# PLACE AND MOBILITY Future Ready Kerbside

EXECUTIVE SUMMARY AND RECOMMENDATIONS FOR CITY LEA

FUTURE READY

2020

### **Joint Foreword**

Productive kerbsides are a prerequisite to achieving our vision for our local places. They can free up space for shade, seating, wider footpaths, transit, new mobility options, walking and cycling. All together enabling better access for people of all ages and abilities.

We are currently failing our local places through a legacy of static management and allocation of the kerbside. This makes it harder and not easier for people to access local businesses and engage with their communities.

WSP was commissioned by Uber to explore the future ready kerbside that supports places for people. Our white paper introduces new analytical techniques to explore what the future may hold, building on the Shared Mobility Principles for Liveable Cities.

### We need to act now.

But this is easier said than done.

It requires governments, businesses and the community working together towards a shared and co-designed vision. This white paper sets out ten recommendations that city leaders can make today.

Uber and WSP want to start a conversation about how we can make our kerbsides work harder and start delivering more effectively for our people and places.



Ashleigh Cormack Future Cities Lead Australia and New Zealand **UBER** 



Graham Pointer Future Ready Lead Australia **WSP** 



### **Executive Summary**

### MAKING THE KERBSIDE WORK HARDER IS CRITICAL TO CREATING LIVEABLE CITIES

Cities across Australia and New Zealand are growing and changing. Populations are rising. Settlement patterns are changing. Technology is evolving and influencing all parts of our lives. All the while, people's expectations for liveability and what they want from their local public spaces are increasing. As the world around us and our role in it changes, we depend upon our local places even more - for connection to our communities, for a bite to eat, for important services and to earn our livelihoods.

The kerbside is an aspect of our local places that is often overlooked by city leaders but its management and allocation is crucial to achieve our vision for those places. How we manage and allocate the kerbside dictates who can access the place, when and by what method. Treating the kerbside as a passive infrastructure asset is failing our local places.

Dynamically managing and allocating the kerbside can help to pour more people into local shops or to free up space to be allocated to seating. It is a public asset that must be optimised to realise our vision for our local places now and into the future.

### KERBSIDE MANAGEMENT AND ALLOCATION IS STATIC IN OUR CITIES

The management and allocation of the kerbside is currently suboptimal. Decade-old decisions by officials are invariably held constant regardless of the changing character of our local streets. This leads to perverse outcomes where the kerbside management and allocation is working against the ambitions of local businesses and local communities. A common kerbside management issue is the large amount of public space unquestionably dedicated to parked private cars. In terms of kerbside allocation, a key issue is whether space should be repurposed from vehicles towards other uses like seating and alfresco dining.

# COMMUNITIES AND WHAT THEY NEED FROM THE KERBSIDE IS CHANGING

Our growing population is creating greater demand for accessing places, while at the same time new technology is changing the way we move and access services. Greater use of ride sharing and shared mobility services has led to debates around kerbside utilisation and how to make it more efficient. The increase in online shopping and subsequent small package and food deliveries has seen a rise in trips by small vans and e-bikes. An ageing population brings forward design considerations to ensure equity of access. Societal and technological changes are altering what people want from kerbsides in the context of accessing places. At the same time we are considering the opportunities brought by new forms of mobility. New micro-mobility modes are emerging with technology enhancements in e-bikes, scooters and skateboards. Personal ownership of vehicles has the potential to gradually be swapped for shared services such as ride sharing, car sharing, and carpooling. New mobility options with different business models are coming, as are technologies that will enable us to dynamically manage kerbside uses. It is incumbent upon us to be ready with a shared vision for people and places that new technologies can help to enable.

### ACTION IS NEEDED NOW FROM CITY LEADERS IN PARTNERSHIP BETWEEN COMMUNITIES, BUSINESSES AND GOVERNMENTS

To ensure our cities are planned and managed for all, city leaders across the public and private sectors must start with co-designing our vision for places with local communities and businesses. It is only then that we can understand the implications for managing competing demands at the kerbside. Their decisions should ensure our cities' places remain, or will become, attractive, safe and accessible. This means taking a people and place first approach towards managing the kerbside.



In practical terms, the kerbside is the road lane and area of the footpath either side of the kerb. City leaders are increasingly moving towards a 'vision and validate' approach to city planning, however the conversation is too often strategic and theoretical. They need to influence how the kerbside is used in the context of realising a co-designed place vision. The kerbside is a finite resource —in the past its space has been arbitrarily managed and allocated. It needs to be better managed to draw on technologies and efficient ways to move people that are selected and allocated to deliver the vision for the place that the kerbside serves. It may also be the case that the amount of kerbside is reduced to realise that place vision.

The Shared Mobility Principles for Liveable Cities has been endorsed by cities, NGOs, academic institutions and companies around the world. They set a clear direction for improving the liveability of our places through taking a holistic view of mobility. These ten Principles set a guiding framework for the potential of the kerbside into the future.

### UNDERSTANDING THE LOCAL PLACE MATCHED WITH WHAT THE FUTURE MAY HOLD TRANSLATES TO FUTURE READY KERBSIDES

A key consideration when determining how a street and kerbside should operate is its local context. What are the place characteristics and what do we want them to be in the future? How does this fit with the wider city context and urban policy outcomes?

What role does transit play in providing access to the place? Is it a mass transit or local service corridor? Can kerbside be reallocated to a place function like outdoor seating or trees for shade?

This paper seeks to operationalise the Shared Mobility Principles through a place lens to imagine the future of kerbside:

 We apply a Movement and Place Framework to understand the balance of placemaking, local access and movement objectives both now and in 2050 with new mobility – investigating what this means for the kerbside.  We use the WSP Systems Dynamics Tool to explore future new mobility scenarios and then explore the key design decisions this reveals for the kerbside.

To illustrate this we explore two case study locations We look at Crown Street in Sydney, Australia and Onehunga Mall in Auckland, New Zealand. Through examining these places now, and exploring what new mobility and achieving the Shared Mobility Principles might look like into the future, we are presenting what is possible through effectively managing our kerbsides.

### DISRUPTIONS DUE TO THE COVID-19 PANDEMIC MAKES ACTION ON KERBSIDES EVEN MORE IMPORTANT

The impact of the COVID-19 pandemic on how people move around and access places and services has been significant. The short-term impacts have been dramatic as shelter in place orders have been observed with cities around the world reporting a decrease in transit passengers of 80% and ride sharing dropping by 70% in the hardest hit cities. We have also seen increases in smaller deliveries and cycling which we can expect to continue into the long-term. The long-term impacts of the pandemic on our cities has the potential to be detrimental if, for example, we see private car use and ownership reinforced with people fearing a return to public transport. In addition, if people start to buy new private cars, there is a high lock-in risk of another 10-15 years of urban congestion and pollution. Many cities are responding to this by prioritising kerbside uses that promote safe, shared transport and socially distanced activities such as pop-up cycleways and outdoor dining.

The pandemic has also reinforced the importance of high quality public spaces close to home. Many local cafes and high streets are experiencing a renaissance as people visit during their day when working from home. How the kerbside is managed and allocated is an important enabler for people to access these local places.

# This white paper sets out to answer three key questions:

- To create great civic spaces by achieving the Shared Mobility Principles, what would the kerbside look like and how will it be used in 2050 given new mobility options?
- 2. What are some new approaches and tools city leaders can use to evaluate the management and allocation of the kerbside to ensure it is delivering the best outcomes for our people and places?
- 3. What actions do city leaders need to take now to enable a vision for great civic spaces?

### Recommendations for City Leaders

Decisions need to be made now for future ready kerbsides that serve our people and places. City leaders should consider the Shared Mobility Principles for Liveable Cities to guide how we adopt new mobility for the benefit of people and places. This is even more timely as we bounce back from the disruption caused by the COVID-19 pandemic and look again at our public spaces, such as streets, and consider how well they are working for people.

The Shared Mobility Principles present a guiding light to ensure that decision-making by city leaders is focussed on people. As we set a shared vision for our places we must consider how new mobility can help enable that vision supported by inclusive governance arrangements and design decisions. New ways of prioritising and managing the kerbside are needed to improve efficiency and flexibility to better achieve the vision for the place.

WSP's New Mobility Update of the Movement and Place Framework, supported by scenarios developed through WSP's System Dynamics Tool, demonstrate what the future may bring in 30 years. We have shown what 2050 could look like for two locations in Sydney, Australia and Auckland, New Zealand. Achieving these visions will not happen by chance. It requires collaboration and a focussed effort by city leaders, both public and private. Our aim is for these recommendations to be embraced by city leaders to drive co-design between communities, businesses and governments for a shared vision for places. How our kerbsides are managed and allocated is a key enabler to achieve the vision. Current practice is patchy with a number of areas for improvement. This is particularly important in the context of new mobility and ensuring that it contributes to achieving our vision for places, rather than detracts from it.

We have grouped the Shared Mobility Principles into system-wide aspects to get right - City Strategy, Process - and the tangible changes needed at the local scale - Street Design Outcomes. These are actions city leaders in governments, communities and businesses can take now.



### RECOMMENDATIONS FOR CITY STRATEGY AND PROCESS

1

CO-DESIGN the vision for places in partnership with the community, businesses and governments. Having a shared vision amongst all stakeholders is a crucial first step and requires active partnership working between local communities, local businesses and governments.

- i. Governments must ratchet up their meaningful engagement with local communities and businesses to co-design the vision for local places and explore what that means for the kerbside. This means sharing control of the outcome at a granular scale.
- ii. Local communities and businesses must not accept transaction-style engagement and demand a seat-at-the-table for effective and meaningful co-design. Decisions on kerbside management and allocation need to be evidence-based and tied to current and future land uses for the place as captured by the co-designed vision.
- iii. Success will come if local communities and businesses are open to challenging the status quo of kerbside management. A part of this is all parties considering the evidence and how reducing static car parking in favour of place-focussed uses like outdoor seating can lead to greater footfall for local businesses. Share successful case studies to raise awareness and understanding and undertake tactical interventions to rapidly test ideas.
- iv. Putting in place governance arrangements with clearly defined roles and responsibilities for the different levels of governments, local community and businesses to co-design the vision in partnership.

2

TAKE A PEOPLE-AND-PLACE FIRST APPROACH so that new mobility is an enabler and not a detractor to realising the co-designed vision. Too often city leaders discuss new mobility as a threat to our places or frame it as wondering what the future may hold. The conversation needs to be flipped to consider what we want from our places and then how can new mobility best support that vision.

- i. Moving to a 'vision and validate' approach to city planning, and applying this to new mobility, will ensure that people and places are always considered first. Persisting with 'predict and provide' approaches condemns communities to more-of-the-same and reinforces a legacy of the kerbside and streets being designed for private vehicles and not all modes and people.
- ii. Ensure 'vision and validate' planning approaches are in action for local places. Governments are increasingly comfortable with adopting a vision and validate approach at the strategic city-scale, but less so at the local scale. This is critical to ensuring that new mobility contributes to the vision rather than overriding it.

 $\leftarrow$ 

# 3

**MULTI-MODAL approach is needed to plan for people and places that is focussed on sustainable and efficient journeys.** We need to design for how we want people to access places and in a way that supports our vision for the place. This means designing to prioritise the best mode for different trip types through multi-modal planning for the whole of journey.

- i. Prioritise walking and micro-mobility over private vehicles for short trips to local centres. This should guide decision-making around accessibility and the resulting supporting infrastructure requirements such as wider foot paths and bike lanes. The emergence of micro-mobility has fantastic potential to enable access to local places, requiring less reliance on private vehicles for short trips.
- ii. Continue to promote transit such as train, bus and tram as the mobility backbone of cities well into the future. It is the most productive way to move large numbers of people and plays a key place function. Transit acts as a people fountain to our civic spaces, which often also perform an interchange function getting people to home, work or study.
- iii. Governments must review their processes and structures to ensure that a mode agnostic approach is being taken to plan our multi-modal transport networks so that they best serve people and not private vehicles only. Seamless interchange between all modes should be balanced with place objectives and incorporated into the design for new transport infrastructure and in the upgrade of our existing infrastructure networks. The Shared Mobility Principles for Liveable Cities provide a useful yardstick.

# 4

**ROAD AND STREET NETWORK PLANS MUST MEANINGFULLY REFLECT PLACE FUNCTIONS, as well as movement, so that fine-grained planning is possible at the local scale.** People need both movement and place functions from our roads and streets. However, it is fair to say that over time city leaders have prioritised the movement function in the majority of cases. It is time for the pendulum to swing the other way to ensure that our town centres, local community centres and places of economic activity welcome people to visit and dwell.

- i. Governments must urgently revise Road and Street Network Plans and supporting guidelines, technical directions and performance criteria to meaningfully reflect place functions. These must be an enabler to achieve strategic and local visions set out in land use plans, taking a people-and-place-first approach.
- ii. The role and function of a street in the wider network will influence the kerbside management and allocation for movement and place functions. However, the future network plans should inform and be informed by the future place plans for a particular street. What level of kerbside priority should be provided for public transport services for example will not only depend on what land uses and activities exist at street level but also what function the road fulfils in terms of moving people and by which mode through its network movement function.
- iii. The Shared Mobility Principles as well as the Movement and Place Framework are useful tools to diagnose current use. Examining level of service and operating conditions, such as speed, help to determine the Movement and Place classification as do the place considerations for the street. The same classification frameworks can also be used to point to where we want to go, to define the preferred use as a part of a broad road and street network. These considerations should flow through to updating street design guidance to support place functions.

 $\leftarrow$ 

# 5

STREET DESIGN GUIDELINES MUST GET AHEAD OF NEW MOBILITY and proactively focus on the best possible outcomes for people and places. Governments must proactively keep pace with emerging mobility technologies and be focussed on the movement and place outcomes that best achieve our vision for our people and places, rather than acquiescing to the design requirements of new mobility, through proactively updating street design guidelines.

- i. Transitioning to a shared and automated vehicle fleet as set out in the Shared Mobility Principles away from privately-owned vehicles can be supported through prioritising access to the kerbside. The rationing of space at the kerbside away from privately owned vehicles to embrace a low emission, shared and automated vehicle fleet is one approach that governments can take to incentivise adoption, where it is in keeping with the vision for the place. This can be achieved through regulation and/or pricing that changes the use of the kerbside to restrict or enhance capacity for different types of vehicles at different times, or in response to changing demand. It can also look at dynamically changing the use of the kerbside between modes to maximise productivity.
- ii. Prioritising shared vehicles yields a more productive use of the kerbside through pick-up / drop-off, when compared to private cars in general parking - making the kerbside work harder. It is also important to support the cultural transition to shared transport as the successful transition to automated vehicles relies on them being operated in shared fleets to avoid worsening congestion.
- iii. Increasing demand for charging facilities will continue as the proportion of electric vehicles in the fleet rises. The increase in electric vehicles should be encouraged as it brings broader environmental benefits and place benefits such as lower local emissions and noise pollution. However, access to on-street charging infrastructure for electric vehicles should not be the same across all street types. For example, it is not appropriate for Civic Spaces as it encourages less intensive use of the kerbside, which in turn could limit the opportunity for more people to access the place with a knock-on impact to local businesses. It may be more appropriate in Local Streets or at home. To encourage at home charging, governments should ensure EV-ready building codes and supporting policies are in place.
- iv. Charging facilities for electric micro-mobility may be appropriate in Civic Spaces and around public transport hubs, to encourage interchange between modes, bring people to local places and avoid informal parking and street clutter.



### RECOMMENDATIONS FOR STREET DESIGN OUTCOMES

# 6

**DYNAMICALLY MANAGE AND ALLOCATE THE KERBSIDE to use it more productively and achieve the vision for the place.** Existing kerbside uses are often a legacy of decisions made by governments in previous decades. Static approaches to kerbside allocation are failing our people and places. Making better use of kerbside makes it easier to reallocate space to other uses such as seating and shade.

- i. Dynamically shifting the use of the kerbside to match the changing needs of the place at different times of day and during the week is essential to realise the potential of our local places. Let's get the kerbside working hard to best support local communities and businesses. A proactive approach by governments that has been co-designed with the local community and businesses is required to move quickly on altering kerbside uses.
- ii. Emerging technology can be harnessed to better manage the kerbside. Dynamic signage to signal and prioritise kerbside can play a role. These kerbside use changes can be communicated to in-vehicle displays in real time and apps to help people accessing the place. However, technology is meaningless without establishing and using a kerbside management framework backed up by necessary regulation and policy.
- iii. Dynamic allocation of the kerbside is also relevant in response to short, sharp shocks such as during the COVID-19 lockdown. At this time, it would have made sense for kerbsides outside cafes and restaurants to be dynamically changed to pick-up / drop-off spaces during peak food delivery times for example.
- iv. Pricing access to the kerbside is a long-standing practice that can be harnessed through technology to dynamically manage and price the kerbside in a way to best deliver on the place vision. The addition of productivity metrics will ensure that the kerbside is working hard to achieve the place vision. It may also free up kerbside to be allocated to other place functions such as parklets or seating.

MOVE FROM GENERAL PARKING TO PICK-UP / DROP-OFF for people and goods to improve kerbside productivity and access to local places. We need the kerbside to work harder to enable more people to access local businesses and services, and for businesses to send and receive deliveries. This means restricting the use of general parking, such as two- and four-hour parking zones, in preference for pick-up / drop-off zones.

7

- i. The kerbside requirements of people and of goods are blurring. In most cases an area for pick-up / drop-off will satisfy both types of access to our Civic Spaces. This includes micro-mobility with people accessing their local shopping street as well as people making deliveries.
- ii. Rising volumes of e-commerce and food delivery are increasing the urban freight task. Moving these smaller deliveries around our cities has resulted in a greater requirement for pick-up / drop-off by micro-mobility as well as by vans and trucks. We noticed a rapid increase in smaller deliveries as people adapted to life under lockdown during the COVID-19 pandemic. This behaviour is set to continue.
- iii. Servicing businesses with large deliveries will endure. These can occur overnight or at the fringes of peak place activities, facilitated through dynamic kerbside management. Freight consolidation centres enabling local deliveries by robots/ drones and micro-mobility will also be appropriate for some centres, although unlikely to be suitable for most Main Streets and Civic Spaces due to space and safety impacts.
- iv. Pick-up / drop-off will become increasingly important as the vehicle fleet transitions to automated and shared vehicles. The management and allocation of the kerbside will be a tool for prioritising access by shared rather than private vehicles and maintaining equitable access so that vehicles enhance and do not detract from achieving the vision for the place now and into the future.

7

 $\leftarrow$ 

# 8

**REALLOCATE KERBSIDE AND ROAD SPACE IN OUR PLACES TOWARDS ACTIVITIES such as seating, shade and play that attract people to local businesses.** Achieving the vision for our places will mean reallocating the kerbside and road space away from a movement function towards fulfilling place functions.

- i. Reallocating road space to support place functions has the potential to attract more people to local businesses. More trees create shade and combined with seating, encourage people to dwell. Play equipment and sculptures also help to attract people and encourage them to stay and enjoy the place. Increasing the tree canopy and employing water sensitive urban design also helps to reduce the urban heat island effect.
- ii. Reducing clutter on the footpaths, such as signage, contributes to achieving a sense of place and removes obstacles for people enjoying the space. Often utility boxes, parking signs and power poles squeeze out things we want if there is room, like trees, awnings and benches.

**PRIORITISE WALKING TO ACCESS LOCAL PLACES, along with transit and micro-mobility, supported by funding for local infrastructure.** Too often our places are considered in isolation. Infrastructure funding decisions and the scope of local plans must encompass local infrastructure like wider footpaths and bike lanes to support people to access their local places.

9

- i. Making it as easy as possible for people to choose to walk to local places. The way we design to enable our key desire lines to local places can have a large bearing on the take up of walking trips. This includes walking directly to local places as well as walking to access transit, such as bus stops, that transports people to their local places. Our planners and designers must adopt a walk-first approach for designing for access by all ages and abilities and with funding support from governments.
- ii. Bicycles and scooters are being joined by e-bikes and e-scooters as forms of micromobility that generally support access to places by people from a larger catchment than those walking. Parking and charging infrastructure for e-micro-mobility will become increasingly important in those places where we want people to dwell or to pick up goods such as café and restaurant precincts, and at interchanges to encourage first-mile/last-mile travel.
- iii. Ensuring that people can easily access transit at the start of their journey through paths to bus stops, train stations and tram stops, and with stop locations within our local places. The whole journey must be considered to ensure equity of access.
- iv. Delivering local infrastructure to enable safe access to our places by people of all ages and abilities is crucial to achieving our vision for local places. Governments prioritising, funding and delivering local infrastructure such as kerb buildouts, separated cycle lanes, wider footpaths are essential.

# 10

ALWAYS DESIGN AND CONTINUALLY UPGRADE LOCAL INFRASTRUCTURE FOR SAFE USE AND ACCESS, for people of all ages and abilities. Cities need to incorporate thoughtful design to ensure there is equal physical, digital and financial access to transport services and places for everyone in our community. Perceived and actual road and interpersonal safety is crucial to bringing people to places and intelligent street and road design can have a big impact for all users.

- i. Adopting an inclusive approach throughout all decision-making to ensure that equity of access is achieved. Stakeholder groups focusing on accessibility must be included in co-designing the shared vision for our places and regularly engaged by city leaders to validate progress.
- ii. Urgently upgrade street, kerbside and public transport infrastructure to ensure our local places are accessible for the young, elderly, people with disabilities and parents walking with prams. Inaction could lead to poor safety outcomes as well as the continued use of the private car by some people who would otherwise walk, cycle or travel by transit. This does not promote great place outcomes, can be financially prohibitive and removes an opportunity for exercise.
- iii. Employ a Safe System approach to road design that takes the kerbside into account. This means taking a holistic approach across all modes, including walking and cycling, to ensure our local places are designed to be safe. Reduced speeds limits in Civic Spaces is one measure.

Acting now to create future ready kerbsides will bring tangible benefits for people and our local places.



TODAY



CROWN ST SURRY HILLS, SYDNEY



10



# **CROWN ST** SURRY HILLS, SYDNEY

2050

PLACE AND MOBILITY / FUTURE READY KERBSIDE

12

 $\leftarrow$ 

TODAY



**ONEHUNGA MALL** ONEHUNGA, AUCKLAND





13

WSP

## WSP FUTURE READY<sup>TM</sup>

Future Ready is WSP's **innovative approach to thinking beyond the conventional** so that we can plan, design and deliver infrastructure that's ready for today's code and tomorrow's challenges. Being future focused, understanding what the world might look like in the next few decades, and taking action to prepare for this future, is essential to what we do at WSP. **Our clients count on it and our communities thrive because of it.** 



Contact: Graham Pointer Future Ready Lead, Australia Graham.Pointer@wsp.com

# wsp

WSP is one of the world's leading engineering professional services consulting firms. We are dedicated to our local communities and propelled by international brainpower. We are technical experts and strategic advisors including engineers, technicians, scientists, planners, surveyors, environmental specialists, as well as other design, program and construction management professionals. We design lasting Property & Buildings, Transportation & Infrastructure, Resources (including Mining and Industry), Water, Power and Environmental solutions, as well as provide project and program delivery and advisory services. With approximately 50,000 talented people globally, we engineer projects that will help societies grow for lifetimes to come.

WSP Australia Level 27, 680 George Street Sydney, NSW 2000 Australia