Guidance Document

Telematics and Back Office Systems for Community Car Clubs

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supporting shared transport

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Introduction

This guidance document is designed to support the development of community car clubs and the management of their operations. It looks at booking and billing, features for unlocking the vehicles telematics (and what this means), and exploring whether a combination of available solutions can offer effective and affordable solutions. The guidance provides a list of considerations for these different elements to running a car club, as well as some prospective solutions.

Why it is needed:

The cost of running a community car club can be expensive, often making the difference between a successful car club and one that has difficulties sustaining itself.

Telematics and booking systems used by commercial car clubs provide a professional and comprehensive way of managing the clubs. However they are often too expensive for many community car clubs who often have small membership bases and are reliant on grant funding. Instead, community car clubs often tend to develop their own systems by utilising separate software packages, such as on-line booking and accounts systems.

This can often create significant manual administration, such as logging of mileage and invoicing. In other cases, lack of efficient booking systems can affect the quality of the service and therefore membership retention.

In order to make the running of car clubs even more efficient, it is possible to install telematics to monitor driver behaviours, access cars remotely, and get useful data which could improve the performance of the car club.

The software can then be integrated with booking and billing platforms. This can reduce the burden and time resource on the car club manager but the trade-off is that the software is often costly.

Given these challenges and with the rapid rate of development in on-line management systems and smart technology to enable remote unlocking of vehicles, this document gives an overview of potential solutions – some at more affordable prices depending on a car club's circumstance.

How this guidance should be used and by whom:

The guidance should be used by organisations keen to set up a community car club, or existing car clubs wanting to review their current systems. Within the report we have included explanations of the different elements to running a car club, followed by examples used by current operators. This is then followed by a list of potential telematics and booking providers. We have included a set of questions that we recommend you ask providers in your follow up conversations with them.

Through our conversations with existing community car clubs we have gained a good understanding of their basic needs, as well as the more complex requirements for telematics and back office operations. Based on this assessment, we have created a set of symbols - a 'key' - which represents each 'need', and allocated these to the relevant telematics/booking provider if they apply. Pease find these on page 14.

It should be noted that the solutions and providers we mention are not recommendations. The guidance is impartial and exists to provide an overview of what is currently available for community car clubs, within reason.

For example, at present there are hundreds of telematics providers worldwide (a main function being solely vehicle tracking) and information on all of these would not be useful, as expressed by existing community car clubs who have given a steer on what this report should cover. This guidance should not be seen as exhaustive but more a starting point to help you decide what would suit your car club.

We have not included detailed costs for each provider as these are often bespoke, and change. Where possible we have given indicative costs as of Feb 2020. Given the nature of the market it is also possible that the features and services we have said providers can offer, has changed / adapted by the time a car club contacts them. So please bear this in mind.

The functions of a car club covered in the guidance:

This document has broken down the different elements of the car club operations into the following:

Telematics

Telematics is a technology that combines telecommunications with informatics. It relates to the collection and use of data from remote objects. In this case, the remote objects are your car club vehicles.

By using GPS and Cloud Computing, telematics systems collect vehicle-related data.

Other popular functions used by car clubs include:

- Accessing a car without a normal key (see Car Entry below)
- Journey logging
- Identify when the vehicle has been involved in an impact
- Monitor and give feedback on driver behaviour
- Geofence technology so you can identify if the vehicle has gone somewhere it's not authorised (if relevant to your club)
- Provide digital updates to members
- Record CO_2 emissions
- Use the data to improve vehicle utilisation (how often a car is being used).
- Battery level status for electric vehicles.

Real-time data collected from your vehicle is transmitted, using cellular networks, to web-based computer services which process the data. Once this data is converted into usable information, it is automatically uploaded on to an online management platform to show you how your vehicles and fleet are performing. There are two main types of hardware options to consider: on-board diagnostics devices (OBDs) and devices that directly access the Controller Area Network (CAN).

Booking System

You will need to have a system that allows people to book out your vehicles, via the internet, over the phone or in person.

You can access low cost or free booking software online, for example SuperSaas is £15 per month for booking functions or some car clubs use google calendars for hiring cars out.

Or there are more sophisticated booking platforms which provide a better customer experience, such as Good Travel Software who are included in our telematics provider overview section.

Billing Systems

This refers to the process for managing payments and invoices. For example QuickBooks is £25 per month for a basic function. Many car sharing software platforms integrate the billing element into their booking function (often via payment platform called Stripe).

When referring to car clubs we often combine booking and billing into 'back office systems', and often providers have one combined software package for both.

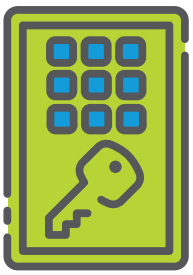
Car Entry

Members will need to be able to access the vehicles for their bookings. There is a choice of how this can be done, depending on the approach you choose to adopt.

- Smartphone / keyless (therefore requiring telematics)
- Key card (known as a Smart Card)
- Manual key (and key safe)

For more information on this see the car entry section of our Community Car Club Handbook.

Smart Card Access



Key Safe Access

Smartphone Access

The relationship between these functions

Many of the providers we have spoken to include variations of the above, and it is important to note that some can make their packages bespoke depending on the needs of the car club.

Some can integrate all four functions, and some can provide one option, but then partner with another organisation (a telematics provider for example), to offer a package. This is reflected in the code we have provided. The below tends to be common approaches* used:

- Back office provider and a telematics provider (you manage both providers independently of each other).
- Completely manual and no telematics (e.g. SuperSaas booking software and then using mileage sheets to record journeys).
- Franchises – this is when a provider will do everything but they essentially 'lend out' their service to you as part of a bigger operator. In this case it may not always be possible to use your own branding on the services.
- Fully integrated – this means one provider can offer everything you need. This is normally accompanied with a white label option, enabling the community car club to use their own branding. This in many cases is the desired option, but often the most costly.

*These are overviews of the types of approaches you might consider. They are not necessarily the only options and other variations may be possible. The ones we have listed seem to be common among existing community car clubs or options they have said they are interested in. Please see Further Information for examples of organisations who may be able to provide further solutions / updates.

What do we mean by low cost?

It would be useful to read our Business Case for Community Car Clubs to understand the overall set-up costs and running costs required for operating a car club, and how telematics and booking systems fit with these.

Expected costs of a simple combination of back office systems and telematics normally include:

- An initial set-up cost with the provider.
- Installation of the hardware (if telematics is required).
- An ongoing fee per car per month for the booking and billing element (telematics as well if you choose to have this).
- A fee for ongoing support (variable and depending on what support you might need).
- Some providers will take a percentage off each journey booked (this depends on the different business model the providers have for their products).
- In some cases (very few), providers might provide insurance so if you chose to purchase this, it may be built into your pricing agreement as well. Please note, we have separate guidance and ongoing advice for insurance. Email info@como.org.uk to request details.

It is impossible to say what the costs of telematics and back office systems would be for your particular club without knowing the specific needs and requirements. However, below are what we deem to be very approximate manageable annual costs for operating a three-fleet community car club (average in the UK) with average levels of utilisation (how often the cars are used). These costs are based on a provider offering an integrated package (and one which existing community car clubs have shown an interest in):

Annual Costs

Cost of telematics device	Initial telematics set-up cost	Back-office (monthly costs for booking and billing software)	Keyless entry if applicable	Ongoing support	Total cost (monthly and annual)
£100 x 3 = £300	Provider needs to know make of car etc.	£10 x 3 x 12 = £360	Set up: £280 x 3 = £840 Monthly cost: £15 x 3 x 12 = £540	This is covered by a 5% fee for each car booking made by a member	One off set-up cost: £1140 (doesn't include telematics set-up costs or VAT). Ongoing yearly costs: £900 (doesn't include 5% fee)

Current community car clubs operating systems

To help provide a snapshot of existing solutions and costs, the below table gives an overview of what some community car clubs currently have (as of February 2020).

Car Club	No. of Cars	Current management system	Notes on systems	Annual costs of management system
Hour Car	5	Keysafe, SuperSaaS booking system, mileage sheets	Low cost, very flexible, work intensive	Low - a few hundred a year.
Huntly	2	Co-wheels franchise	They provide: • Booking • Billing • Smart Entry • Insurance • 24hr helpline	Contact Co-wheels for costs
LEAP	3	A blend of: • TomTom Telematics • SuperSaaS Booking • Quick Books for managing accounts.	The telematics function provides tracking and driver behaviour.	SuperSaas = £67 Quickbooks = £400 TomTom= £470 for install x 2 = £940 £14.70 per car per month £ 352.80 Total: £1,759.80 (including the initial set up costs)
Teviot Electric Car Club	3 EVS	Bespoke package with Co Cars who provide back office systems and telematics.	Co Cars use Convadis hardware telematics.	Contact Co Cars for costs

Teviot Electric Car Club www.tecc.coop

Things to consider when choosing your solutions

We have included some points to consider when looking for providers. This can be seen as a checklist when exploring your options, and also questions to ask the providers.

Functionality

Bespoke:

- Some providers can offer 'bolt-ons' to their initial offerings, depending on your needs. We have not reported exhaustively on each provider's ability to be completely bespoke and the associated costs, but it is something to be aware of and we have tried to reflect this in our key where possible. Different car clubs may require quite tech savvy solutions for managing a larger fleet. This may not be necessary for yours.
- Flexibility: Some car clubs want to have different pricing structures for their members and the ability to change booking functions in response to certain circumstances.
- Some car clubs want to know if telematics providers include extras such as reporting energy consumption along with distance and time at the end of the hire; setting some features on the car ('eco', e-pedal, etc) at start-up, checking for charger connection before ending hire, reporting when charger connector is plugged in. These are some suggestions for 'programmability' of a a provider's systems which you may wish to explore.

Compatibility:

- Ensure you ask whether telematics can integrate with your existing or new back office systems. Some telematics providers such as Convadis, have partners they work with who will supply the back office support (such as Good Travel Software), therefore integration should not be an issue.
- If you decide to purchase a telematics systems, check it is compatible with your vehicles.
- Ask about DVLA checks and what the provider's process is (if they have one) on approving drivers. This is important as some community car clubs like to check their sign ups in person, so consistency of process between the club and a provider is important.
- If you go for the keyless option (which requires a smart phone or smart card, just ensure this would be appropriate for your members).
- Rural connectivity – will the solution you choose suit rural areas with poor connectivity. Make sure this is asked of the provider. Most say they have sim cards installed that mitigate this risk, however there is no magic bullet, and connectivity can be an issue with keyless solutions.
- The customer experience should be frictionless. So it is worth asking what processes and evidence they have in place to ensure this.
- When installing telematics hardware, providers may have different length of times that this takes. Ensure you plan this into your discussions and timeframes.

White label

This is a common term when talking about car management systems and telematics. It means that a provider will allow you to use their services but still have your own branding on the booking platforms and tools used for members to book your community car club.

This is an important point to raise when you talk to providers, as it may incur further costs – but could be considered an integral feature for your club if you want to retain your branding and identity.

Franchise

Some existing larger car club operators may have 'franchise' options, which is different to a white label. This is when an operator provides services to a car club but doesn't necessarily enable this service to be branded or promoted as the community car club. For example Huntly Car Club in a franchise of **Co-wheels** and is therefore called Co-wheels Huntly.

If you are part of a franchise, they will take care of most of your requirements (insurance/billing/payments/maintenance/reports/telematics/website/customer helpline etc). This will be more expensive than just a telematics and/or booking solution but it can provide a complete solution with a platform for national coverage.

Cost effectiveness:

- Some suppliers and providers will only support car clubs if they pool together and become one client. There are different ways this can then be implemented depending on the provider. Many larger telematics and software providers would prefer this as it makes more financial sense for them to service 70 cars instead of three (for example). This makes sense if you want to go with one of the bigger providers who can provide many different functions – as they have larger set-up costs, sometimes in the region of approximately £20,000.
- Insurance – some providers can offer insurance which is worth exploring as insurance can be a big barrier for community car clubs.
- Needs versus 'niceties' – ask yourself whether you are paying for what you actually need and be aware of upselling. For example, some telematics providers may be able to provide very detailed analysis of your car club journeys, or various tech related options for smartphones. It is worth asking, do you need to pay for this if it is not necessarily related to your car club objectives.
- Ensure you have explored any potential hidden costs.
- It is worth thinking about the operating system's impact on your workload. For example, handing over a key involves manual work as opposed to members using their own phone. You would want to ensure your members are confident at using the phone solution though as this could create more work.

The market

The telematics market could be considered fragile with a small group of longstanding providers. Many telematics and software providers come and go and a number of providers have been bought out by operators.

It is worth considering their business models and trying to understand their future proofing plans.

Obligations of the customer

- Check contractual obligations and any minimum term requirement for signing up.
- Ensure there is a process offered for reviewing installation and aftercare of the product installed.
- A useful mantra to have when assessing the value of each function / operator, is 'will this make my life easier when managing the fleet, and is it cost effective'?

A glossary of common telematics related words

Telematics can be quite a technical subject. Below are some common words related to car club telematics to give you an idea of what providers may be talking about. This is not an exhaustive list but a guide to the more frequent acronyms and terms you may come across.

A more extensive glossary can be found here:
www.geotab.com/blog/telematics-glossary/

Term	Definition
API	Application programming interface (API). A set of functions and procedures allowing the creation of applications to access the features or data of an operating system, application, or other service.
CAN – Bus	A Controller Area Network (CAN bus) is a robust function designed to allow microcontrollers and devices to communicate with each others applications without a host computer.
End to End	A provider can take you through the whole process from inception to delivery.
HW	Hardware integration
MaaS	Mobility as a Service (MaaS) is the integration of various forms of transport services into a single mobility platform accessible.
GPS	Global positioning system
OBD	On-Board Diagnostics (OBD) refers to the automotive electronic system that provides vehicle self-diagnosis and reporting capabilities for repair technicians to access information for the purpose of performance monitoring and repair. OBD is the standard protocol used across most light-duty vehicles to retrieve vehicle diagnostic information. Information is generated by the engine control unit (ECU or also called engine control module) within a vehicle. It's like the vehicle's brain or computer.
The OBD Port	This is the location where you can plug in any OBD tool into the vehicle to pull vehicle information. It is also the primary location of tracking devices such as dongles, as the port provides ongoing power to the device.
Open Platform	An open platform describes a software system which is based on open standards, such as published and fully documented external application programming interfaces (API) that allow using the software to function in other ways than the original programmer intended, without requiring modification of the source code. Using these interfaces, a third party could integrate with the platform to add functionality.
Peer to Peer	Peer-to-peer carsharing (also known as person-to-person carsharing and peer-to-peer car rental) is the process whereby existing car owners make their vehicles available for others to rent for short periods of time.
RFID	A card reader that allows you to open a car (instead of a key). RDIF stands for radio-frequency identification.
SaaS	Software as a Service Software is a software licensing and delivery model in which software is licensed on a subscription basis and is centrally hosted.
Shared Mobility	Shared mobility is an umbrella term that encompasses a variety of transportation modes including carsharing, bike sharing, peer-to-peer ride sharing, on-demand ride services, microtransit, and other modes.
SLA	A Service Level Agreement (SLA) is an agreement or contract between an organisation and their service provider that details the obligations and expectations of the relationship. The SLA functions as a blueprint of the service the provider will provide and can protect your organization's assets and reputation.

Telematics providers, contact information and codes

Below is an alphabetised list of examples of providers we have spoken to*, along with their contact details and a code demarcating what each one can provide (code below).
The summaries from providers are mainly their own language (simplified when necessary). On page 21 we have included suggested questions to ask providers.

Keycode:

Telematics 

Booking and Billing Software 

White Label 

Keyless 

Large setup cost £££ £££

Bespoke** 

Costs:

We have not included detailed costs for each provider as these are often bespoke, and change. Where possible we have given indicative costs as of Feb 2020. Given the nature of the market it is also possible that the features and services we have said providers can offer, has changed / adapted by the time a car club contacts them. So please bear this in mind.

*A wide range of providers were spoken to when compiling this document. Not all are listed as we have tried to provide a balanced list of useful overviews to demonstrate the type of options available.

**This means a provider will work with you to find certain solutions specific to your needs.

AMV

AMV offers customers a comprehensive package of expertise in the field of vehicle data and telematics. Like other providers, they deliver the mileage and fuel level for many types of cars. Other functions include: automatic transmission of the trip data, time-saving operations, secure saving of all trips and trip statistics. Some of the specialised projects they do are in the area of predictive maintenance for large fleets, or simple drivers logbooks. They partner with Azowo for booking and billing software.

Contact:
www.amv-networks.com/en/

Aiko Langaditis
Aiko.Langaditis@amv-networks.com

Co Cars

Co Cars is a cooperative, operating a car club membership scheme which provides flexible and affordable hire of low carbon vehicles, accessible for members in a growing number of car club locations. They can provide a bespoke service to community car clubs and have partnered with Convadis/Cantaman for the telematics hardware.

Contact:
www.co-cars.co.uk
drive@co-cars.co.uk

Convadis

Convadis offers CBox software which provides telematics and systems for locking /unlocking cars and accessing keys. The software can suit pool or car sharing / car rental vehicles, for open or closed user groups, station-based or one-way projects. The software is also being used with electric scooter fleets. Convadis has developed over 20 years technical solutions for car sharing-organisations from small fleets to our more than 3,000. They focus on the in-car hardware and their customers are free to choose the back office system which fits best. Their brand-new device C-Compact integrates all essential modules like 4G, GPS, RFID-reader, Bluetooth and all antennas into one single unit. It can be installed easily and quickly to all kind of cars.

Contact:
www.convadis.com

Reiner Langendorf
r.langendorf@convadis.ch

Co-wheels

Co-wheels is a registered social enterprise and CIC (Community Interest Company) set up 10 years ago as a community car club in Durham, it has grown to more than 600 cars across the UK in more than 50 towns and cities, including a number of franchises, plus one white label provider. You would need to be or form a social enterprise or other not for profit organisation to run the club. Co-wheels uses Convadis telematics but with its own bespoke booking and membership system called TripIQ developed by in-house developers, available online or via an app. It has been tailored for vans, cars or e-bikes and each franchise gets its own tailored system and information portal so its data is secure. They offer a full service from buying and kitting out cars through to cleaning, maintenance and 24/7 customer service.

Contact:
www.co-wheels.org.uk
info@co-wheels.org.uk

helloEV

hello EV have created a car sharing app for electric vehicles. The GoodMoovs EV sharing platform and app provides keyless driving provided by car sharing module/ telemetry device, choice of Android or iOS apps for bookings and keyless driving, open data platform for employers, journey data, damage reporting before and after journey, back-to-base car sharing service and support options available and out-of-hours journey-management options.

The company is interested in working with community car clubs.

Contact:
www.helloev.city/ev-sharing-1

Jake Harrison
jake.harrison@ui-uk.city

Stapp.in

Stapp.in offers car sharing for both companies and individuals. The user downloads the app onto their phone and can use this for managing reservations and unlocking the car. It can connect to your hardware or software via a public API.

Contact:
www.stappin.be

Dirk Houttequiet
dirk@houttequiet.be

Good Travel Software

Good Travel Software (GTS) has developed innovative booking software for the car share industry. GTS can be integrated with Convadis and Invers telematics hardware and regularly partner with these companies. To manage large fleets of vehicles their Share.car technology provides a flexible modular car sharing platform that can be adapted to your needs. They would require a minimum car sign up and also recommend specific telematics providers to integrate into their systems.

Contact:
www.goodtravelsoftware.com
info@goodtravelsoftware.com

HireGo

HireGo has developed a cost effective and simple to use booking system and mobile app designed especially for community car clubs. Their web based booking management system is designed to replace manual booking processes, allowing clubs to seamlessly manage cars including adding/removing vehicles and scheduling for maintenance. Approved members only can book vehicles using our expertly designed smartphone app available on Apple Appstore or Google Play store. Their plug in telematics device allows clubs to monitor driver behaviour and track vehicles. An optional vehicle unlocking system allows members to unlock cars using their smartphone.

Contact:
www.hirego.io

Adil Bashir
adil@hirego.io

Hiyacar

Hiyacar is an open platform. They can provide an array of solutions to car clubs ranging from different car access options, vehicle logging data as seen with standard telematics providers and recommended booking and billing platforms. To establish what they can do for community car clubs they would welcome a conversation as their offering can be highly bespoke.

Contact:
www.hiyacar.o.uk

Graeme Risby
graeme@hiyacar.co.uk

LetsGo

LetsGo Fleet Systems is a Danish Company and have developed their own booking and billing system dedicated to 2-way car sharing. LGFS is owned by the largest carsharing operator in Denmark (LetsGo). LetsGo has 250 cars in Denmark and is a non-profit car sharing foundation working towards green mobility. LGFS was founded in 2014 based upon interests from other carsharing operators in Denmark and Norway to use their system on a license based fee. It ranges from local carsharing operators with 4-5 vehicles in Denmark and the UK to the largest operators in Norway with 400+ vehicles. They regularly partner with Convadis hardware (telematics).

Contact:
www.letsgofleetsystems.com

Michael Regius
mr@letsgo.dk

Omoove / Octotelematics

They offer end-to-end Intelligent Mobility and Fleet Management technologies and solutions for Car and Ride Sharing Operators, corporate fleet and peer-to-peer Shared Mobility Communities. You can work out costs for what you need by completing their online pricing generator. This is one of the larger providers who would require a minimum car sign up due to high set-up costs.

Contact:
www.omoove.com

Playmoove

Playmoove is a SaaS for MaaS platform specifically designed to manage any type of business in the Shared Mobility field, as well as a more bespoke version for small businesses/communities. It enables the management of any type of fleet, (from 2 vehicles up to hundreds), vector type (cars, bikes, scooters, etc.), mobility system (free floating, one way, round trip, etc.). Playmoove is sold in white-label; it is composed of a back-office admin panel and a mobile application for both Android and iOS end-users. Pricing is composed of a one-off setup cost (between €1500 and €2500, depending on customizations and onboard HW integration, if needed) and a monthly fee per vehicle (that varies between €55 down to €35 depending on the fleet size).

Contact:
www.playmoove.com

Giuseppe Serrau
giuseppe.s@playmoove.com

Quartix

This is an example of a telematics provider solely (vehicle tracking). If you chose to source a booking and billing solution they can offer integration via an API. Vehicle tracking from Quartix lets you see your business' vehicles and drivers in real time using any internet-connected device. The cost per vehicle would be £11.90 a month per vehicle and this covers all the costs from installation to service and support throughout the 12 month contract. They can also offer self-installation options at £9.90 a month per vehicle.

Contact:
www.quartix.com

Rent Centric Inc

A Canadian technology provider, Rent Centric delivers a cost conscious, turnkey and white-labeled solution for reservations-based as well as free-floating vehicle share operations, for both public or private members (examples of the latter would include: car clubs, condominium car sharing, educational institutions, corporate and government fleet management).

Contact:
www.rentcentric.com/products/car-share-software/
info@rentcentric.com

Tomorrow's Journey

Tomorrow's Journey builds products and services to maximise the benefits of new mobility for people, communities, businesses and the planet.

Their platform JRNY, solves the fundamental problem faced by both new and existing mobility solutions, low utilisation, by giving access to a network of vehicles that can be used by any mobility service, irrespective of brand or service type. We call this concept the 'shared neutral network'. Utilising idle assets generates revenue for the owner, allows mobility services low cost and flexible access to vehicles, spreading the reach, and benefits of new mobility models to a wider audience. They are keen to work with community car clubs with no minimum sign up requirement.

Contact:
www.tomorrowsjourney.co.uk

Nick James
nick.james@tomorrowsjourney.co.uk

Vulog

Vulog is a 100% integrated car-sharing service provider with its own telematics, back-office, user app and fleet agents app. It offers a full turn-key solution including both hardware and software. The one-time set up cost is €15,000 and there's a monthly fee of €30 per month per vehicle.

Vulog provides a best-in class experience for operators with promocodes, referrals, registration, document authentication and high security standards.

Contact:
www.vulog.com/en

Quentin Chesnais
Qchesnais@vulog.com

Wunder Mobility

Wunder Mobility's sharing platforms enable free floating and station based car sharing. It also provides operators the flexibility to work with or without telematics units. Both app-based, and web based advanced bookings are supported, so operators can either use our white label or plug into an existing app or web booking system. Several rental businesses can be supported by a single platform, including for example, b2b corporate car share, subscriptions and short term leasing, and station-based car rentals.

Contact:
www.wundermobility.com/fleet

Yannick.Hippolyte
yannick.hippolyte@wundermobility.com

Zemtu

Zemtu is a carsharing platform originally set up to support villages in Austria to share vehicles. Zemtu allows for monthly invoice runs and is integrated with the invoicing software Debitoor. Zemtu can integrate with existing back office systems and alongside the development of new functionality. The hardware they use is Convadis or Invers.

Contact:
www.zemtu.com
info@zemtu.com

Follow up Information

Below a list of useful contacts and websites:

CoMoUK (Scotland office)
0131 243 273
Email: scotland@como.org.uk

Maas Scotland
Maas Scotland keeps abreast of emerging technologies relevant to car sharing.
www.maas-scotland.com

GeoTab
www.geotab.com/blog/what-is-telematics

Masternaut
Masternaut can also provide you with a guide to telematics
www.masternaut.com/benefits-of-telematics

CoMoUK runs a regular webinar series connecting community car clubs across the UK. The sessions involve different topics and can be useful for discussing challenges and solutions.

Email info@como.org.uk for more information or if you would like to join.

Useful questions to ask providers

Questions to ask about costs (total and per car):

- One off set up costs
- Running costs
- Do they take a % booking fee
- Hidden costs
- Do any of the fees increase after the first year?

How flexible is your approach to meet the needs of the community car club? For example:

- Do you allow pricing structures for car club's membership fees to change over time and differ between members?
- Can you switch telematics functions, e.g. if you decide you want to have a particular function you didn't think would be useful at the start of your deal? What would be the cost implications of this?

What solutions do you have that could help overcome connectivity issues in rural areas?

Do you have a regular partner for either telematics or back office systems?

Have you worked with community car clubs before? This is just a simple question to gauge whether they have experience of this type of set-up.

What are the different car access options you provide? (key / keyless and therefore a phone required / RFID).

Do you have a minimum car sign up?

What is the ongoing support you provide for your customers? For example:

- Fixed number of hours per day / week / month etc.
- The customer can call anytime
- Is it phone based support? If so is it an international number that may incur a charge?
- What are the costs associated with these different options?
- What does your support cover, e.g. hardware / software?

Is there another option for those without a smartphone or not comfortable using one?

How does their white label service work?

Is there a function for registering drivers?

How long will it take to set up, install and learn how to use the telematics functions?

How easy is to learn how to use the different platforms and functions you provide?

Do you have any customer testimonials?

What extra functions does your telematics solution provide, e.g. reporting energy consumption of each journey?

What is the process for physically fixing any technical issues with the hardbox (telematics) installed? Is there a nearby garage to the car club who can provide mechanical assistance?

Appendix 01: Types of Telematics

Masternaut's Information on Types of Telematics

Please see below for Masternaut's information on types of telematics.
Find further information in Masternaut telematics guide.

	Description	Benefits	Considerations	Recommedations
OBD	OBD telematics devices plug into the vehicle's diagnostic port (usually located underneath the steering column) as a source of both power and vehicle data.	• Often **cheaper** than CAN telematics. • Slightly **easier to install** than CAN telematics. • In some cases, can be **transferred from one vehicle to another.**	• Described as 'Plug & Play' but **often requires professional installation** due to inaccessible port locations. • Vulnerable to **tampering** and **potentially hacking.** • Some OBD data (fuel in particular) is **estimated** and is **less precise** than real- time CAN data.	OBD ports were designed to service cars and monitor vehicle emissions – and not intended for telematics devices. Hackers have demonstrated that using the OBD port for telematics creates a security risk, and car manufacturers have publicly stated they may restrict OBD usage in the future.
CAN	CAN telematics devices capture data from a vehicle's Electronic Control Units, which communicate with each other on the Controller Area Network. This data typically includes information from the engine control unit, braking sensors and fuel injector.	• With contactless (e.g. CAN Clip) technology, it is **non-disruptive** to the vehicle. • **Hackers cannot** use telematics to **access or tamper** with the vehicle computer system • Collects a **broad range of high-fidelity data** at high frequencies.	• CAN telematics **collect more accurate data** as their sensors and interpretation methods are **more advanced.** • Some CAN installations do not use contactless clips and are **more intrusive** to the vehicle's network – **risking damage to the vehicle infrastructure.**	CAN systems deliver high-fidelity telematics data and achieve higher return on investment for companies looking to optimise fleet operations and enhance driver safety. Make sure your provider uses contactless installations and covers a large range of makes and models.

Appendix 02: Software Hardware Connections

Diagram of Telematics and Car Clubs from Zemtu

Zemtu has provided a visual diagram to show how telematics works within car sharing operations. Please contact **info@zemtu.com** if you would like more information.