Parking: A Boon or a Burden to Liveable Communities

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The provision of parking has been intrinsically linked to theperceived success or ability for an area to succeed in this car based society.

In reality however, parking represents a cost (often overlooked) to communities which can limit the liveability and accessibility of communities.

Carefully considering the parking needs of a community can provide greater opportunities to improve amenity and reduce development costs hence providing for greater development opportunities and enhanced lifestyle in these areas.

The nature of parking, providing an end of trip facility for vehicle travel also means that its provision and management has a critical role in road network congestion in both accessing and circulating within communities.

The pricing of parking and modern technologies such as space sensors and variable direction signage also have a key role in not only managing

the turnover of parking but also in providing funds which can be used to facilitate amenity improvements and increased access to alternate active transport options.

This paper explores these issues to establish whether parking is indeed a 'boon' or 'burden' to the development of liveable and accessible communities.

Liveability and accessibility

Liveability and accessibility can be described in many ways and categorised by many factors. Liveability talks to quality of life; - health, wellbeing, equity, education, urban form, environmental sustainability and so on. Accessibility, relates to the level access or convenience

of delivered goods or services and is expressed as a generalised cost. That is the cost ($ or time, or risk etc.) required to access that particular service.

While there is broad agreements on some of the factors which define liveability and accessibility there is no definitive hierarchy as the value of each factor will vary between individuals and their impression liveability and accessibility,

This paper seeks to consider the impact of car parking on the following aspects of liveability and accessibility:

- Providing an affordable community
- Providing an environment that is equitable to all
- Protecting the amenity of those within the community
- Providing an urban design which enhances the community, and
- Providing a range of services which meet the needs of the community

Necessary evil or just plain necessary?

Alongside, politics, religion and football teams, it could be argued that the relative merits of car parking should not be mentioned in polite company. Through urban Australia car parking is a vexed issue. There is never enough or too much. It is too expensive or too invasive. It is simply a way of raising revenue and so on.

Nevertheless, living in a car-based society means we need to consider the impacts and benefits provision of car parking especially as it relates to new developments. Whether car parking is seen as a necessary evil or just necessary, it is critical to identify those impacts and the means by which we can hope to ameliorate the 'burden' that car parking can create.

The impacts of parking – the burden

For the purpose of this paper we recognise a simple reality that we live in a car-based society.

Carefully considering the parking needs of a community provides an opportunity to improve the balance between amenity and development costs associated with parking hence providing for greater development opportunities and enhanced lifestyle in these areas.

The nature of parking in providing an end of trip facility for vehicle travel also means that its provision and management has a critical role in road network congestion and amenity.

We believe the following impacts need to be considered when reflecting on the impacts new parking as a result of development;

- Parking represents a cost to developers which is ultimately passed onto the community, through increased prices for goods and services, skinnier margins for businesses or increases in parking fees. As such parking should be carefully considered to ensure any overprovision is minimised;

- Parking, particularly free parking, creates inequity as costs and delays caused by car parking are experienced by those not using parking facilities;
- Parking provides an improved amenity for a destination making its provision of commercial importance in attracting customers; - businesses without access to adequate parking are at a commercial disadvantage;
- Parking overspill can create a reduced amenity in residential areas which should be balanced against the benefits of proximate living to an activity centre;
- Parking detracts from the urban design of a community, and
- The space requirements of parking can limit the effective provision of a range of services.
- All of these considerations resolve into one key point; - the balance between the benefits derived by the provision of parking and the costs it generates. This balance can be a fine one and for the most part it settles on right-sizing the number of car parks in the first instance.

Minimising the burden – getting the numbers right

There are a number of approaches available to minimise the impact of parking on accessibility and liveability. First and foremost is defining how much car parking is actually required, To do this it is critical to use parking rates which reflect the expected peak repeatable car parking generation of a development rather than applying 'typical' statutory rates which reflect a general land use group rather than a more specific use being developed.

The second input into car parking space numbers looks at the optimal use of resources. We believe the key opportunities are:

- Maximising the sharing of parking facilities between different land uses to minimise the overall amount of parking that is required to be provided to support a development or activity centre;
- Using existing on-street parking supplies (even within residential areas) to maximise the use of existing public resources and minimise the consumption of land for parking which can be used to better service the community; and
- Positioning well designed and located public parking stations around an activity centre to maximise the sharing of parking and to minimise the urban design and streetscape impacts of many small car parks and access points.

Other measures to minimise the burden

In addition to optimising the number of car parks required other, measures can be used to minimise the impact of parking on accessibility and liveability. The following represent potential levers at our disposal.

Fee parking - managing demand

One mechanism to reduce circulating time, and hence congestion to both those looking for car parks and other road traffic, is to use fee parking as a demand management tool to ensure that parking vacancies are available for vehicle use.

'The High Cost of Free Parking' explores the concept of fee parking and adopting a parking fee regime to achieve an 85% parking occupancy. The 85% occupancy represents a situation where drivers are unable to identify where vacant spaces exist and subsequently represents effective capacity.
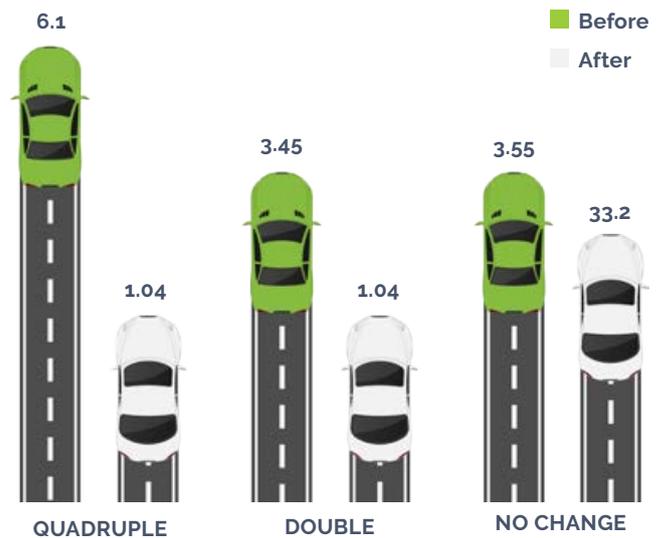
Parking Search Time Before and After Parking Price Increase in London1

The impact of fee parking on reducing vehicle circulation is illustrated in Figure 1 which compares the impact of different fare increases on parking search time (circulation).

In broad, there does appear to be an implied elasticity between cost and demand which suggests variable pricing can be used to manage parking demand at peak occupancy.

While fee parking can assist in managing demand, it also creates a revenue stream which can be reinvested into improving the amenity to all users including, for example, improved streetscapes and urban design, provision of cycle parking and improved pedestrian facilities.

1 Source: Donald Shoup, The High Cost of Free Parking, 2005 (Table 12-2)

Effective signage

Another practical way in which driver circulation time, and hence congestion, can be minimised is through the use of effective signage to highlight available car parking locations.

Such signage can identify the location and number of parking and provides a driver with key information in the "End of trip "journey, by highlighting alternatives of which they may not be aware.

This highlighting of alternatives can be enhanced through the use of real time electronic variable signage which identifies the number of vacant car parking spaces at any time, rather than simply the overall supply.

Other technologies

Other more recently introduced technologies can also play a role in reducing the impact of parking on liveability and accessibility.

On road parking space sensors provide real time information of parking durations. This information can be used to advise drivers that they need to leave a parking space or assist enforcement officers in capturing overstaying vehicles. This advice will assist in increasing compliance, creating vehicle turnover, and increasing the availability of parking to reduce vehicle circulation times looking for a vehicle and ultimately reduce road network congestion.

Information from such space sensors could also be used to create mobile applications to identify in real time where vacant on-street parking spaces exist, to assist drivers understand where vacancies exist to minimise vehicle circulation and road congestion.

Conclusions

- Parking represents a cost to developers which is ultimately passed onto the community including those not using parking facilities.. Minimising this cost will increase amenity.
- Parking is of commercial importance in attracting customers
- Parking overspill can reduce amenity in residential areas however such a reduced amenity must be balanced against the benefits of proximate living to an activity centre.
- Parking detracts from the urban design of a community
- The space requirements of parking can limit the effective provision of a range of services.
- In minimising the burdens of parking the following considerations should be given:
  - Provide parking at rates which reflect the expected car parking generation of the development
  - Maximise the sharing of parking facilities between different land uses
  - Utilise existing on-street parking supplies
  - Provide well designed and located public parking stations around the periphery of an activity centre
  - Consider the use of fee parking, effective signage and modern technologies to minimise vehicle circulation looking for a parking space.