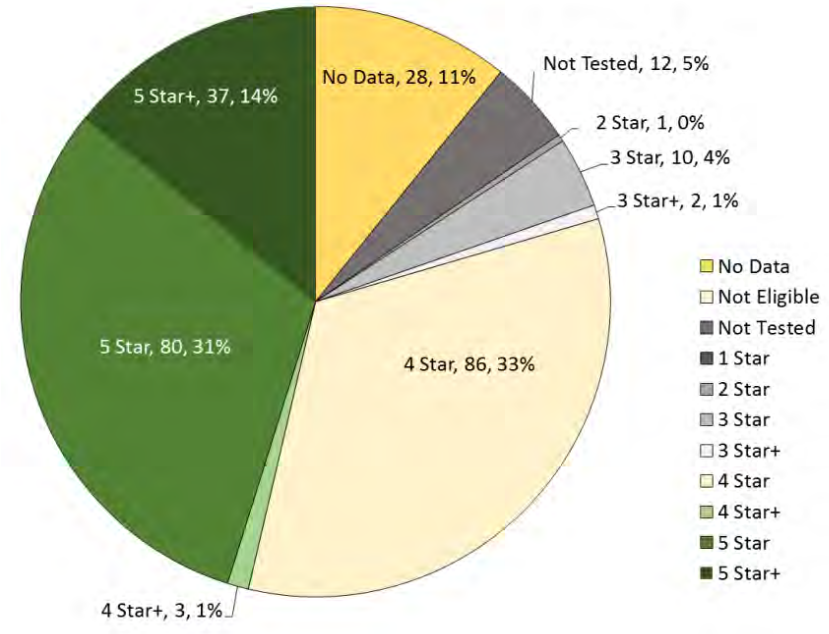
3.29 The sample HC grey fleet was 45% diesel, 44% petrol, 0.4% electric (remainder unknown). A low carbon car club fleet could contain a mix of electric, petrol hybrid and petrol vehicles.

3.30 It is important that the fleet of vehicles used for business is safe and the duty of care in this respect extends to any vehicle the council funds through mileage payments whether owned by it or not (see Appendix B).

3.31 Figure 3.5 shows the New Car Assessment Programme (NCAP) safety score for the sample grey fleet. Many companies operate a requirement for company cars, pool cars and hire cars to meet the NCAP 5 Star or 5 Star+ standard and the Council's own Vauxhall Ampera pool car is NCAP 5 Star+ compliant. Guidance states that the same standards should apply to all vehicles funded by an employer.

3.32 The "+" sign in the graph's legend indicates the test was carried out after 2009 when NCAP testing was enhanced and standards raised. Clearly a significant proportion of this fleet does not meet the NCAP 5 Star or 5 Star+ standard and will not offer drivers, passengers and pedestrians the highest level of protection in the event of a collision. The vehicles "Not Tested" are of a type and age eligible for testing but may not have been required for testing because they are produced in small numbers; sports cars and some 4x4s often fall into this category.

Figure 3.5: Highland Council Sample Grey Fleet NCAP Profile



Highland Council Grey Fleet in Summary

3.33 Although newer than the national fleet the vehicles being used by Highland Council staff on council business are significantly older, higher carbon, higher emission and less safe than a managed hire car, pool car or car club fleet which can be specified as low carbon, low emission and safe.

3.34 The average carbon emission of the sample grey fleet was 144.7 g/km which should be uplifted by 21% to reflect real world operation (EST Methodology, 2014) and by a further 0.6% to adjust for CO_2e – carbon dioxide equivalent; this takes into account methane, nitrous oxide and other greenhouse gas emissions and is in line with the Greenhouse Gas (GHG) Protocol for emission reporting. The uplift gives a value of 175 g/km which is lower than the average national (UK) fleet CO_2e figure of 189 g/km.

3.35 Applying the value of 175 g/km to all grey fleet travel by Highland Council staff in Inverness and the immediate area gives an annual carbon footprint of 528 tonnes. The footprint for all Highland Council grey fleet travel (6.9 million miles) is 1,949 tonnes CO_2e.

3.36 If this mileage is driven in car club or pool car vehicles with published emissions under 100 g/km and in electric vehicles (EVs) with tail pipe emissions of 0g/km there will be a substantial reduction in the overall transport carbon footprint.

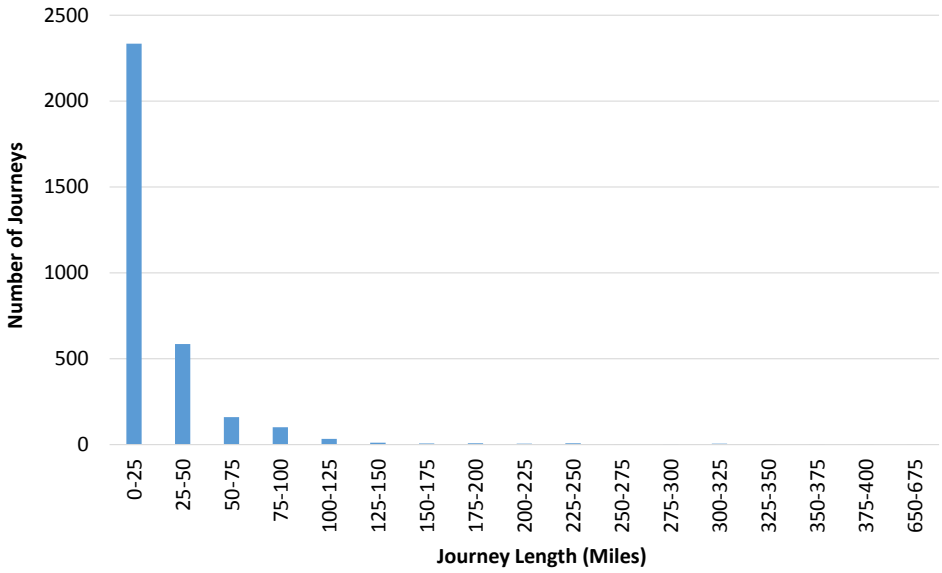
3.37 The recent introduction of an AQMA in Inverness does put some pressure on the council to demonstrate it is using clean technology vehicles. The grey fleet is 45% diesel and will be contributing to the high levels of nitrogen dioxide detected as will any diesel vans and HGVs operated by the council. Moving staff mileage to a low carbon and clean (air quality) car club fleet will reduce all emissions.

3.38 It should be noted that although EVs are zero emission the electricity generated must be accounted for and the mode of generation will be important. The carbon dioxide associated with the average UK kWh is currently about 0.490 kg/kWh. Electricity use is a GHG Protocol Scope 2 emission and must be reported, therefore the energy use of electric vehicles should be recorded.

Highland Council Grey Fleet Journey Profile

3.39 The sample data included individual journey information and that revealed that a large number of journeys – 2,334 out of 3,274 (71%) - were under 25 miles in length (Figure 3.6).

Figure 3.6: Highland Council Sample Grey Fleet Journey Distance



3.40 Further analysis shows 1,740 journeys (53%) were under 10 miles. This data would suggest that a significant proportion of the journeys are well within the range of modern electric vehicles.

3.41 While the majority of journeys in the sample were short it was clear there were some high mileage claimants. In April 2014, 44 staff exceeded 500 miles/month or 6,000 miles/annum. For these high mileage users a lease car arrangement might be more appropriate than paying grey fleet mileage.

3.42 In the April 2014 sample a total of 313 journeys were over 55 miles. This is the threshold at which a journey becomes lower cost in a hire car (see table below) and if Highland Council is going to make effective use of car club cars it will need to continue to offer staff hire cars.

Table 3.4: Hire Car Break-Even Threshold

Payment Scheme	Rate	Fuel	Residual	Hire £/day	Threshold
HMRC	£0.45	£0.12	£0.33	£18	55 miles
HMRC	£0.45	£0.12	£0.33	£23*	70 miles

*Option includes a £5 one-off charge for home delivery – then £18/day.

Highland Council makes extensive use of the hire car with an annual hire bill of £429,700 for 1,156,900 miles – an average cost of £0.37/mile. If this excludes fuel (£0.10-£0.15/mile) then it would suggest that current hire usage is – on average - marginally more expensive than HMRC rates. No detail was supplied about the hires so this cannot be analysed further.

3.43 In the 2013/14 data set there were 46 staff in the Inverness area who exceeded 6,000 miles/annum and ten who exceeded 10,000 miles/annum. One employee claimed for 20,794 miles. We have no data about the vehicle that was used to drive this mileage.

3.44 While there are a small number of high mileage staff the majority in both the April 2014 snap-shot and the 2013/14 data set are low mileage. In 2013/14 in both the Inverness area data set and the HQ data set 55%-60% of staff claimed for less than 1,000 miles/annum and 40% claimed for less than 500 miles/annum.

3.45 We do not have journey details but it would safe to assume from the April 2014 snap shot that a lot of those short journeys might be more cost effective in a car club vehicle.

Highland Council Pool Car

3.46 The Highland Council pool fleet at Inverness consists of one vehicle; a Vauxhall Ampera plug-in hybrid. This vehicle uses electric motors to provide propulsion while a petrol engine acts as a generator providing electricity for the motors and charging the batteries. Vauxhall claims a range of up to 50 miles in EV mode if fully charged. In hybrid mode the range is 350 miles.

3.47 The Vauxhall Ampera is well used. It was procured in July 2012 and has driven 25,672 miles in two years or over 12,000 miles/annum. This is an excellent mileage for a pool vehicle and demonstrates that staff are prepared to use shared vehicles if they are provided.

3.48 The Vauxhall Ampera is an expensive vehicle and has a limited EV range so even at 12,000 miles/annum it may not be lower cost than the HMRC rate of £0.45/mile.

Making Effective Use of a Car Club

3.49 It would seem from the data supplied that there is an opportunity for a significant mileage to transfer from Highland Council grey fleet to a car club but in order for this to happen clear policies to achieve the switch will be required and management control to enforce the change will be needed.

3.50 Careful consideration will need to be given to the location of the vehicles and the opportunity for public use outside of office hours. It is noted that some of the council high-mileage sites (Drummond Road and Harbour Road) are in locations with relatively low potential for public use.

3.51 Table 3.5 shows the different cost per mile of journeys of differing duration (time) and distance (miles) and is based on a car club vehicle costing £3.75/hour and £0.13/mile (e.g. Co-wheels Small Car). If a monthly rate for business hours access is agreed this model would not be appropriate and breakeven would be based on monthly mileage.

Table 3.5: Car Club Break-Even Threshold - Hourly Rate & Mileage Model

Hours	Miles	Journey Cost	£/mile
1	10	£5.05	£0.51
1	20	£6.35	£0.32
1	50	£10.25	£0.21
2	30	£11.40	£0.38
2	50	£14.00	£0.28
2	60	£15.30	£0.26

3.52 Clearly five of the six journeys cost less than £0.45/mile and one journey over the hire car threshold of 55 miles/day would be lower cost in a car club car. In general, journeys of long

duration and short distance will be more expensive in a car club car than HMRC rates but the savings made on the lower cost journeys can offset this cost.

3.53 Some staff at the main site have already demonstrated a willingness to use a pool car and this has not been adversely affected by the vehicle being a plug-in hybrid and "new technology".

3.54 For mileage to be transferred from the grey fleet to a car club or pool fleet a clear Travel Hierarchy must be in place and it must be enforced. The system in place at SNH is exemplary and a good model for Highland Council to emulate. The option of grey fleet travel must be made the last resort and actively discouraged. This requires monthly reporting and active travel management by line managers.

3.55 Highland Council has already achieved significant reductions in grey fleet mileage but further savings could be achieved through the implementation of these recommendations. Up to 40% of the total mileage can disappear once mileage claims 'inflation' and unnecessary journeys have been eliminated. Further savings can also accrue from electronic transaction processing and the time saved by staff not making the unnecessary journeys.

In 2012/13 a Zipcar (a commercial car club company) staff car club scheme at Croydon Council achieved a:

- Cut in car travel costs of 42%, from £1.3m to £756,000;
- Reduction in Croydon employee car users by 52%;
- Drop in employee business miles of 42%; and
- Reduction in employee CO_2 emissions of 36%.

3.56 In order for a car club to be a successful part of the Highland Council's travel options some changes in corporate travel policy, travel management and travel management information systems will be required.

4Summary of Benefits of Car Clubs

Individual

The Benefits of Sharing

4.1 Car sharing has numerous benefits for users, from accessibility to financial savings.

- **Convenient car use**: the convenience of a car without the hassle of owning one - no need for servicing, insurance, parking, MOT or repairs;
- **Self-service**: cars are accessible to members 24 hours a day, 7 days a week;
- **Saves money**: joining a car club could save users money in comparison to owning; and
- **Environmentally friendly**: car club vehicles are energy efficient and cleaner than the average car. They also reduce the need to own a car and discourage unnecessary car travel.

Environmental

Reduction in Car Ownership

4.2 As noted in chapter 1, Inverness could initially support between ten and fifteen car club cars based on the level of provision in other towns/cities in Scotland.

4.3 Based on the responses from members of car clubs in Scotland in the 2013/14 Carplus Annual Survey, we can estimate the following as a consequence of a car club network in Inverness:

- The number of private cars that could be removed from Inverness' roads (sold/disposed).
- The number of private cars that members might delay purchasing (and therefore are not added to Inverness' roads).

4.4 Table 4.1 shows that a car club network in Inverness has the potential to remove between 37 and 55 private cars from Inverness' roads as a result of members selling or disposing of their vehicle following joining the car club. In addition, a car club could result in the deferred purchase of between 80 and 120 private vehicles as a result of individuals choosing not to buy a car following joining a car club.

Table 4.1: Potential Number of Private Cars Removed/Not Added to Inverness' Roads

	Average figure per car club car (from 2013/14 Annual Survey)	Minimum scenario (10 car club cars)	Maximum scenario (15 car club cars)
Number of cars removed from Inverness' roads	3.7	37	55
Number of cars not added to Inverness' roads	8	80	120
Total	**11.7**	**117**	**175**

4.5 Evidence from the 2013/14 Annual Survey also shows that levels of car ownership decrease following membership of a car club. In Scotland, 48% of members did not own a car prior to joining a car club. Following joining a car club this figure rose to 73%.

Carbon Emissions

4.6 The removal of private cars from Inverness' roads would result in an improvement in air quality through a reduction in carbon and other emissions. The average car club car in Scotland also emits a lower level of carbon emissions than the average car in the national fleet: the 2013/14 Annual Survey showed that, excluding "zero emission" electric vehicles, the average carbon emissions from car club cars in Scotland was 112.2 gCO_2/km: 30% less than the national average car in 2012 (160.1 gCO_2/km). The introduction of Electric Vehicles as part of a car club scheme in Inverness would further improve these figures.

Societal

Use of Sustainable Transport

4.7 Car club members are often more frequent users of sustainable transport modes than the general population. In 2013/14, car club members and joiners in Scotland made more frequent use of buses, bicycles, walking and the train than the general Scottish population (Table 4.2).

Table 4.2: Comparing Car Club Members' Travel Patterns with the General Population[4]

Mode	Car Club Members	Car Club Joiners	National Travel Survey (Scotland Respondents)
	% of respondents using mode at least once a week		
Walking	89%	77%	65%
Underground	6%	3%	-
Bus	56%	55%	31%
Train	17%	10%	6%
Bicycle	38%	27%	13%
Car Driver (Private Vehicle)	24%	14%	61%[5]
Taxi	10%	8%	12%
Coach	1%	1%	1%

4.8 Car sharing is viewed as a powerful tool to reduce urban congestion and lower emissions of greenhouse gases. Car clubs can also facilitate social and economic opportunities such as the ability to access education and employment. They can help connect otherwise very isolated, transport poor places to the wider transport network as part of a portfolio approach to mobility.

[4] Carplus Annual Survey of Car Clubs 2013/14: Scotland, Carplus, p31.

[5] Transport and Travel in Scotland (2013), Transport Scotland, Table SUM1. Accessed online, 7th November 2014, at: **http://www.transportscotland.gov.uk/statistics/j333840-08.htm**

5 Customer Base Development

Overview

5.1 When developing a new car club location the development of the customer base is of key importance to the long term success of the scheme. In this final chapter of the feasibility report we have used two case studies of recently developed car club operations in Aberdeen and York to illustrate:

- The process of setting up the car club;
- What was done to promote the car club to:
  - Local Authorities
  - Large and Small Businesses
  - Residents
- Information about the current scheme; and
- Lessons learnt.

City Car Club, York

Setup

5.2 Prior to City Car Club setting up a network of vehicles in 2006, there was no car club scheme in the York area. The contract to run the car club was procured through a competitive tender released by the Council.

5.3 The starting size of the car club fleet was 6 vehicles, all concentrated in the city centre. However, the majority of car club vehicles were located in car parks and not very visible to the general public[6].

5.4 York City Council was reluctant to use the service at the start of the scheme. By 2012, less than 10 car bookings were made by City Council staff. Council staff were also scattered across 18 locations within the city, each with its own car park (or one in close proximity), making it difficult to encourage them to use the car club. Additionally, the City Council was reluctant to move away from their old model of booking taxis for business travel.

5.5 In late 2012, the City Council consolidated all offices to two sites – the UK Depot and the West Offices. Both offices offered few parking spaces and the majority of parking spaces that were provided were for members of the public or individuals with reduced mobility. As a result, the City Council moved to update their corporate travel plan to include City Car Club vehicles and began to promote the service internally.

[6] This remains an issue and is currently being reviewed by the Council.

Promotion

5.6 *Local Authorities*: The City Council promotes the car club internally (i.e. marketing emails, posters, information sessions, etc.) but this is only a recent development, commencing in the last year.

5.7 *Large and Small Businesses*: Businesses were engaged through a marketing campaign launched by City Car Club. A car club vehicle was also placed at York University in 2008 and remains there today. City Car Club has promoted the car club at the university through launch events, information sessions and leaflets. Many large business also have their head offices at the university.

5.8 *Residents*: Residents were engaged through a marketing campaign that launched in 2006 and is ongoing. Marketing initiatives include leaflet drops to residents residing in close proximity to the vehicles, car club open days, advertisements through local media (i.e. television, radio, etc.), community events, and initial membership discount rates. These initiatives have proved very successful as the majority of car club users are residents.

Current Scheme

5.9 There are currently 22 City Car Club vehicles in York. This number is expected to increase in the next year to between 30 and 35 vehicles under the West Yorkshire Combined Authority Local Sustainable Transport Bid.

5.10 Residents use the service most frequently, followed by Council staff.

5.11 City Car Club runs ongoing marketing campaigns to attract new users, with a specific focus on small businesses.

Lessons Learnt

5.12 Businesses have been less receptive to the car club and have had a harder time relating to the car club model as they perceive it to be more expensive than managing a grey fleet or hiring taxis. City Car Club has reached out to businesses on numerous occasions, in York, but struggled to successfully engage with them.

5.13 The initial lack of support from the City Council made the car club less accessible for users (i.e. residents had to walk through a car park to access vehicles, etc.) and this also made them harder to promote. It was hard to recruit large/small businesses at the outset because the view was 'If the Council can say no to car clubs, so can we'. Nonetheless, recent collaboration between the Council and City Car Club has reduced the grey fleet in the city by 24 per cent and, in 2013, saved the council nearly £100,000.

Co-Wheels, Aberdeen

Setup

5.14 Launched in 2012, Co-Wheels was the first car club in Aberdeen and the first car club in North Scotland. Prior to the set-up of Co-Wheels, the only other locations with significant car club provision were Edinburgh and Glasgow. The contract to run the car club was procured through a competitive tender released by the Council.

5.15 The starting size of the car club was 11 vehicles, all concentrated in the city centre. The locations of the car club vehicles were decided by the Council and noted in the tender.

5.16 Aberdeen City Council was a key member at the start of the scheme. Initially, Council staff were the only users of the car club. Originally, the City Council wanted the car club to be made available only to Council staff and, if successful, expanded to residents and businesses.

Promotion

5.17 *Local Authorities*: The City Council promoted the car club internally (i.e. marketing emails, posters, information sessions, etc.).

5.18 *Large and Small Businesses*: A marketing campaign was launched by Co-Wheels just over a year ago (in 2013) and is ongoing. Marketing initiatives include leaflet drops to large/small companies, business breakfasts (with large businesses), launch events at the Aberdeen Chamber of Commerce and car club open days (where a Co-Wheels representative presents information about the car club and benefits of using it).

5.19 *Residents*: A marketing campaign was launched a year ago and is ongoing (although not as widespread as the business marketing campaigns). Marketing initiatives include leaflet drops to residents living in close proximity to the vehicles and the promotion of car club open days.

Current Scheme

5.20 There are currently 26 Co-Wheels vehicles in operation in Aberdeen. This number is set to increase in the next few months with the addition of approximately 10 vehicles: the Council is very receptive to growing the scheme.

5.21 Currently, Co-Wheels' Aberdeen has 825 members with numbers increasing each month (by approximately 5 -6 members). Co-Wheels runs ongoing marketing campaigns to attract new users and residents and Council staff have been most receptive to the car club.

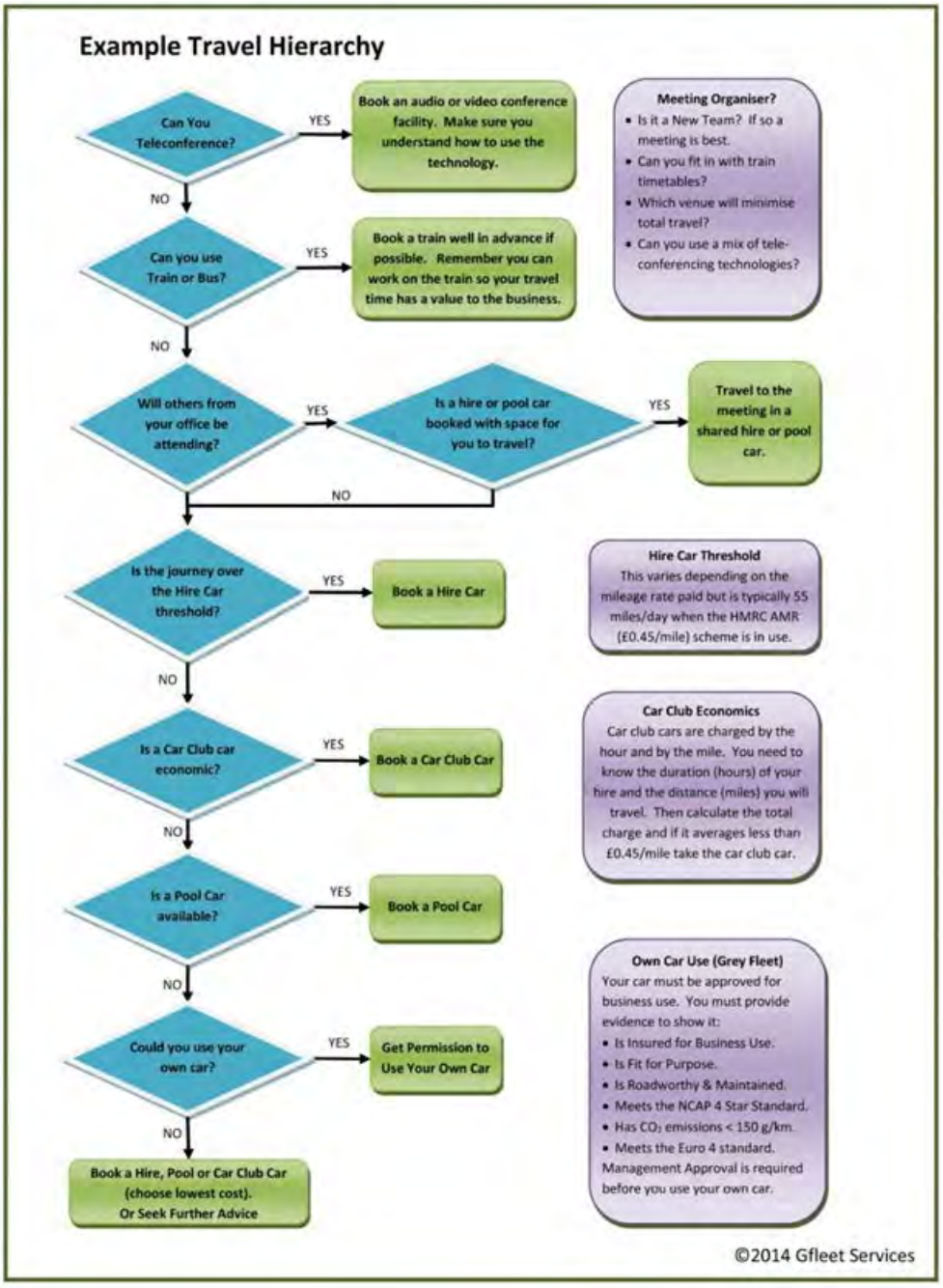
Lessons Learnt

5.22 As in York, businesses have been less receptive to the car club and perceive the club car model to be more expensive than managing a grey fleet or hiring taxis.

5.23 The main challenge in Aberdeen has been keeping pace with demand (there are currently not enough vehicles).

5.24 Co-Wheels recommends that an operator should seek to work with a respected, visible and committed partner/user when launching the car club (e.g. local authority) as this sets an example for businesses and residents.

A Appendix A: Example Travel Hierarchy



B Appendix B: Grey Fleet Guidance

B.1 Grey fleet obligations are set out by:

- HSE: ***Driving at Work***;
- RoSPA: ***Driving for Work: Own Vehicles****; and*
- DfT: *Driving for Better Business* website (***Operation of Privately Owned Vehicles***).

According to the DfT Website:

> "Employers have the same duty of care under health and safety law to staff who drive their own vehicles for work as they do to employees who drive company owned, leased or hired vehicles."

B.2 Few organisations fully comply with the DfT guidance which also includes the onerous requirement to "*arrange car park inspections*". Where these inspections have been carried out high failure rates have been observed. **A study carried out in 2007** of 3,750 private vehicles used for business showed that over 50% were not roadworthy i.e. they would not have passed an MoT test, in most cases due to faulty tyres, brakes, bulbs or windscreen wipers.

B.3 It matters that a member of staff is using an untested, uninspected 20-year old car with no driver air bag, no passenger air bag, no side air bags and no advanced collision avoidance braking systems yet may have a colleague or a client as a passenger.

B.4 The Council is running a reputational risk by not addressing its duty of care in this area and there is a chance that staff could be prosecuted under "cause or permit" as all road traffic offences have parallel offences of "aiding, abetting, counselling or procuring", "causing or permitting" and "inciting"; see: ***Penalty Points (Endorsements)***. The business use of a car is also an important aspect of the ***ACPO Road Death Investigation Manual*** and forms a significant line of enquiry that could in extreme circumstances lead to prosecution under corporate manslaughter legislation.

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