Policy FAQs for London Boroughs

How does DriveNow work?

For DriveNow's free-floating business model to work users need to be able to park in residents, pay & display, and mixed use parking bays across a borough. This allows a user to find a car on our app, drive it and then drop it off in another area of the borough/business area. DriveNow has a flexible approach to parking negotiations with boroughs and can red-route areas to prevent users from parking there.

As DriveNow's users are able to drive and park across boroughs linked together within a business area (e.g. Merton, Wandsworth, Lambeth) there will be temporary day-to-day rises/falls in the number of cars in a borough. A flexible framework agreement between the borough and DriveNow will enable these temporary shifts in car usage. The borough will be recompensed for any medium term increases in DriveNow cars parked within it. Ongoing monitoring means that the overall number of cars can be adjusted.

How many cars will there be in the borough?

The number of cars within the borough will depend upon the size of the permitted parking areas. For the business model to work DriveNow needs for a car to be available to users within 5 minutes walk. In the Northeast business area DriveNow has a minimum of 70 cars in each borough. It is expected to be similar for the southern business area.

**Will it work in Merton? And neighbouring boroughs?**

DriveNow launched in Northeast London (Hackney, Haringey, Islington, Waltham Forest) in December 2014. It has successfully grown to over 18,000 members since then. There are already a considerable number of members that live within the southern boroughs (Merton, Wandsworth, Lambeth) showing some of the demand available. There are areas of each of the southern boroughs that have similar demographics and transport usage to the northern boroughs. Also, in the southern boroughs the open space activities available is a key user case for DriveNow, aswell as the usual shopping and leisure activities.

Will residents complain?

Impact on parking in particular streets and areas is minimal, given that cars move fairly frequently across the business area. DriveNow receives very few complaints from residents in the Northeast London business area. Complaints are in part due to surprise at seeing vehicles in parking spaces.

What if we don't want DriveNow to have use of an area?

Evidence suggests that DriveNow reduces car ownership. This will reduce overall constraint on parking in the borough. If there are certain streets in the borough where parking is particularly constrained they can be excluded: see example screenshot, with red streets excluded.
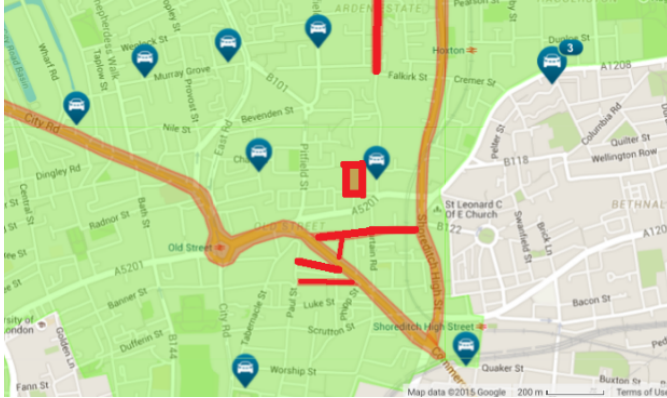

Who is liable if a DriveNow user ends a booking in a red routed area?

If a DriveNow user ends a booking within a red routed area they a liable for any penalty charge that is given to the car. DriveNow also charges an administration charge to customers to discourage them from parking illegally within the borough.

Will DriveNow cars increase congestion?

DriveNow reduces private car ownership by making visible the marginal cost of a car journey to drive behaviour change. It therefore levels the playing field with public transport (in contrast to owned vehicles where the majority of the costs are sunk). DriveNow is more expensive than public transport so encourages multi-modal use of transport, as opposed to private car users preferring car use.

DriveNow is capable of making a contribution by persuading a particular demographic to give up car ownership and drive less as a result. Customers pay the congestion charge, and per minute pricing creates a disincentive against taking vehicles into congested areas. This means that DriveNow cars tend to be driven an hour after the main peaks of usual London travel patterns (see below).
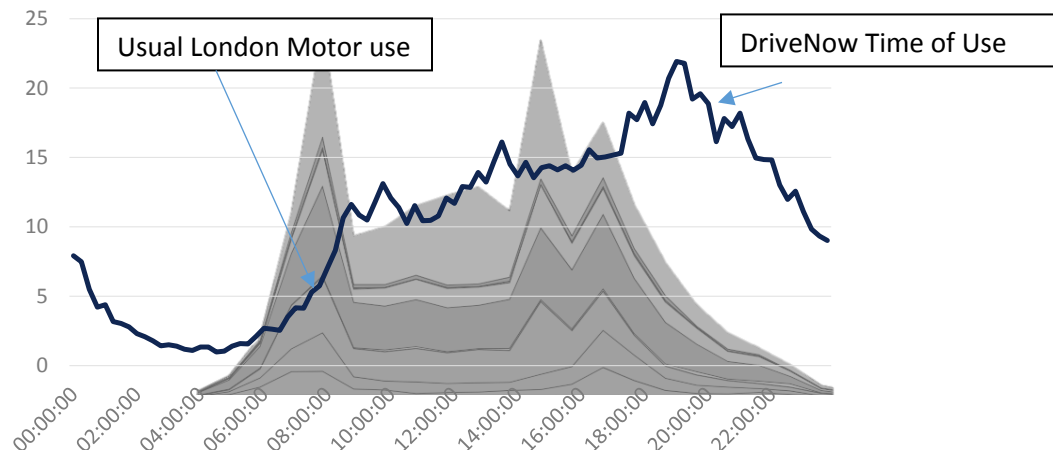
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The Carplus (independent charity funded by TFL) 2015/16 survey results (below) provide evidence that flexible carsharing takes cars off the road by allowing users to abolish or defer purchase on cars. There is a 10% fall in the number of members that own at least one car.

Flexible member number of cars owned before and after joining
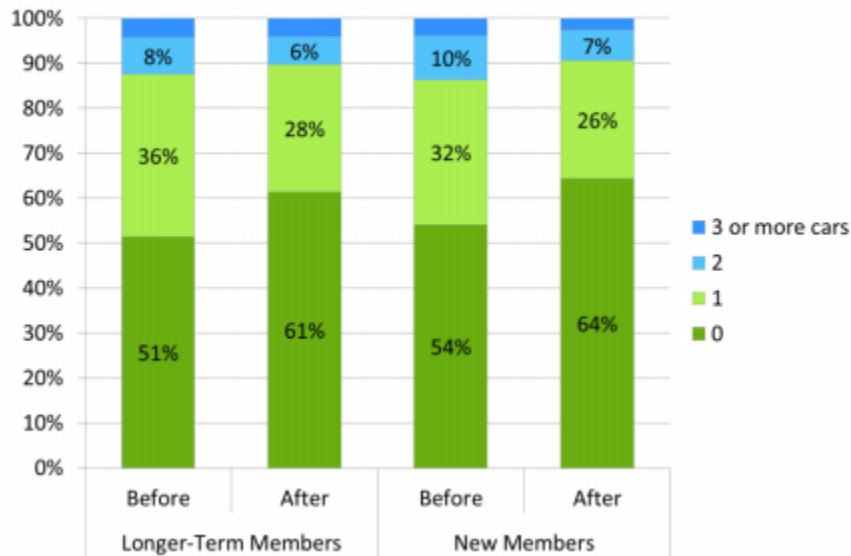
There is minimal impact on local congestions around pinch points (eg train stations, local centres).   The experience of DriveNow so far suggests that this does not happen, or only very temporarily and on a small scale. There is no marked 'tidal move', for example to train stations, although on a day-to-day basis local events (eg Festivals) may reflect in the pattern of journeys made. Very specific areas (eg Wimbledon Tennis) could be excluded.

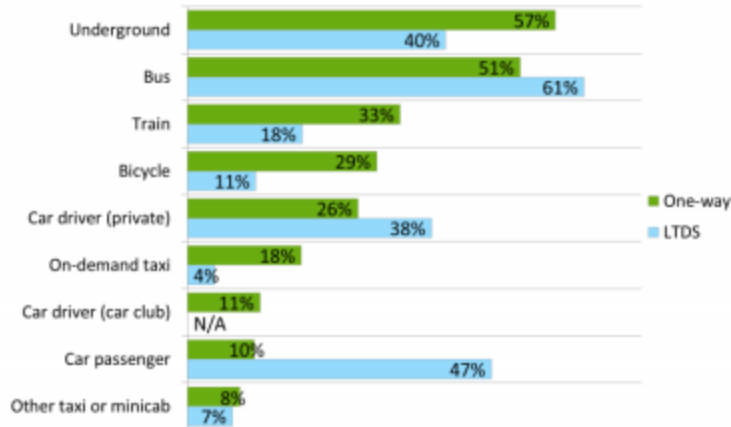**Will flexible car sharing encourage users to drive more?**

The Carplus (independent charity funded by TFL) 2015/16 survey results (below) provide evidence that flexible carsharing encourages people to drive less, there is a reduction in annual mileage of 836 miles. Also customers use cars more efficiently with an average occupancy of 2.4 persons per car in comparison with a London wide 1.6 persons per car.

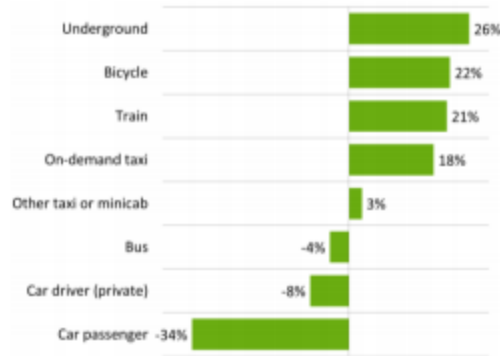**Will DriveNow cannibalise other forms of public transport?**

There is no evidence of a consistent trend that DriveNow will cannibalise public transport. For example, it is clear from DriveNow data that cars are not generally used for commuting. It is likely to be a mixed picture overall, with some customers giving up their cars and switching to a more sustainable transport mix, and others supplementing public transport with some car journeys. The DriveNow vehicle numbers are so small that the effect would not show up on wider TFL surveys, but customer use pattern needs to kept under review.

The Carplus 2015/16 survey results (below) provide evidence that flexible carsharing users are more likely to use multi modal forms of transport. Customers are more likely to use the tube, buses, trains, and bikes that the London average.

## Use of transport modes at least once a week compared to the London average

Mode	One-way	LTDS
Underground	57%	40%
Bus	51%	61%
Train	33%	18%
Bicycle	29%	11%
Car driver (private)	26%	38%
On-demand taxi	18%	4%
Car driver (car club)	11%	N/A
Car passenger	10%	47%
Other taxi or minicab	8%	7%

Proportion transport modes at least once a week compared with average Londoner (percentage point difference): all flexible members

Mode	Difference
Underground	26%
Bicycle	22%
Train	21%
On-demand taxi	18%
Other taxi or minicab	3%
Bus	-4%
Car driver (private)	-8%
Car passenger	-34%

As DriveNow is more expensive that most other forms of transport including private cars, it is less likely to be used instead of public transport for most journeys.

Cost of Transport Alternatives (X-axis (distance); Y-axis (Cost))

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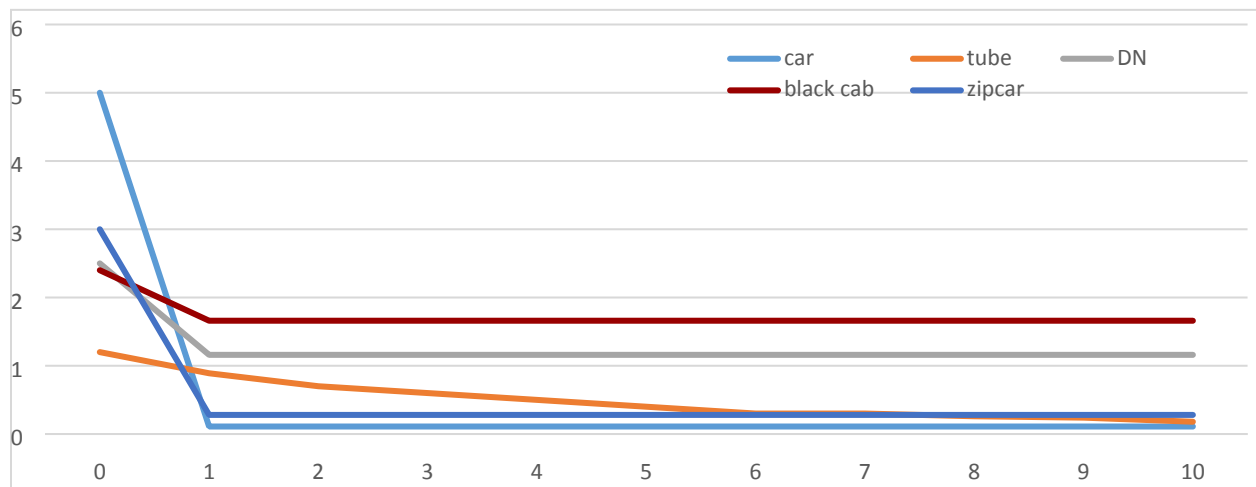
Do the cars Cluster in the Business Area?

There is no evidence that shows DriveNow cars cluster around certain areas in the current business area in Northeast London on a regular basis. Some small localised clusters may form on a day-to-day basis because of local events (e.g. Festivals). Any time more than a couple of cars are within a certain locale our fleet operations team can move cars to different locations in the business areas. DriveNow can also discount the price of cars to get customers to move them to other areas. It benefits DriveNow to have cars spread out across the business area because this gives greater access to all of our customers. DriveNow must have a car within 5 minutes of every customer in the business area – cars clustering make it harder for us to achieve this.

What impact does Drivenow have on total Vehicle emissions?

DriveNow car fleet is similar to other car sharing fleets in that they have lower emissions per km than the average UK car. Car sharing fleets generally turn over faster, and vehicles are more efficient and cleaner by an average of 33% in terms of CO_2[1]. DriveNow will be completely Diesel free by 12th June 2016.

Will DriveNow introduce Electric Vehicles to Merton?

DriveNow are committed to introducing electric vehicles in to every borough that it operates in. The exact number will depend on the charging infrastructure available within the borough. DriveNow have a good relationship with chargemaster who are looking to further invest in charging infrastructure in London.

The use of BMW i3s in the DriveNow fleet supports the switch to electric vehicles. Customers can become familiar with electric vehicles, without the perceived risk/hassle of investing fully in an electric vehicle. Car sharing electric fleets can also make a significant contribution to solving the chicken-and-egg problem in relation to charging infrastructure (need for EVs for commercial viability; need for infrastructure for practical use).

What does Merton council get from Drivenow?

Merton gets a trusted business with a proven model working in other London boroughs. The business has significant interest among Londoners in the floating carsharing model that DriveNow offers, with over 17,000 members signed up since launch.

Guaranteed minimum revenue from DriveNow UK to park cars in the borough. DriveNow and the borough agree a 'per licence' fee for parking on the basis of best available evidence, including the mix of bays in the borough and expected use profile to ensure that the borough has a fair return on its bays. Ongoing monitoring means that can be adjusted if initial expectations turn out to be inaccurate.

Flexible approach to parking with the ability to red route certain 'pinch-point' areas in the borough to avoid congestion.

Parking requirements

For DriveNow's free-floating business model to work users need to be able to park in residents, pay & display, and mixed use parking bays across a borough. The borough and DriveNow will agree a 'per licence' fee for parking each car within the borough. A universal parking permit will be granted to DriveNow on a livery basis or with each individual car having a permit. The Vehicle Recognition Mark of each vehicle will be given to the borough so that parking wardens can recognise the cars.

Suggested Timeline before Launch

DriveNow would expect to launch in late 2016. There will be 3 months of marketing and infleeting before launch. Before marketing and infleeting starts, DriveNow will need to finalise and sign off the

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[1] TfL, A Car Club Strategy for London, 2015, 5.6.2

business case with partners. This will take 1 to 2 months. To finalise and get sign off on the new business area DriveNow will need approval from each of the boroughs within it. Approval is needed from all of the boroughs by July 2016 for launch in late 2016.

How does DriveNow launch? Infleeting / marketing?

As above, DriveNow needs a minimum 3 month period to infleet all of the cars and undertake a marketing campaign for the new business area. Infleeting involves ordering the manufacture of mix of cars needed for the business area, transport, operational updates and distributing the cars throughout the borough.

FLOATING CAR SHARING IN LONDON

The concept of car sharing is now relatively well established and evaluated. However, changes in technologies, networking and customer expectations have started to transform the existing business models, and DriveNow are hence seeing another period of behaviour change and experimentation. This provides the context for further roll out of car sharing in London boroughs.

What are the Impacts of car sharing?

The positive impacts of car sharing are now well established. The TFL research papers and car club strategy summarise state of play. Car sharing has a number of key benefits[2]:

Impact	Evidence
1.Reducing the need for cars on the road and for parking spaces	Since utilisation is more efficient than for private cars, the overall need for road/parking space is reduced. Private cars are only used for 6% of the time[3]. Every car-sharing car takes between 13 and 17 private cars of the road[4].
2.Reduction in private ownership drives behavioural change	By making visible the marginal cost of a car journey users are more likely to use an intermodal mixture of transport. A relatively high visible marginal cost levels the playing field with public transport (in contrast to owned vehicles where the majority of the costs are sunk). There is evidence that car club members drive significantly less than car owners[5].
3.Carsharing fleets have lower emissions (per km)	Car sharing fleets are generally newer and turn over faster than the average UK car, and vehicles are more efficient and cleaner by an average of 33% in terms of CO_2[6].
4.Increases accessibility in areas poorly supplied by public transport	Allows users to access to cars in areas that don't have convenient public transport links, and hence has a positive impact on local growth.
5.DriveNow, in particular, support the switch to electric vehicles	Customers can become familiar with electric vehicles, without the perceived risk/hassle of investing fully in an electric vehicle. Car sharing electric fleets can also make a significant contribution to solving the chicken-and-egg problem in relation to charging infrastructure (need for EVs for commercial viability; need for infrastructure for practical use).

Car sharing will help unlock a new model of urban mobility for London by offering an alternative to private car ownership. Car sharing can be used alongside other policy instruments, such as the congestion zone. London already has one of the largest car club markets in Europe. The sector is innovating rapidly with new operators entering the field. There is considerable potential for growth,

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[2] See also TfL, A Car Club Strategy for London, 2015.
[3] RAC Foundation, "Spaced Out: Perspectives on Parking Policy", 2012.
[4] Eg Frost & Sullivan, Car-sharing in London – Vision 2020
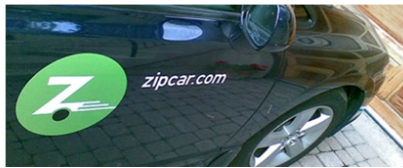[5] Eg Frost & Sullivan, Car-sharing in London – Vision 2020: 57% reduction in km.
[6] TfL, A Car Club Strategy for London, 2015, 5.6.2

including in new markets and Outer London boroughs.[7] London will benefit from being in the forefront of that revolution to reduce congestion, improve air quality and the public realm, and hence attract inward investment. Floating car sharing is perhaps the most high tech, future-oriented element of the market, and early engagement will open up to London boroughs a new tool kit for traffic and parking management.

How does floating car sharing work?

There are perhaps now three dominant models for commercial carsharing (below), with a further fourth peer-to-peer model (Easycar).

Free Floating fully flexible	**Station-to-Station** semi flexible	**Back-to-Base** traditional
DriveNow	AutoLib	ZipCar

- Locationless
- No need to return car to same spot/area
- Spontaneous use

- Fixed locations
- Return to a station
- Reserve in advance or sponateous use

- Fixed locations
- Return to same pick up spot
- Reserve in advance or sponateous use

Each model serves different demographics and can therefore comfortably coexist in a single city. Indeed London today supports a range of providers including ZipCar, City Car Club and DriveNow. Floating car sharing allows users to pick up and drop off cars within a defined business area at their convenience. Floating car sharing may be more attractive to current car owners, and hence pave the way to systemic transformation. For example, the introduction of floating car-sharing in Germany has driven an exponential rise in the number of users[8] and there is also anecdotal evidence that it has been particularly effective in persuading people to give up their cars entirely.

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[7] TfL, A Car Club Strategy for London, 2015

[8] Station based car sharing members grew by 60.000 in 2014 in Germany, compared with 223.000 for floating car sharing members. Although this was not matched by the relative increase in cars in the real model, it is arguably a function of a different growth pattern, where floating car sharing leads with the provision of cars, and membership catches up. *Datenblatt carsharing in Deutschland, Stand 1/1/15, http://carsharing.de/alles-ueber-carsharing/carsharing-zahlen*

Emerging evidence on floating car sharing

Impact upon car ownership – Munich Council 2-year study.

The study concludes that 10-20% of car club members have given up their car because of car sharing, and that membership played a particularly important role in the decision for DN members. In fact, due to DN's strong customer base, DN accounts for bulk of cars given up in Munich - on a very conservative assumption, at least 200; on a more realistic assumption, 2000. On the strength of the research, the Council has just authorised a 5 year expansion of the scheme[9].   Similarly, an independent longitudinal study (still running) in Stuttgart and Cologne found that 5% have given up car in last 3 months (control group 1%)[10].

In London**,** DriveNow is currently participating in the annual CarPlus survey, and results will be published on April 26th 2016. However, the data is clear that London customers are giving up their cars at a similar rate for traditional car clubs (which is running at 18% for new members).

The impact on KMs driven – Munich Council 2-year study

The study, which combined survey and back end data, found that while some people increased their mileage, they were clearly outweighed by those who had given up their cars and reduced mileage.

For London, the annual Carplus survey data suggests a similar pattern to above with an overall reduction in mileage.

Outlook for car sharing in London

Car sharing in London has grown significantly over the last decade and there are now more than 170,000 members of car sharing clubs in London (that figure is perhaps already out of date). This is expected to grow rapidly, to 615,000 by 2020[11]. In parallel, the population of London is expected to continue to grow, and its economic basis, including the labour market, will transform at speed[12]. Part of that transformation is likely to be a new mobility offer by a range of new entrants to the market, including exponential growth in private hire (see Travel in London 8 - others, for example Addison Lee, are claiming that Uber is has added palpably to congestion in central London). New technologies are likely to transform the scope for automated driving, parking management and intermodal, integrated mobility[13].   The best understood elements of that transformation is the growth in ULEV vehicles including the commitment for 50% of the car sharing fleet to be electric by 2025[14].   Any decisions on the roll out of car sharing in the London boroughs hence take place in the context of significant uncertainty, with 'do nothing' being equally uncertain as the investigation of new models of mobility.

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[9] "Evaluation Carsharing Landeshauptstadt Munich". Not yet available online in English.
[10] Oeko Institut EV "Forschung zum neuen Carsharing" http://www.oeko.de/oekodoc/2052/2014-629-de.pdf
[11] Frost and Sullivan, Car-sharing in London: Vision 2020.
[12] For example, http://essays.centreforlondon.org/issues/technology
[13] For example, presentations at Frost & Sullivan's Intelligent Mobility conference 2015.
[14] TFL, An ULEV Delivery Plan, 2015. https://tfl.gov.uk/cdn/static/cms/documents/ulev-delivery-plan.pdf

DriveNow

DriveNow launched in London in December 2014 in 3 boroughs: Hackney, Islington, Haringey (since then also Waltham Forest).   The DriveNow model is based on SLAs with the boroughs in its business area allowing its cars to park in residents' parking, pay and displays, and mixed use bays. The in-car technology allows the drop-off area to be varied to reflect the business areas and any local considerations in relation to parking or vehicle pressure[15]. Customers taking cars (except electric) into the congestion zone pay a charge. The DN 2015 fleet across 4 boroughs is now 290 vehicles, of which 50 are electric, and the fleet overall is significantly cleaner than the national fleet[16]. The ambition is to increase the share of e-vehicles with every new roll-out, depending on progress on charging infrastructure.

Usage of DriveNow in London so far[17]

Significant Interest from Londoners in the model	Over 17,000 users signed up since launch (i.e. 10% of the total London market, in only a limited geographical area).
Inter-modal mix of transport	The May 2015 Customer survey revealed 10% of Customers describe their use as regular in contrast with the tube, which 60% use regularly.
Average journey distance is low	Average journey distance is about 6km.
DriveNow can reduce car ownership	The May 15 survey 4.55% of customers say they 'god rid of a car' in the last three months, which is comparable to CarPlus findings; and 29.7% decided against buying a car in the last 3 months.
Car usage tends to avoid rush hour	Use picks up slowly from 8:00 am, rises through to early evening and peaks at about 20:00. Use pattern and customer surveys are consistent and show that cars are used for a variety of leisure trips (about 30% work related) and not commuting.
Even distribution of journey patterns	Spoke journeys focus on town centres within the borough, rather, than mainline train stations. There is not tidal distribution. **See patterns for 3 days below**

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[15] See DriveNow map on its website: https://de.drive-now.com/en/#!/carsharing/london. Customers have the option to park cars at their own cost while maintaining the reservation, but the parking rental rate of £0.19 of £11.40 per hour, in addition to parking charges, generally make this uneconomic, except for eg quick drop-offs.

[16] The 2016 fleet will be 50 EVs and 240 petrol only vehicles. The EVs are 0 emission; the carbon emissions are 109 and 11g/km respectively. Nox emissions are 0.037g/km and particles 0.00031gr/km. This compares with CO_2 emissions of the UK 2014 fleet of 156.6g/km [New Car CO2 Report 2015 SMMT]. We have not been able to establish average nox and particle emissions for private vehicles in the UK. These values are also significantly cleaner than other car club fleets (see CarPlus reporting).

[17] Based on 9 months of data. Experience from other cities shows that the user profile and behaviour changes as the models reaches wider recognition and maturity over a period of several years. The presence in only 4 boroughs probably affects results.

DriveNow Journey Patterns
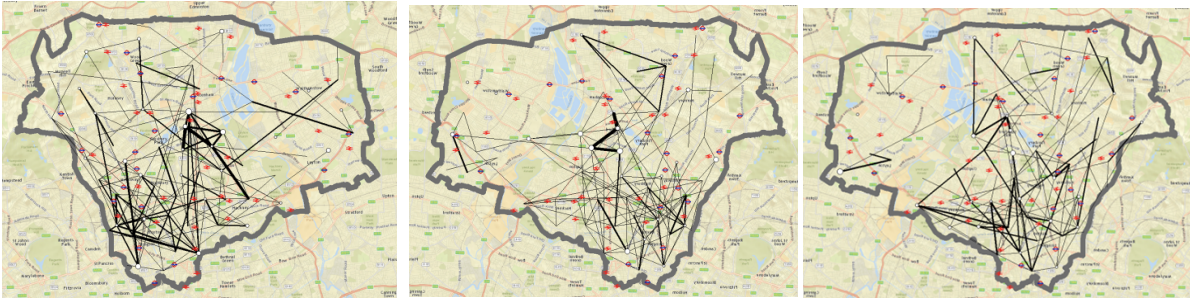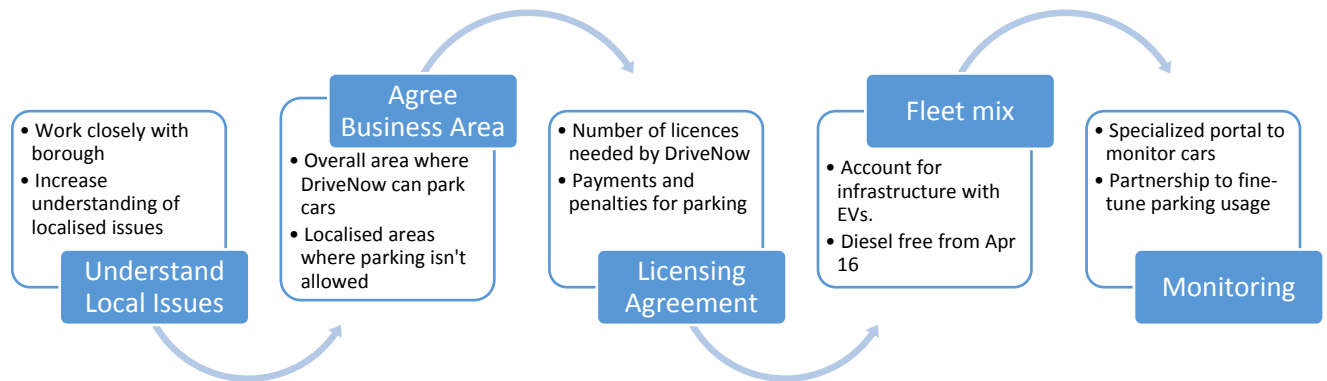

DriveNow time of use
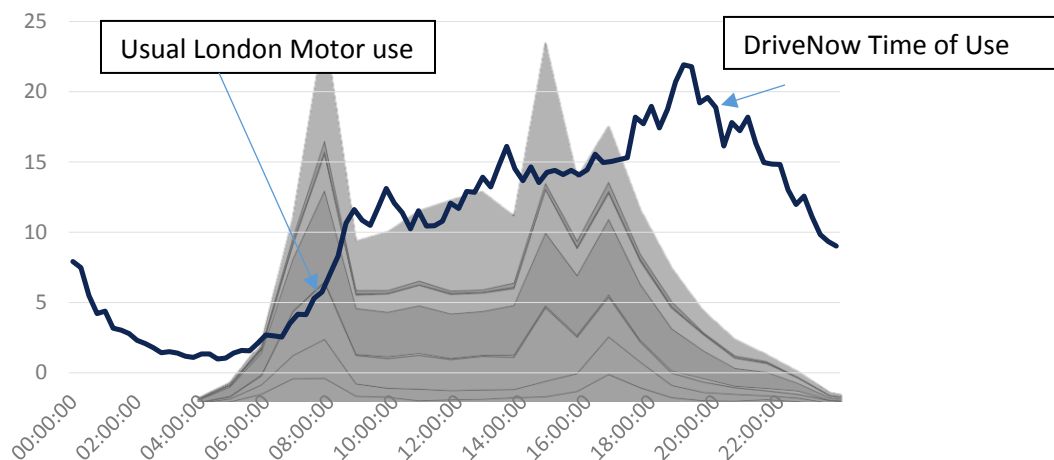
Strategic Fit with London Borough objectives

London borough objectives[18] vary, as set out in the LIPs. Priority work areas include:
- Improving air quality - cleaner DriveNow fleet supports this objective.
- Increasing use of ULEVs. E-vehicles in the DriveNow fleet can drive familiarity and contribute to the critical mass for roll out of charging infrastructure.
- Reduce congestion. DriveNow persuades a particular demographic to give up car ownership and drive less as a result. Customers pay the congestion charge, and per minute pricing creates a disincentive against taking vehicles into congested areas.
- Improving the urban realm by taking cars off the road.
- Supporting accessibility and even local growth. DriveNow constitutes significant investment and facilitates access to parts of London poorly served by public transport, and may encourage people to shop and go out locally rather than taking the 'spoke' connection to the centre of London

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[18] Floating car sharing is compatible with borough's powers and duties under s45 of the Road Traffic Regulations, in accordance with s122 of the 1984 Transport Act. While an agreement is concluded between DriveNow and the borough, no services will be provided to the Council. As a result there are no procurement implications.

How does the model work with the borough in practice?

Understand Local Issues
- Work closely with borough
- Increase understanding of localised issues

Agree Business Area
- Overall area where DriveNow can park cars
- Localised areas where parking isn't allowed

Licensing Agreement
- Number of licences needed by DriveNow
- Payments and penalties for parking

Fleet mix
- Account for infrastructure with EVs.
- Diesel free from Apr 16

Monitoring
- Specialized portal to monitor cars
- Partnership to fine-tune parking usage

Local Impacts and Concerns

It is clear that floating car sharing has an important contribution to make in terms of transforming mobility in London by making it more flexible, cleaner and more sustainable, including appealing to demographics who were not attracted to previous business models.   However, local boroughs are often concerned about highly local and/or transitional impacts. These include:

- Impact on local congestions, around pinch points (eg train stations, local centres).   The experience of DriveNow so far suggests that this does not happen, or only very temporarily and on a small scale. There is no marked 'tidal move', for example to train stations, although on a day-to-day basis local events (eg Festivals) may reflect in the pattern of journeys made. Very specific areas (eg Camden market) could be excluded.
- Risk of cannibalising more sustainable transport modes. The Munich Study found that this does not apply. In relation to London, there is no evidence of a consistent trend; for example, it is clear from DriveNow data that cars are not generally used for commuting. Having said that, it is likely to be a mixed picture overall, with some customers giving up their cars and switching to a more sustainable transport mix, and others supplementing their currently sustainable lifestyle with some car journeys. The DriveNow vehicle numbers are so small that the effect would not show up on wider TFL surveys, but customer use pattern needs to kept under review.
- Impact on parking in particular streets and areas. Likely to be minimal, given that cars move fairly frequently. There were fewer than 20 complaints from residents in the first two quarters, in part due to surprise at seeing vehicles in parking spaces. Particular streets can be excluded: see example screenshot, with red streets excluded.

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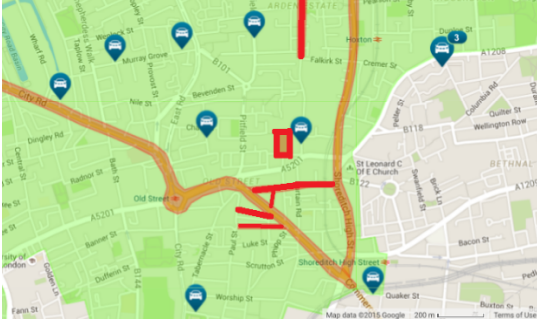
- Crowding of existing EV charging infrastructure. DriveNow will seek to gradually increase the number of electric vehicles in London, in line with available charging infrastructure, and this will be closely monitored (including fine tuning customer incentives for charging and moving cars). A range of other options are available, including manually moving cars, and charging EVs on private networks. Electric vehicles in the DriveNow fleet will also form part of a business case for electric charging infrastructure in the borough.
- Workability of model in relation to local parking management practice. Boroughs have approached this in different ways, some have granted universal permits but then stipulate that DriveNow will not need to display the physical permits on the cars. Other boroughs have opted to give DriveNow a parking permission on a livery basis which does not have a permit.
- Loss of parking revenue. DriveNow and the borough agree a 'per licence' fee on the basis of best available evidence, including the mix of bays in the borough and expected use profile to ensure that the borough has a fair return on its bays. Ongoing monitoring means that can be adjusted if initial expectations turn out to be inaccurate.
- Whether access should be given to car sharing providers on an exclusive basis. Different car-sharing models and providers can coexist, in part serving a different customer base. However, boroughs will want to strike a balance between competition and fragmentation, which can undermine the workability by detracting from the availability and convenience of cars and longer term intermodal integration. Boroughs may also wish to limit the number of operators during a pilot and data gathering phase (say, up to three years).

Key Sources

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TfL Travel in London 8 http://content.tfl.gov.uk/travel-in-london-report-8.pdf

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