The Committee for Sydney

CARSHARING: SYDNEY SNAPSHOT

INTRODUCTION

The world's most competitive and agile cities are heading in one direction: towards being more data-driven, responsive and collaborative. The ground-breaking research in brief and the associated report shows that Sydney is emerging as an innovator and a leader in a key area of urban transformation in a digital era – car-sharing. Sydney is certainly at the forefront of car-sharing in Australia but what this report indicates is less well known – that what is happening in Sydney is of international significance and in advance of places such as San Francisco and Boston, which currently have higher-profiles as tech-enabled cities. In 'smart city' terms Sydney is emerging as smart indeed in its pioneering approach to car sharing.

In line with previous analysis by the Committee for Sydney, the progress being made here is as much about smart governance as it is about technology. Unsurprisingly, the private sector has been quick to engage with the sharing economy. For example, Sydney Airport has worked with ridesharing businesses to provide a new, convenient pick up zone for their drivers to pick up passengers. This was introduced after consultation with ridesharing businesses and other key airport stakeholders, and ensures that more passengers arriving at Sydney Airport are on their way quicker, with a wide range of transport choices available to them.

The success of Carshare, then, is not only to improve transport outcomes, but to demonstrate effective collaboration between government and the private sector. The innovative and creative planning by the City of Sydney has been the basis of this city's leadership in creating Australia's prime car-sharing network with GoGet, a local success story of the innovation economy. This plays to another key learning from Sydney's positive experience in this shared economy breakthrough: the benefits from effective private-public collaboration with boldness on both sides of the hyphen.

The benefits, as are seen in this summary of a more extensive report commissioned by the International Carsharing Association are not just in terms of convenience for those directly using car-sharing services, important as that is. Car-sharing on the scale emerging in the City of Sydney has positive impacts on congestion management and accidents by reducing the resident car fleet in an area. Similarly, there are significant environmental benefits from reductions in pollution. Even more interestingly, as car-sharing increases so too does active and public transport modes, with measurable improvements in health. Beyond transport impacts there are economic benefits for Sydney's CBD from car-sharers having increased opportunity and flexibility around accessing services outside peak public transport provision. And a big potential for transforming land-use and densities is becoming a reality as the increasing provision of shared car spaces over time reduces the need for formal car-parking spaces in and around new residential developments.

These are win-wins for Sydney, business and the community – and for Sydney's reputation as a city that welcomes innovators. The challenge now is to build on the advances outlined in this research and to scale up this public and private collaboration across Greater Sydney so that the benefits are shared by all Sydneysiders.

BACKGROUND

This brief is based on a review commissioned by the *International Carsharing Association* to understand the impact of fixed-base car share services in Australia after a dozen years of operation. This report was completed by Phillip Boyle & Associates. The report considers the Australian car share service that supports 66,000 users accessing 2,200 vehicles – a figures that are growing in Australia at over 40% year on year. In particular, this report focuses on the City of Sydney. The City of Sydney has the largest network in Australia with 20,000 users (15% of the resident population of the council area) using 805 vehicles (162 in off street locations).

The City of Sydney has been particularly proactive in encouraging the growth of carsharing services. The Council has led all Australian municipalities by facilitating a network of nearly one thousand cars which in turn have taken around ten thousand vehicles off congested roads, overloaded kerbside space and out of commercial and residential buildings. To date the City of Sydney has implemented good policy in a strategic manner that has generated the highest benefit of any municipality in Australia.

PROBLEMS WITH CAR OWNERSHIP

There are three problems with cars for transportation: congestion, parking and storage. Congestion is a significant problem and has made cars a slow way to travel. By lowering car use, car share services address the problem directly. Average speeds on surface roads in the peaks in Sydney can be as low as 11kph and are continuing to deteriorate. Congestion is also hugely costly to Sydney's economy, and the reduction of congestion is the central motivation behind the NSW government's infrastructure program. Parking can be inconvenient even when it is paid for, and availability at one's destination is often unreliable. Daytime storage is not a concern for most people working in the inner suburbs.

For those who do drive to work, the supply of parking is ample but it does add to the cost of the trip. The big problem for people who live in the inner city, and increasingly for people moving into major growth centres, is storage at home. The competition for kerbside parking is intense; in some situations people are reluctant to use their cars for a short or low value trip because of the difficulty of finding a space to store it on their return.

USERS

Over many years a proportion of the people who lived in higher density, inner metropolitan areas of Melbourne and Sydney have maintained the ownership of a lightly used car. Because this group could reach many destinations by walking, bicycle riding and public transport, and because these modes were more convenient, they tended not to use their cars very much. These people maintained ownership in order to have a vehicle on hand when they wanted (or needed) it. When car share services became available the low-car-use group began to switch from low-use ownership to low-use services. Car share users who previously owned a vehicle often find that their motor vehicle use falls even lower when they switch to car share services. This is because the true cost of the additional car journey is fully understood (and would needed to be paid for).

They also find that they maintain convenience and mobility as well as having more money in their pocket, for example by releasing the capital locked up in the vehicle and avoiding operating costs such as fuel, insurance, maintenance and registration. Notably for Sydney, the building of high-density communities has begun to spread throughout the metropolitan area to town centres in suburban locations. The implications of the demographic change that densification brings, suggest that major centres like Parramatta, Chatswood and Burwood will house an increasing number of residents willing to switch from low-use ownership to car sharing services.

In 2011 only 22.7% of trips to work by residents of the City of Sydney were by car, 29.5% caught public transport and 25.3% went on foot. Well over half the population do not need a car to get to work. Once this trip has been switched away from the household car, other trips can follow. People find that they can do local shopping on the way home, do the supermarket shopping on the Internet, and catch a taxi (or Uber) out in the evening so they don't have to count their drinks. One by one, each alternative trip convinces these people that their car is of only limited use. Rather than simply defaulting to using their car, people consider all alternatives before making a decision on travel mode. Some people are also delaying the decision to purchase a car, or getting rid of their second car. These behavioural changes are not necessarily limited to residents living proximate to

Sydney CBD. As the amenity and accessibility of secondary town centres increases with density, the patterns of car use of these residents will follow a similar pattern.

Importantly, not every low-use car owner switches over to car sharing services, as there are many systemic barriers to change. A key systemic barrier is the scale and reach of the car share service network. The service network needs to be within 200m of the trip origin and there need to be enough vehicles so that all members can access one at the times they want to travel by car. This is where councils can step in to facilitate access and availability. Cultural barriers can be harder to breach; people break down their own cultural opposition to carsharing because they expect to save money. Large out of pocket expenses for registration, insurance or maintenance can be avoided – as noted these costs can be a catalyst for the switch. Parking, tolls, fines and insurance excess payments remain the same. The per-hour costs for car share are less than $15 an hour for everything including fuel. With the average cost of owning and operating a private car being in excess of $5,000 per year for even the smallest, fuel efficient vehicles[1], a car share user can get up to 333 trips each year, including fuel - the equivalent of more than 6 trips a week.

COMMUNITY BENEFITS

Moving from car ownership to carsharing services reduces the resident car fleet in an area. The review reveals that for every car share vehicle in a network there will be ten fewer privately owned vehicles in the corresponding locality. This reduction in the number of vehicles is especially beneficial when the demand for parking is equal to or greater than the available kerbside parking space. The car share fleet in the City of Sydney alone has taken around 10,000 cars from the area. Car share services also discourage overuse of private vehicles; users in the City of Sydney reported travelling by car much less than before – around 2,000 vehicle kilometres travelled (VKT) less each year.

This reduction in VKT is of great value in reducing congestion, pollution and road trauma while increasing public health and the vibrancy of street environments. The City of Sydney car share network, for example, has reduced VKT by up to 37 million kilometres each year. Unlike owners, car share users pay a fee every time they use a vehicle, and as a result, people weigh the benefits of each potential trip against the gain from the purpose of the trip. Faced with this payment decision, car share members find that they can undertake many more journeys by walking, bike riding or public transport. This is shown by the fact that the typical resident of the City of Sydney travels 3,525 km each year, whereas car share users cut this to around 1,500 km each year. One of the consequences of this further trip switching is that people tend to do more physical activity either by walking, riding a bicycle or using public transport.

1 National Roads and Motorists Association 2014, **Top 10 cars by category**, http://www.mynrma.com.au/motoring-services/buy-sell/buying-advice/car-operating-costs/top-10-cars.htm

This change has an individual benefit as well as a collective public health benefit, lessening the burden of diseases caused by sedentary behaviours and by air pollution.

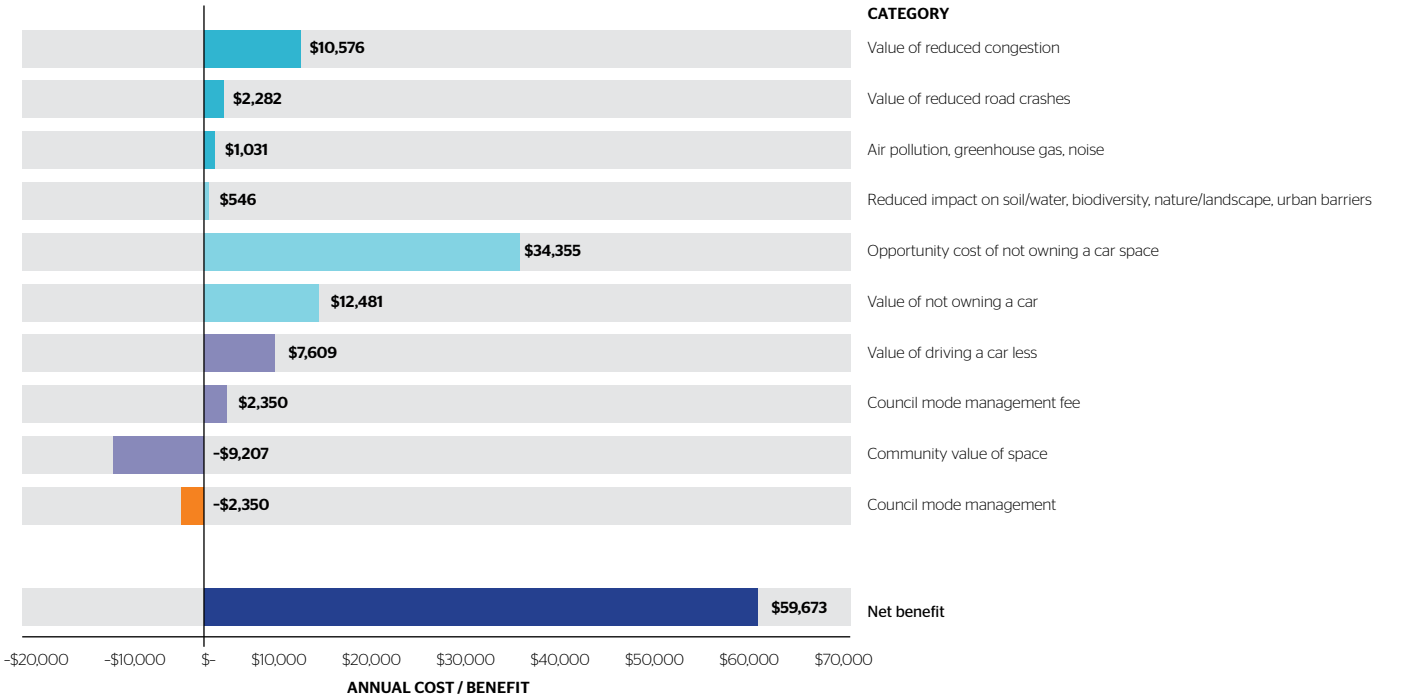
Reduction in demand for on street parking opens up a number of valuable opportunities for local governments. For instance, kerbside parking can be replaced with enhancements for public transport (tram and bus lanes, accessible tram stops), bicycle riding (separated bike lanes) and walking (wider footpaths, kerb outstands and more pedestrian crossings). Another impact of a car share network is the release of underutilised space taken up by parking: a network of 100 cars releases 30,000m^2 of net floor area in a building or 15,000m^2 of kerbside space. This amount of kerbside space would stretch for at least five kilometres – the distance from Circular Quay to Central Station and back, from a network of only 100 cars.

Even drivers who do not use the service benefit from the reduction in competition for road space, parking at destinations and kerbside spaces. In fact for each group of 20 people who support a car share vehicle, ten cars will have been removed from the local residential fleet. Most importantly when someone switches to carsharing rather than ownership they no longer need to store a vehicle in the street near their house, or rather they only need to store 1/20th of a vehicle as 19 other people (on average) can use the same car.

For some car owners, the most significant car-related cost is that of the car parking. Each car space in a multi-storey car park costs from $30,000 to $70,000 to construct and spaces in new apartments can cost $50,000 to $140,000 to buy. The capital commitment and debt that is avoided is another financial benefit that accrues to the people who use carsharing. An apartment purchaser who can avoid buying a $50,000 car park may be able to save three times that amount in interest payments on their mortgage. Similarly, as rising land values are forcing building developers and owners to increase the return from buildings, car storage has emerged as one of the lower values in a structure. Housing costs can be reduced if residential buildings do not include car parking. In this way the elimination of parking storage for the provision of fewer carsharing spaces costs could have a direct impact on housing affordability and disposable income.

The review shows that the introduction of car sharing is not only possible, but provides tangible economic, social and environmental benefits. These positive outcomes are a focus of the City of Sydney, who supports carsharing systems as worthwhile investments and are easily implemented in other growing and densifying locations in Sydney.

SUMMARY OF BENEFITS AND COSTS



Note: Council administration and infrastructure has been estimated by the City of Sydney to cost $2,350/space and is fully recouped from each service provider.

Source: PBA modelling

MODELLING

These benefits have been modelled in relation to the City of Sydney using elements that can be measured and where economic values can be established. The estimate of benefits has been conservative and based on established assumptions published in the Australian Transport System Management Guidelines. The model suggests that for the current service each car share vehicle in the network is estimated to represent $59,673 in value (net) to the City of Sydney community and the annual costs to the City of Sydney are estimated to be $11,557 per car share vehicle (including the opportunity cost of using the land for alternative higher value uses such as vegetation). Notably, the City's support of the service delivers a return of $6.16 for every $1 invested. The total net benefit to the City of Sydney community of the current car share network is over $48 million per annum.

ROLE OF COUNCILS AND FUTURE STEPS

Municipalities in Sydney that have or are developing car share networks tend to be those that are also being stressed by population increases and higher land prices. This is because an increase in parking stress in high density or growing areas forces municipalities to consider the use of space in a more empirical and economic manner. This is where car share service providers find their services are in most demand, because residents are actively seeking alternatives to reduce the cost of living and reduce the frustration related to searching for car storage, while councils are looking to maximise returns on under-utilised spaces.

Over the next ten years the population in the City of Sydney is expected to grow from 200,000 to over 245,000 people – an increase of over 22%. Growth in the municipal population is likely to come with growth in the motor vehicle fleet. If this growth occurs on par with the current motorisation rate then an additional 15,000 vehicles will be stored by 2026. To give a sense of scale, the City of Sydney would need to add more car spaces than the number that already exist at Sydney Airport in the next 10 years. The City of Sydney is not alone in facing the challenges of growth; in fact there are larger population increases slated for many parts of the South and West of Sydney. But the City of Sydney's support for car share services has paid off significantly. The impact of car parking and traffic congestion in the City would be much worse today if the City had not facilitated the growth of car share over the past decade. The research suggests that the resident vehicle fleet is 10,000 vehicles smaller than it would otherwise have been. This shows that a Council can invest in a car share network to avoid growth in the resident vehicle fleet.

Local government in Metropolitan Sydney does not have many opportunities to directly influence traffic and parking congestion in their local area. More often than not the opportunities that do exist are quite expensive (such as building more parking). This means that the support of carsharing services is an attractive option to bust congestion due to the low costs of implementation and the high economic and social returns. At the strategic level Councils face a decision to support, be neutral or suppress the benefits of a switch from low use ownership to low use rental. This is because councils set standards for the network including matching demand, offering equity of access, service reliability, clarification of roles and responsibilities, disciplinary action and regular reporting.

In Australia the car share networks have been expanding in lower risk areas with established population density. Network development has not yet been tied directly to new residential or commercial development. Most municipalities are yet to seize the opportunity to make their urban areas more efficient by mandating car share services be provided in the same way they mandate that car spaces, bicycle facilities and public art be provided. This does not mean that councils must (or should) run the service themselves; today no council in Australia is operating a car share service. Those that support car share services fulfil a role as mode managers and incubators of expansion by reducing regulatory and systematic barriers to the establishment of carsharing. Yet councils rely almost exclusively on significant investment from one or more private service providers. This arrangement is a win-win as councils gain a community service without having to put up the capital or run the service while investors take financial risks to establish the network and to test whether services can deliver a return on their investment.

Councils also control kerbside space, which is the most common storage location for car share vehicles and the easiest to establish as there is generally an abundance of kerbside space in councils. Councils in Sydney that endorse the deployment of car share services in kerbside locations have followed similar 'permission' processes. Some have added car share to the categories of defined use (alongside bus stops and disabled parking) and car share vehicles have been allocated exclusive access to a number of kerbside parking spaces.

Importantly, the imposition of caps in the number of approved spaces by Road and Maritime Services or the suppression of expansion through increased regulation have stunted potential market led growth. For these reasons it can be said that in Australia many local governments effectively set car share policy and strategy through their allocation processes of parking bays. The report suggests that if a Council were to establish a consensus with a neighbourhood, suburb or the whole municipality that car share services were advantageous to non-users and users, and if the Council and community agreed broadly where the nodes in the network would be sited, then service providers could be encouraged to add vehicles into the network at the rate which they could afford. This 'market rate' expansion would be a reflection of use and would avoid people being denied access to the service due to monthly capping, while also formalising policies in regards to a council's car share services.

Australian municipalities do not have a consistent way in which taxes and charges are levied against car share service providers and therefore the service providers are bearing different financial burdens in each municipality. This can result in differences in reach of networks between areas if one council has higher levies, as when the price of transport services rise, people use the services less and the carsharing operators lose revenue. Operators therefore tend to avoid that council as they are being taxed at a higher rate and their service will be patronised at lower rates if they pass on these price increases to users

The City of Sydney, as previously stated, has been particularly successful in incubating and growing Australia's largest car share network. This is primarily because the *Sydney Development Control Plan 2012* included a clause (3.11.2) that defined the provision of car share spaces. These rules allow car share spaces to be provided in addition to the maximum number of car parking spaces permitted in the development as well as setting minimum rates of car share provision. The car share spaces must be held in common by the Owners Corporation for the exclusive use of car share and be located in convenient locations available to the public at all times. The required rate of car share vehicle provision in the City of Sydney is higher than the equivalent code in San Francisco. This formalised inclusion has the potential for other service benefits. While service providers generally seek to expand their networks organically by establishing new nodes where they have members slightly outside the catchment of the existing nodes, councils have a unique opportunity to regulate this expansion in a planned, strategic manner. In this way, a council led expansion of a car share network, as in the City of Sydney's case, can align with land-use planning and provide equitable access across an entire community.

Finally, once an extensive network is established, councils must take a leading role in measurement. The current City of Sydney policy uses membership as a means of measuring the strategic impact of the car share service, which is then communicated to the public via the City's website. The City of Sydney are providing leadership regarding the monitoring of car share services and communication with their constituents amongst Australian municipalities, however there is significantly more that can be done to get closer to world's best practice. A more reliable way of measuring the impact of the service is 'vehicle activity'. This measure can be used to track both the strategic impact of the service and to manage poorly performing aspects. For instance, if usage is below 3 hours a day for a car then it is not active enough to be financially viable.

Successful development and implementation of an expansionary car share service strategy involves consideration of transport planning, kerbside space management and urban and social planning. The benefits of carsharing are such that small investments at an early stage by councils have a much larger positive economic impact than ant installation or upkeep cost. In the face of large population growth, densification and changing behaviours towards driving, many councils in Sydney (and throughout Australia) can follow the City of Sydney's lead to encourage growth in carsharing through compulsory provision of spaces and accurate measurement of impacts.

For further information on the economic impacts of Car Share, please see the International Car Share Association report: *The Impact of Car Share Services in Australia.*

The Committee for Sydney

CSA CARSHARING ASSOCIATION

This brief is based on research commissioned by the International Car Share Association and conducted by Phillip Boyle & Associates.

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"The Committee for Sydney is a fantastic body adding to public debate in the city. It is exactly the organisation it needs to be – engaged, constructive and challenging."

The Hon. Mike Baird MP, NSW Premier