

InclusivEV:

Executive Summary

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1 Introduction

The InclusivEV project assessed the viability of Electric Vehicle (EV) car share scheme schemes in low-income neighbourhoods. Detailed feasibility research was undertaken in four locations: Brochów, Poland; La Coma, Spain; Modena, Italy; Redditch, UK.

Questionnaires were developed to investigate residents' travel needs within each neighbourhood, how those needs are currently being met and whether a car share scheme could offer a viable alternative. The market research results were then assessed for each site to seek to identify evidence of factors likely to contribute to:

- A potential market based on latent demand for mobility.
- A business case warranting investment in the supply of car share scheme services.
- EV-specific aspects including user and supplier requirements and constraints.
- Broader social and environmental benefits arising from car share scheme services.

The successful introduction of an EV car share scheme depends both on there being a desirable service offer for users and on the business case being viable for the car share scheme operator to invest in the provision and ongoing maintenance of car share scheme operations.

As a result of the InclusivEV project, four documents have been produced which provide an overview of the identified factors that may need to be addressed when implementing a car share operation in a low-income neighbourhood:

- Commercial Business Case Analysis.
- Social and Environmental Considerations.
- Procurement and Technical Requirements.
- Community Engagement and Marketing Guide.

This Executive Summary provides an overview of the research findings for each of the above areas. For further information about these topics, please refer to the detailed guides.

2 Commercial Business Case Analysis

2.1 Financial Stability

A car sharing scheme needs to be financially sustainable whilst also being affordable and useful for the local population.

In order for a car share scheme to be financially sustainable, it needs to secure sufficient income to cover the costs of running the vehicles and of staff to promote and support the scheme. Sources of revenue for car sharing schemes come from sign-up fees, yearly or monthly membership fees and hourly or daily rental rates plus mileage rates.

Table 2.1 provides an illustration of the typical day-to-day costs of running an independent car share scheme in the UK^a.

	Annual costs per car
Depreciation ^b	€4,029
Insurance	€1,708
VED (road tax)	€0
Cleaning and checking (€28.45 per week)	€1,480
Service and maintenance	€711
Operator costs	€2,731
Electricity costs (4.4c/km) ^c	€1,870
Total cost per car per year	€12,528

Table 2.1: Typical day-to-day running costs of an independent UK car share scheme

Additional costs to be considered include: staffing costs, which can be expected to be approx. €21,300 per year assuming that staff work from home; scheme marketing at approx. €4,300 per year and charge point purchase and installation costs which may be in excess of €3,000.

2.1.1 Pricing Strategy

The following table shows the points at which a four-vehicle car share scheme would break even given a range of utilisation rates. This highlights the need for high utilisation levels in order to reduce the hourly vehicle hire costs to a level that would be considered cost effective for low-income households. It is unrealistic to aim for utilisation rates above 30%; in order to achieve this level of use a scheme will require at least 30 active members per vehicle. This is likely to be higher for low-income neighbourhoods.

^a Running costs have been based on industry average rates and converted to Euro using a notional exchange rate of 1.3 Euro to the British pound.

^b Assuming that an EV is purchased through bulk purchase of a car share scheme for £16,500 and is used for five years. The depreciation has been calculated over five years, assuming a residual value of 15% at the end.

^c Assuming a utilisation rate of 30%, and that cars drive an average of 16km per hour when booked.

Cost per hour per hire	€9.00	€7.00	€6.00	€5.00	€4.00
Staff and marketing cost per year (per car)	€12,807	€12,807	€12,807	€12,807	€12,807
Total cost per year (inc. vehicle running costs)	€25,335	€25,335	€25,335	€25,335	€25,335
Hours per year booking required to cover costs	2,815	3,619	4,222	5,067	6,334
Hours per week booking required to cover costs	54	70	81	97	122
% use needed to cover costs	32%	41%	48%	58%	73%

Table 2.2: Breakeven costs of an independent UK car share scheme, utilising four cars

2.1.2 Pricing for Lower Income Households

The standard business model of having a joining fee, additional membership fees and hourly and mileage fees for vehicle use may result in low uptake of car share schemes in low-income areas. However, the following options have been identified as methods of improving accessibility:

- Pre-payment: members would pre-pay for their hours/miles ensuring they do not incur unexpectedly high bills at the end of the month.
- Different fee structure: US experience suggests that removing the joining fee, with a slightly higher hourly rate can result in higher usage by low-income drivers. ^[1]
- Multi-tier fee structure: Means testing would allow lower income drivers, old aged pensioners and disabled drivers to pay lower fees, with more affluent drivers and business users subsidising this. This may be a preferred option for sponsors of the car schemes. There may also be an option for housing organisations to pay a subsidy for their tenants to use the car sharing service thus reducing the financial burden on the residents.

Setting up a car share scheme within a low-income neighbourhood represents a risk for a car share scheme operator as the target customer base will be very price sensitive. There is a need to analyse the average income levels amongst residents to ascertain an acceptable fee structure.

2.2 Scheme Location

A car share scheme would be best located in a catchment area with a high population density.

Locating a car share scheme in an area of high population density will help ensure the cars will be within easy walking distance of a large number of potential users.

Figure 2.1 shows the population densities of the regions studied and compares these against a population density (black ring) taken as a factor of 1 for 2,500 people/km², which in itself is likely to be sufficiently high to support a car share scheme. As can be seen, the locations chosen in UK, Poland and Spain are ideal for a car share scheme based on population density alone.

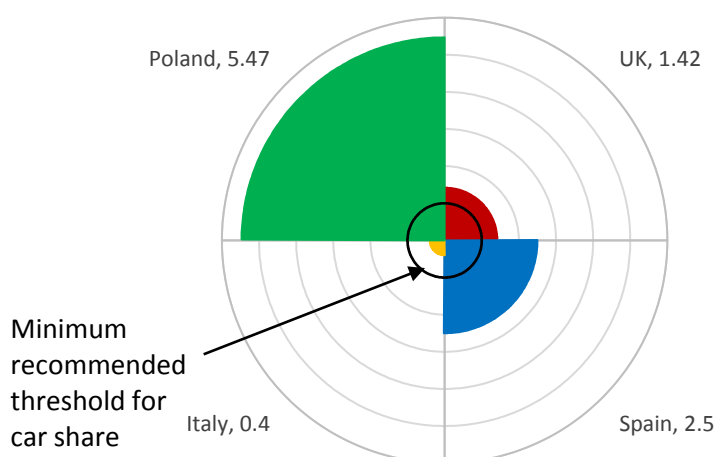


Figure 2.1: Neighbourhood population density (each multiple of 1 represents 2,500 people per km²)

The location should be considered useful, convenient and safe for local residents

The choice of location is key, with the best locations being those that are:

- centrally located within an area of high population density (e.g. near the apartments where residents live)
- convenient for local services (e.g. shops, library, municipal offices, etc.)
- considered safe by residents, who will need to visit these locations to collect and return cars.

Placing vehicles near a police station, or in well-lit areas is recommended so the car parking can become a landmark on community police patrol routes.

2.3 Customer Journey Needs

The car share scheme should be able to help meet customer journey needs

The primary benefit of car share schemes is enabling a user to reach key services not available locally and which are not always easy to access by public transport. Such services considered important to residents, which were neither local nor workplace, included a hospital, supermarket and post office, as well as sports centres, cinemas and theatres. This is in addition to the ability to meet friends and family and attend social gatherings. Figure 2.2 highlights the average distance to local amenities for each selected neighbourhood.

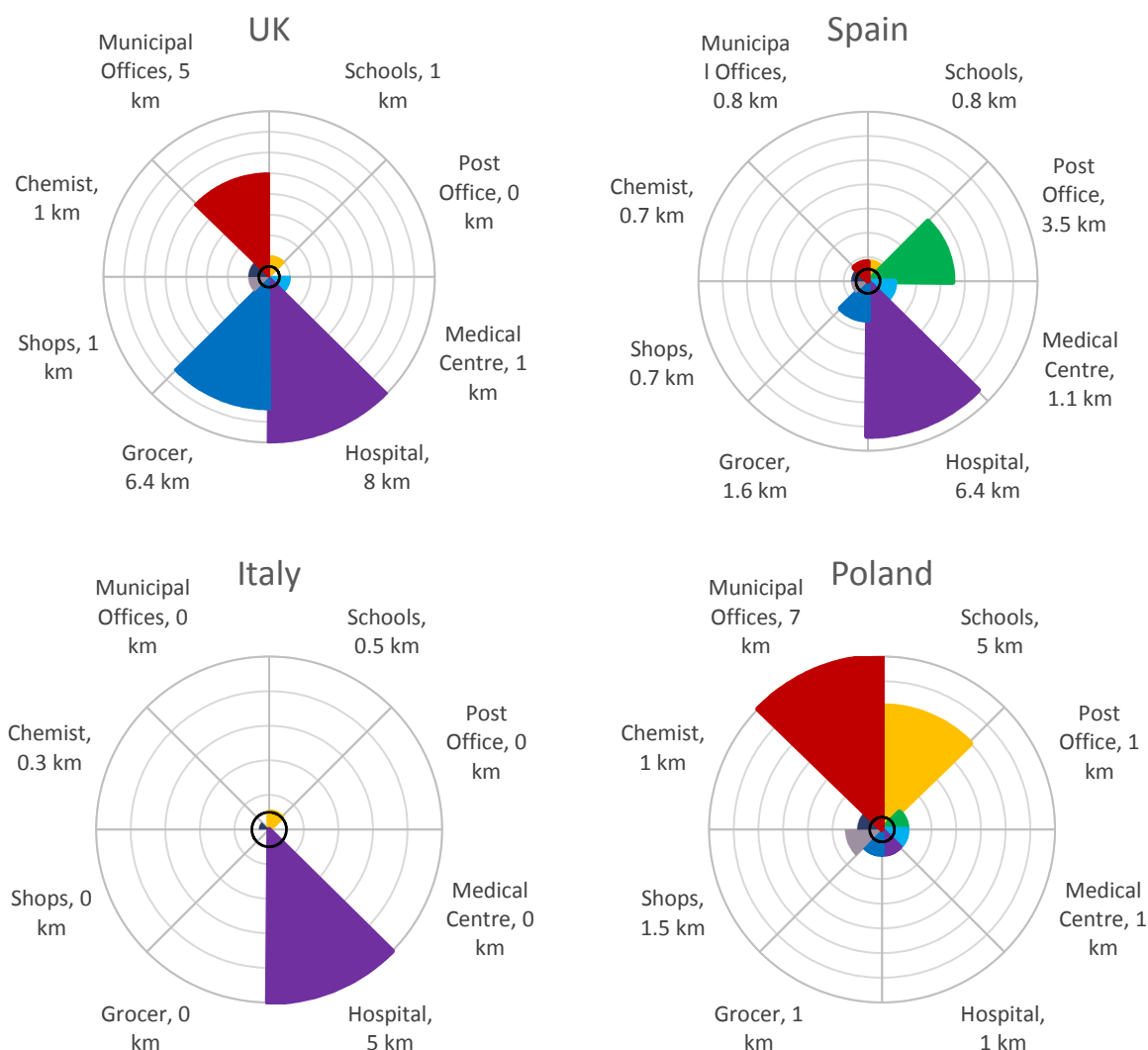


Figure 2.2: Average distances to local amenities^d

There is a trade-off between the use of the vehicles for travel by residents and the availability of the vehicles for other bookings as car share vehicles are best used for short duration journeys. There will be a need to incentivise the use of the car share vehicles for activities such as visiting local amenities, whilst avoiding residents using vehicles for their daily commuting. This would be best managed by the vehicles being deployed on a 'pay by the hour' basis.

2.4 Advantage vs. Alternative Transport Modes

Car share schemes need to offer a competitive advantage versus alternative models of transport

The success of a car share scheme depends on its ability either to displace other modes of transport, or to enable travel that might not otherwise take place. In terms of displacement, residents may use the car share vehicle for journeys that would otherwise be made either by public transport, private car or by minicab.

^d The black circle indicates a comfortable walking distance of 500 m from the epicentre of the residential area.

Common factors that can enable car share schemes to offer an advantage to customers are summarised below.

2.4.1 Versus Public Transport

Car share schemes offer an advantage to public transport use when these services do not serve key amenities (e.g. hospitals, shopping centres, municipal offices etc.) – either at all, or at insufficient frequency.

Data collected from the research showed that there were concerns about the public transport service amongst the residents of the selected neighbourhoods. Figure 2.3 shows the rating of these concerns based on the percentage of respondents in each area. The most cited reasons (approximately 40% of responses from a region) which would give the car share scheme relative advantage over public transport are: unreliable journey times; and lack of security. High cost of public transport is also listed as a concern – however, car share schemes are typically more expensive than public transport for key journeys; therefore, this factor in itself is unlikely to encourage car sharing.

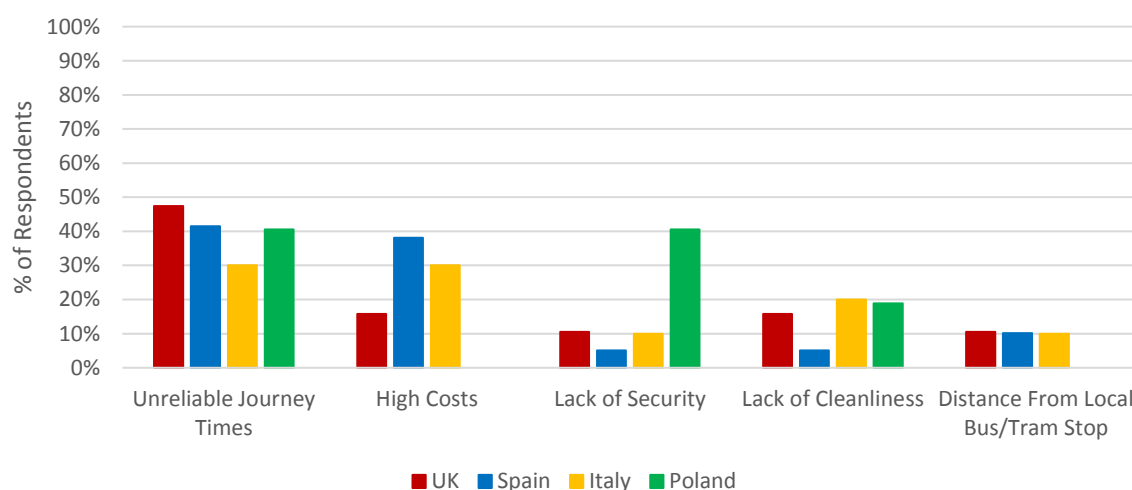


Figure 2.3: Residents' concerns about public transport

2.4.2 Versus Private Car Use

Private cars lose the advantage of convenience when they become older and are considered less reliable and the risk of incurring high service and maintenance costs to keep the vehicle on the road increases. Crime in an area brings with it concerns as to the risk of car theft or associated damage. High insurance premiums for areas with higher reported car crime make private car ownership expensive. Resident permit costs can also increase the cost of car ownership and use.

Where the cost of owning and operating a private car rises, cost savings can be made by residents selling their car and switching to use other transport choices, including public transport and car share schemes.

Car sharing schemes also offer a relative advantage to private car use when parking spaces are few in number or where large numbers of cars compete to occupy the available spaces, making car parking near residents' property difficult to achieve.

The research conducted showed that there were several barriers to the ownership of private cars; Figure 2.4 shows the ratings given by residents against selected barriers to vehicle ownership on a scale of 1 to 4, where 1 is largely insignificant, but 4 is a major barrier.



Figure 2.4: Barriers to personal car ownership (1 represents a small barrier; 4 represents a major barrier)

2.4.3 Versus Minicabs

Car share schemes need to compete with minicabs on price and ideally need to be cheaper than minicab services for short duration trips.

From the research conducted, it was found that minicab services are often used when residents need to reach locations which are difficult to travel to using public transport. When residents needed to go to an out of town shopping centre, they spent on average an additional €15 in minicab fares on top of their shopping bill. This can represent a significant portion of the resident's income.

There are cases where it would be difficult for a car share scheme to compete with minicab services. Residents in the surveyed neighbourhoods often used minicabs to attend social gathering and parties; if the individuals have been drinking alcohol the use of a car share scheme would not be possible. Similarly, one-way trips (e.g. to the airport) would not be suitable for car share vehicles.

2.4.4 Ability of Local Community to Use Services

The local population need either to have a driving licence to be able to make use of car share scheme vehicles, or have a family member or friend willing to drive them. Figure 2.5 shows the percentage of respondents who have a driving licence.

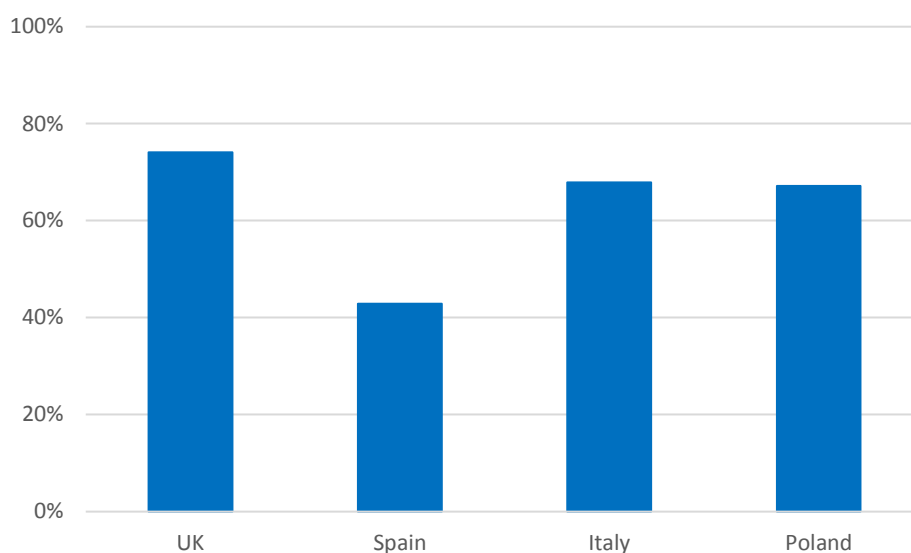


Figure 2.5: Respondents who have a driving licence

Typically, the respondents of the areas surveyed had driving licenses, which aids the business case for the establishment of a car share scheme. In addition, the majority of those who had a driving license also owned a vehicle, meaning they could potentially dispose of their car thanks to the introduction of the car scheme. A lesser number who had a license but didn't own a vehicle said that they car-shared with people in their neighbourhoods. These survey results suggest that the local communities surveyed could use a car share service if it was established in their areas.

The use of electric quadricycles or electric microcars within a car share scheme should be investigated as these types of vehicles often do not require a full driving license to drive. The use of this class of vehicle would expand the potential user base and improve the convenience as a full recharge is faster than conventional electric vehicles, at between two and five hours for a slow charge. While these vehicles are not allowed to drive on motorways, this may not be important for residents.

2.4.5 Business Use

Car share schemes can be attractive for businesses for a number of reasons. Firstly, there are financial benefits:

- Car sharing schemes can reduce costs compared to paying employees to use their private vehicles for business mileage (known as the 'grey fleet').^{e f}
- Car sharing can reduce overall business mileage by alleviating mileage inflation due to employees driving more than necessary for the financial rewards.
- The scheme could reduce administration costs associated with processing mileage claims.

^e Analysis in the UK by the Energy Saving Trust suggests that Aberdeen City Council saves approximately €56,000 annually by replacing its pool cars and grey fleet mileage with car sharing vehicle usage.

^f In the US the city of Washington D.C. is estimated to have saved over €271,039 in the first four months of using car share operator Zipcar's Fast Fleet system.

There are also further benefits for business, outlined below:

- Reduced demand for parking spaces.
- Help employers meet duty of care due to car share vehicles being of a higher standard of roadworthiness and Euro-NCAP rating than grey fleet vehicles.
- Reduced vehicle emissions due to car share vehicles having higher Euro emission standards than grey fleet vehicles.
- Reduced levels of commuting by car by employees.
- Quicker transport for business trips.

2.4.6 Multi-Modal Approach to Travel

Success for car sharing schemes depends on car sharing being complementary to travel by other modes and by its enabling additional travel that might not otherwise take place, as for example with non-essential (but quality-of-life enhancing) journeys to meet family members or undertake other leisure activities. It is envisaged that the car share scheme user will also be making a proportion of journeys on foot, by bike and by public transport.

2.5 Evidence of Interest

Figure 2.6 illustrates that residents would be interested in using a car share scheme, while Figure 2.7 highlights the wide range of purposes the vehicles would be used for. The most popular are shopping and personal business, both of which are suitable types of journey. However, the high levels of interest in using the vehicle for commuting (which is not cost-effective) shows that there is a misunderstanding about the likely pricing structures (i.e. pay-by-the-hour). This would need to be made clear in the marketing materials for the car share scheme.

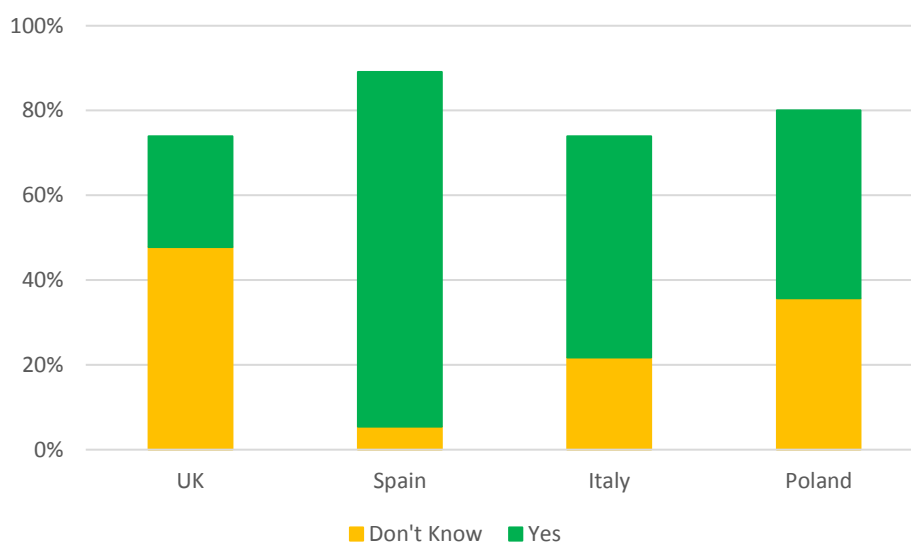


Figure 2.6: Residents' interest in a car sharing scheme

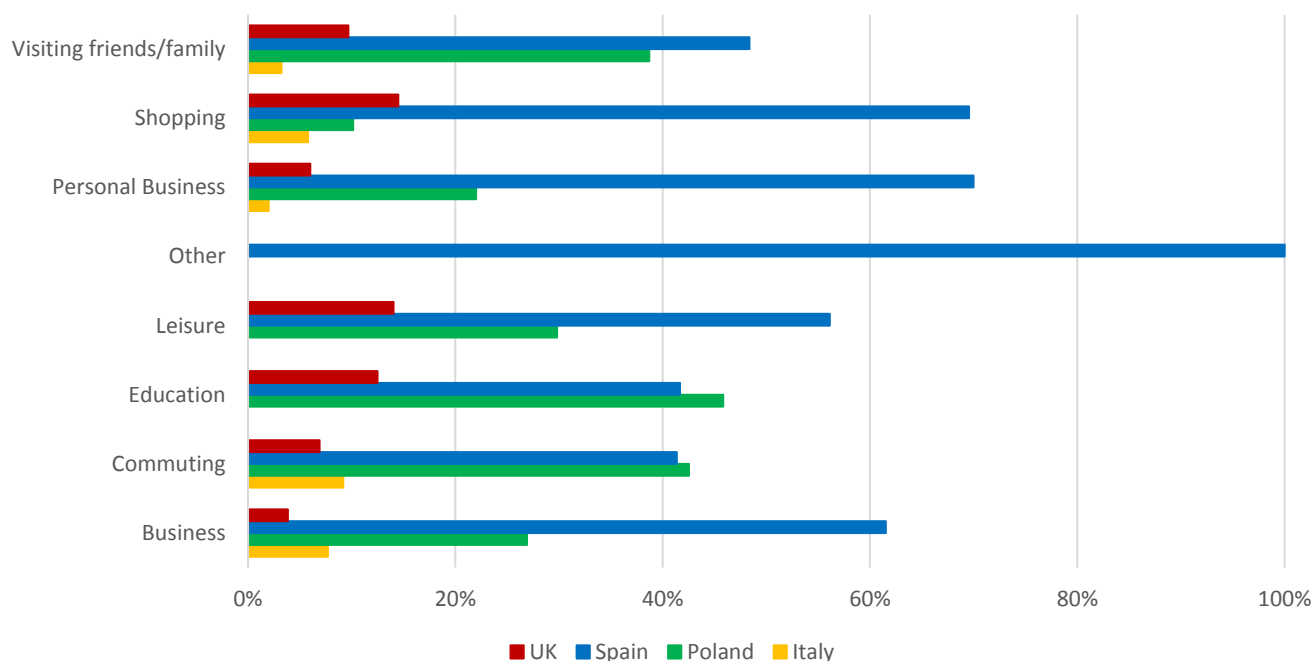


Figure 2.7: Residents' potential use of car share scheme

3 Social and Environmental Considerations

Car sharing schemes have the potential to bring about significant social benefits, primarily through greater social interaction and access to local amenities. In addition, the use of electric vehicles brings carbon reductions and improvements in local air quality.

3.1 Social Benefits

Car sharing can provide a wide range of social benefits to residents of low-income neighbourhoods by offering improved mobility at affordable rates. These benefits range from the ability to access more services and amenities through to health benefits and financial savings.

3.1.1 Improved Access to Services

Many residents in low-income neighbourhoods cannot afford their own car and in the selected project neighbourhoods, public transport, walking or cycling were not always a viable transport option due to poor service provision or requirements for long travelling distances.

These individuals may be excluded from attending interviews or training opportunities due to a lack of mobility. This can trap residents into a cycle of poverty from which they and their families are unable to escape. Low cost car sharing can tackle such marginalisation from employment and subsequent income by providing access to a vehicle without the expense of full ownership.

3.1.2 Stronger Social Networks

The greater mobility offered by car share vehicles makes it easier for people to visit their friends and family and attend social gatherings, thus strengthening their social networks.

There is evidence that car sharing encourages higher levels of walking, cycling and public transport use, as well as achieving higher levels of car occupancy. All of these activities are more sociable than driving in private cars, and can therefore lead to greater social cohesion.

3.1.3 Inclusivity

The survey results indicated that there was a requirement for car share vehicles with special access to transport the elderly or the very young, see Figure 3.1. This included a requirement for wheelchair access and accessories such as car seats.

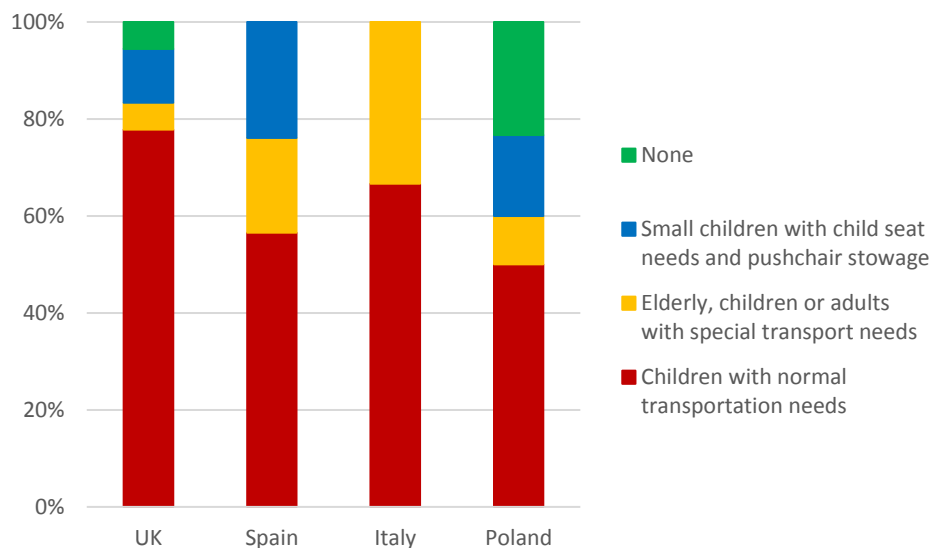


Figure 3.1: Special transport needs amongst respondents

For a car share scheme to be fully inclusive, these factors need to be considered. Key points for consideration include:

- *The additional cost.* Adapted EVs will be more expensive, and their rarity means that it is unlikely that they could be bought second-hand.
- *Driving ability.* Can residents with special transport needs drive? If not, do they have someone who could drive them?
- *Storage, fitting and liability of car seats (for children).*
 - Where would they be stored when not in use?
 - Would this limit their availability?
 - Collecting and returning the car seat would require extra time and effort.
 - Would different sizes of car seat be provided?
 - Who would be liable if a member fitted the car seat incorrectly?

3.2 Environmental Benefits

Electric car sharing schemes can help reduce the impact of vehicle use through zero tailpipe emissions and behaviour change resulting in reduced vehicle miles travelled. This is due to higher vehicle occupancy rates, reduced vehicle mileage and increase use of public transport and walking. This helps reduce both carbon emissions and local air pollutants.

3.2.1 Reducing Carbon Emissions

Electric vehicles can have zero carbon emission (well-to-wheel) when charged with renewable electricity. This represents a 100% reduction in carbon emissions. Even when charged with electricity that is not generated using renewables, electric vehicles use can still reduce carbon emissions by at least 35% ^g. This is due to the higher efficiency of electric vehicles compared to petrol and diesel cars.

Behaviour change as a result of drivers using car sharing schemes can lead to increased vehicle occupancy rates, increased use of public transport and increased walking and cycling. This means less vehicle miles are travelled reducing emissions further; this also has the benefit of reducing congestion.

In many cases the introduction of car sharing schemes has resulted in reduced levels of car ownership as users dispose of their vehicles. This locks in people to using public transport, walking and car sharing, thus ensuring the use of more sustainable travel into the future.

3.2.2 Improving Urban Air Pollution

Electric vehicles have zero tailpipe emissions, resulting in an improvement in urban air quality, an issue in many urban areas in the EU. This leads to a reduction of harmful air pollutants, especially oxides of nitrogen (NO_x), carbon monoxide (CO), unburnt hydrocarbons and particulate matter. A reduction in these emissions improves air quality and improves health.

The use of car share schemes can reduce the amount of short duration trips made with existing petrol and diesel vehicles. These trips are especially harmful because the journeys begin with 'cold starts' which lead to increased levels of local air pollutants; reducing these is a significant environmental benefit.

4 Procurement and Technical Requirements

It is important for car share scheme providers to understand the opportunities and barriers to the wider adoption of electric vehicles (EVs) in shared use situations. This section outlines the technical and procurement considerations that are required to ensure that an EV car share scheme in a low income area will operate effectively.

4.1 Technical Considerations

The following technical issues associated with the introduction and use of EVs in a car share scheme in a low income environment will need to be addressed:

- Electric vehicle performance.
- Charge points.
- Back office.
- Booking system.
- Payment mechanisms.

^g Cenex real world duty cycle analysis (Nissan Leaf Acenta as opposed to new Ford Focus 1.6 TDCi 95PS diesel) 35% well to wheel carbon savings based on 2013 UK carbon intensity of the electricity used.

4.1.1 Electric Vehicle Performance

Technical differences between electric vehicles and conventional vehicles must be considered carefully

In order for EV car share schemes to be successful they must offer a practical and desirable alternative to conventional internal combustion (ICE) vehicles. They need to have enough space for carrying passengers and their possessions, along with items such as shopping. The vehicles must be easy to operate and park, especially as they will be operated in urban areas.

Currently, the purchase price of an EV is higher than an ICE vehicle; this may make it difficult to market EV car share schemes on the same basis as ICE car share schemes. However, EVs do benefit from lower running costs such as fuel and servicing; this can reduce their overall costs to operate. It will therefore be important to source EVs at as low a capital cost as possible. This is so the car share service can operate at a price point which is not prohibitive for residents but which is also economically viable for the car share scheme operator.

EVs have a restricted range compared to ICE vehicles (around 120km at present). It is important to ensure that the vehicles have enough charge for each journey. Vehicle can take several hours to charge, whereas the actual journey can be a much shorter duration. This can make planning for charging a challenge. It is essential to use a booking system to manage access to charging points and vehicles. This should take into account the required range and amount of time needed to charge. It is also essential that charge points are not blocked by other uses when they are needed.

Restrictions can be placed on the range available for each booking (e.g. 40km round trip) to help ensure that sufficient charge is available for subsequent bookings. In urban areas the bookings could be restricted to a zone or the city boundary, to manage vehicle range limitations.

There is a need for training in EV use and EV recharging

The research undertaken identified that the majority of residents in low-income neighbourhoods had limited or no experience of driving or charging an EV (see Figure 4.1).

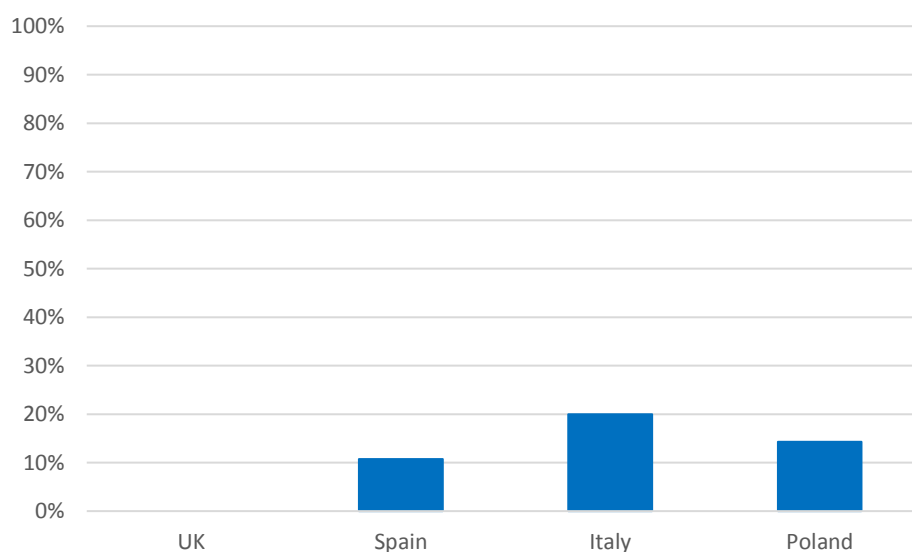


Figure 4.1: Respondents who have previously driven an electric vehicle

Therefore, for an electric car share scheme to be successful, it will be important to facilitate training in how to use and recharge the EVs. Such induction training should include information on starting the vehicle, charging the vehicle, understanding the available range and any warning systems on the vehicle.

4.1.2 Charge Points

Charge point placement needs to be carefully considered

The following points need to be considered:

- **Placement:** Finding the right locations for a charge point is vital to make sure the costs of installation are kept down and the equipment is convenient for the users.
- **Equipment:** There is a variety of commercially-available charging equipment that can charge an EV from 0% charge to 100% charge in around 30 minutes (rapid charging) to slow charging (four – eight hours charging time) typically better suited to overnight charging.
- **Price:** charging equipment differs in price, with standard chargers costing the least and rapid chargers the most. Price alone should not be the basis of charge point selection as equipment quality and ongoing support are of equal importance.
- **Installation:** It is important to ensure that sufficient dedicated project management support is available to ensure that the installation of charge points is kept on time and runs smoothly.
- **Interoperability:** Ensuring that users have access to all of the local charging networks will increase the usability and viable range of an EV.

4.1.3 Booking and Payment Systems

Booking and payment systems need to be flexible and inclusive

Typically, car share bookings are made online, using a web-based system; however, this can exclude low-income households, who are often unable to afford internet access. Whilst there is a growing trend of low-income residents accessing the internet on their smartphones, it is suggested that alternative booking mechanisms be made available. This could include:

- **Over the phone bookings:** while this could remain expensive for some households, a Freephone number could help reduce costs.
- **In person bookings:** this could be done in a local shop or housing association premises. While this would increase accessibility it would limit bookings to the opening hours of the selected location.
- **Electronic kiosk at car share locations:** this would be free and could be done at any time. However, this would add the additional cost of each kiosk.

From the research undertaken it was clear that there is a split amongst preferences, with some regions preferring an onsite/ local office booking system and some preferring the use of a smartphone as detailed in Figure 4.2.

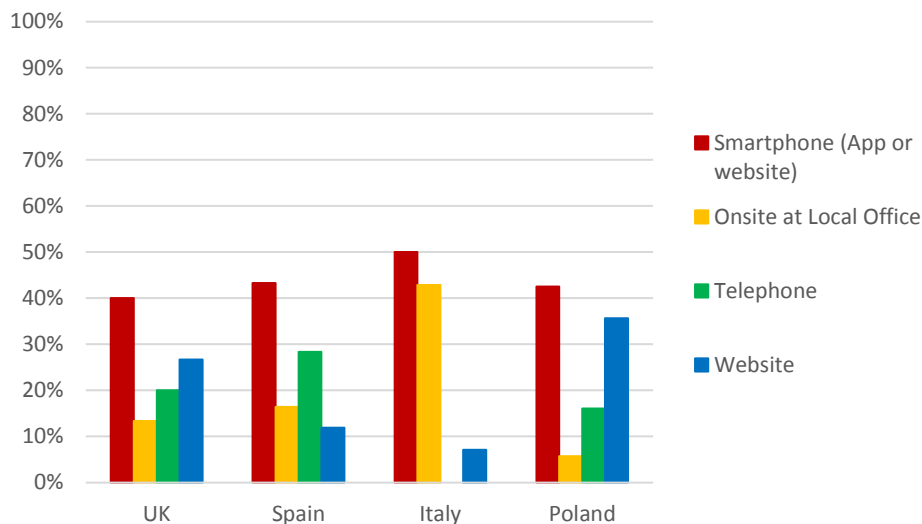


Figure 4.2: Residents' vehicle booking method preferences

4.1.4 Payment Mechanisms

For car share scheme operating in low-income neighbourhoods it will be important to have payment methods that do not require the use of a bank account, as many users will not have one. The following payment mechanisms are possible options:

- Cash: members could pre-pay with cash for use of the vehicles using a local shop or housing association premises.
- Incorporation into an existing payment: members could pay a set fee as part of an existing payment (e.g. rent or housing service charge).
- Credit unions: these can offer an alternative to mainstream banking that can be more accessible to low-income households. Credit unions can provide debit or credit cards which could be used to access to car share scheme for people without access to a bank account.
- Prepaid cards: reloadable prepaid cards could be used to book the car share vehicles. This would help residents know how much money they have at any point in time.

When asked about payment methods, there was a clear mix of preferred payment methods. For example, in La Coma, Spain the overwhelming preference was cash payments followed by credit card; however, in Redditch, UK the preference was prepayment by debit card as highlighted in Figure 4.3, below. Therefore, residents' preferred method of payment options must be taken into consideration.

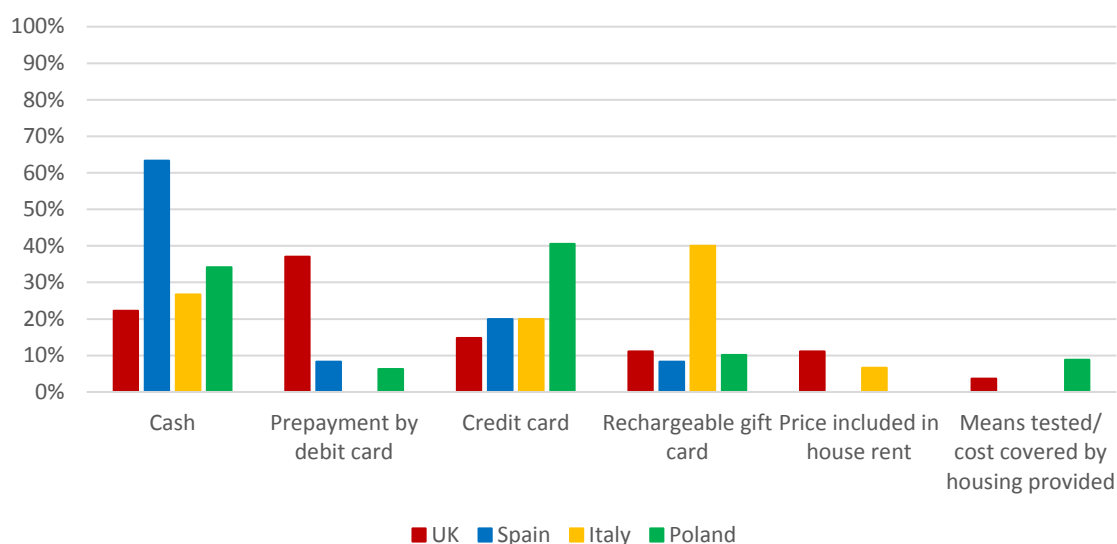


Figure 4.3: Residents' payment method preferences

4.1.5 Public Procurement Considerations

Standard procedures should be used to prepare and invite tenders, to evaluate them and select the successful bidder. It is also important to have partnership agreements in place with commercial operators to cover performance aspects of a scheme. The use of some form of competitive dialogue may be useful where scheme requirements are not easily specified at the outset.

5 Community Engagement and Marketing

To ensure the success of an electric car share scheme in a low-income neighbourhood a suitable marketing strategy will need to be developed in order to engage with potential users.

5.1 Key Messaging

The marketing material should provide information about how to use the scheme. This should provide information about car sharing in general, as users may be unfamiliar with the principle. This should include information on:

- The service and car sharing.
- Pricing (e.g. membership costs, hire costs, etc.).
- Payment (e.g. accepted payment methods, pay as you go system, how to top up the pay as you go card, etc.).
- Vehicle access (e.g. vehicle locations, how to access the vehicle, return locations, etc.).

For an electric car share scheme, it should also provide information specific to EVs. Information should be provided so that drivers can: unplug and plug-in the vehicles; start and confirm that the vehicle is on and ready to use; monitor the vehicle range.

Marketing material should clearly outline the benefits of the car sharing scheme to users in relation to the existing available transport modes.

The following benefits can be promoted:

- Financial flexibility – the pay as you go system means that there is low financial commitment as users can use the scheme as and when they can afford to do so.
- Convenient travel – the scheme will allow users to access more places, and more easily, especially on weekends when public transport services are reduced.
- Flexible mobility – allowing users a greater level of mobility in terms of time and locations.
- Easy access – simple and convenient access to the vehicles.
- Financial savings – the system is intended to be cheaper than owning a private vehicle as drivers share the costs and pay only for the element of costs relating to their use.
- Eco-friendly – the use of EVs means the car share scheme has positive environmental impacts, particular reducing urban air pollution.
- Safer travel – the use of car travel should give users a greater feeling of safety, particularly compared to public transport in some regions.

5.2 Target Market

It is suggested that the target market includes residents who:

- Hold a driving licence.
- Do not own a car, or
 - Own a car but only use it occasionally.
 - Own a car but would benefit from disposing of it.

However, it should be recognised that a car share scheme will not be suitable for residents who:

- Need a private vehicle to commute to work.
- Need to make frequent one-way trips via car (e.g. to an airport).

5.3 Marketing Channels

In an age of increasing connectedness, multiple marketing channels will need to be utilised to ensure success of the car sharing scheme.

In order to enhance the success of the car share scheme multiple marketing channels will be needed including traditional routes and new digital methods. The falling cost of technology means that basic smartphones are now accessible to lower income users.

Traditional methods of marketing (for example printed media) are still vital as many people obtain their information via these means. PR activities should target local newspapers and magazines to promote the introduction of the car share scheme. Print marketing should make use of posters, leaflets and flyers. It is recommended that these should be displayed in public transport stations, doctors' surgeries, hospital waiting rooms, etc. In order to gain a wider reach, leaflets and flyers should be handed out in areas away from public transport and at important local amenities. These marketing materials should be concise with limited text and focus of the benefits of the service and should provide directions to where further information can be found (e.g. scheme website).

In addition to print marketing a digital presence will be needed. As most people own a smartphone, it will be important to ensure that these websites are mobile friendly. Social media must also be considered as a marketing channel for the car sharing scheme. This would ideally include social media outlets including Facebook, Twitter and Instagram.

It is recommended that social media be regularly updated in order to have the most significant impact. The social media content should be interesting and engaging so that it has as large impact as possible.

The above channels can also be used to advertise promotional offers that aim to increase use of the car share scheme. These offers could include free mileage or time in the vehicle or any other offers which would represent a call to action for the end user.

6 Recommendations

The successful introduction of a car share scheme depends primarily on displacing journeys currently made by other means. A secondary contributor to usage would be to increase the level of local mobility (adding extra trips that wouldn't otherwise be made) by providing a service that satisfies unmet needs (for example, journeys to locations not served by public transport or not possible for the elderly and/or disabled).

Potential success factors from the user and supplier perspective include:

- A minimum of four cars per scheme will ensure an attractive price for potential users (around €5 per hour).
- A large enough population within 0.5km of the vehicles – ideally with around 250+ homes per vehicle.
- At least 30+active users per vehicle.
- Attractive pricing versus competing transport services.
- Flexible payment methods including the ability to pay by cash and pay for use without subscription/ membership costs.
- Location in a mixed development (residential and business) to attract a mix of users.
- Public transport available, but runs infrequently at some times.

A local authority or housing provider interested in introducing an EV car share scheme should:

- Choose the right vehicle in terms of running cost and attractiveness to the user.
- Make sure that the EV is available for suitable trips.
- Ensure access to appropriate charging infrastructure is available.
- Develop an appropriate pricing structure that encourages use of EVs.
- Educate potential users about EV operation.
- Establish appropriate booking systems.
- Manage range restrictions for EVs.

7 References

[1] Connecting Low-Income People to Opportunity with Shared Mobility, https://www.itdp.org/wp-content/uploads/2014/10/Shared-Mobility_Full-Report.pdf

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