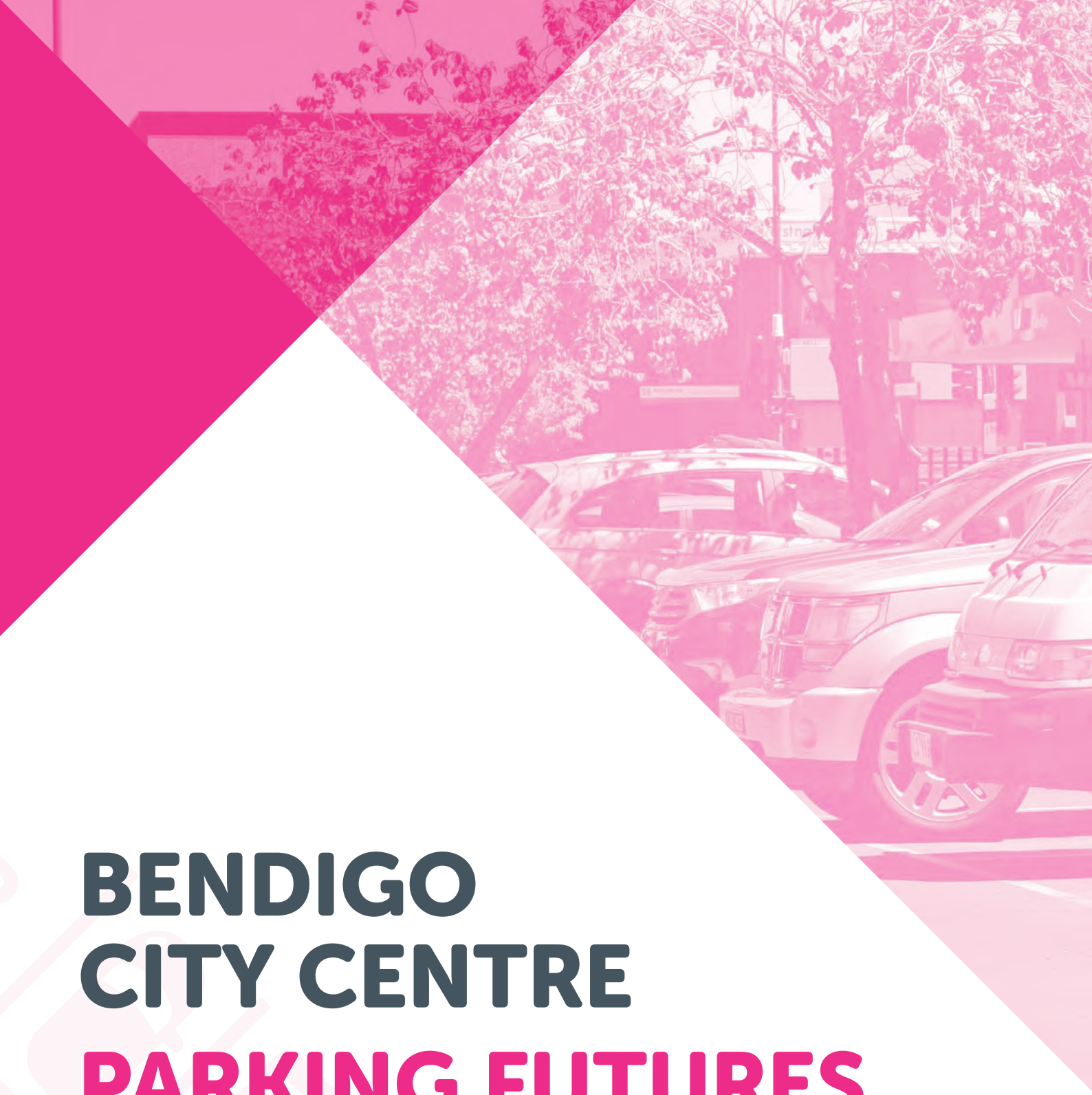

BENDIGO CITY CENTRE PARKING FUTURES ACTION PLAN

APRIL 2020

MRCagney

CITY OF GREATER BENDIGO

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ACKNOWLEDGEMENT OF COUNTRY

The City of Greater Bendigo is on both Dja Dja Wurrung and Taungurung Country.

We acknowledge and extend our appreciation for the Dja Dja Wurrung and Taungurung Peoples, the Traditional Owners of this land.

We pay our respects to leaders and Elders past, present and emerging for they hold the memories, the traditions, the culture and the hopes of all Dja Dja Wurrung and Taungurung Peoples.

We express our gratitude in the sharing of this land, our sorrow for the personal, spiritual and cultural costs of that sharing and our hope that we may walk forward together in harmony and in the spirt of healing.

NOTES

1. To assist the City of Greater Bendigo to better understand the complexities of parking systems and to explore and review the different policy directions that well performing cities across the world are taking, specialist traffic and parking professionals, MRCagney, were commissioned.

   MRCagney's expert advice and recommendations have been combined with the 'on the ground' information, knowledge and expertise of relevant City staff and City Centre stakeholders to produce this Parking Futures Action Plan. The Plan will assist Council to make informed decisions relating to parking into the future.

2. This Plan was adopted by the Greater Bendigo City Council on May 6, 2020.

FOREWORD

Professor Donald Shoup is considered to be the world's leading authority when it comes to contemporary approaches to parking and understanding how it impacts on urban environments. Professor Shoup overcame the challenge of writing about parking without being boring in his iconoclastic 800-page book *The High Cost of Free Parking* (2005). Easy to read and often entertaining, the book showed that city parking policies subsidise cars, encourage sprawl, degrade urban design, prohibit walkability, damage the economy, raise housing costs, and penalise people who cannot afford or choose not to own a car.

Using careful analysis and creative thinking, Professor Shoup recommended three parking reforms: (1) remove off-street parking requirements, (2) charge the right prices for on-street parking, and (3) spend the meter revenue to improve public services on the metered streets.

Parking and the City (2018) is a follow up book that reports on the progress that cities have made in adopting Professor Shoup's three reforms. The successful outcomes provide convincing evidence that Professor Shoup's policy proposals are not theoretical and idealistic but instead are practical and realistic. The 51 chapters by 46 authors in *Parking and the City* show how reforming our approach to parking policies can do a world of good and put our cities on the path to a successful future.

This *Bendigo City Centre Parking Futures Action Plan* draws heavily on the two resources mentioned above and their many examples.

The most emotional topic in transportation

"Most people consider parking a personal issue, not a policy question. When it comes to parking, rational people quickly become emotional and staunch conservatives turn into ardent communists. Thinking about parking seems to take place in the reptilian cortex, the most primitive part of the brain responsible for making snap judgements about urgent fight-or-flight issues, such as how to avoid being eaten. The reptilian cortex is said to govern instinctive behaviour involved in aggression, territoriality, and ritual display – all important issues in parking.

Parking clouds the minds of reasonable people. Analytic faculties seem to shift to a lower level when one thinks about parking. Some strongly support market prices – except for parking. Some strongly oppose subsidies – except for parking. Some abhor planning regulations – except for parking. Some insist on rigorous data collection and statistical tests – except for parking. This parking exceptionalism has impoverished our thinking about parking policies, and ample free parking is seen as an ideal that planning should produce. If drivers paid the full cost of their parking, it would seem too expensive, so we ask someone else to pay for it. But a city where everyone happily pays for everyone else's free parking is a fool's paradise."

Professor Donald Shoup, Parking and the City (2018)

These include cities of all different shapes, sizes and stages of development, however most have seen the majority of their growth occur since the mid-20th Century, just like Bendigo. Essentially the two resources provide us with a toolkit of parking policy options. We need to carefully investigate and consider which ones are most appropriate for our particular circumstances and ultimately, which ones will contribute to the creation of a financially strong and resilient Bendigo City Centre.

In addition to the ideas about parking policy, the City's parking unit has also been collating data on the occupancy and management of parking across the City Centre. This information has identified that overall, our parking system is being managed well and is operating efficiently; however, that regular monitoring and fine tuning is needed. In particular, the core commercial part of the City Centre is operating at high occupancy (slightly above the optimal range of 80-85 per cent), but the surrounding areas have significant capacity (below the optimal range). Our parking unit have also been trialling the PayStay mobile phone app in two of our at-grade car parks (Myers Street and Mundy Street). Both are primarily used for all day parking. The introduction of the PayStay option for the Myers Street car park in particular has seen, or coincided with, an increase in occupancy. The Mundy Street car park has always been highly utilised, so the purpose of the PayStay app trial has been more about exploring ways to improve the customer experience. Both locations have indicated that customers like having numerous payment options and the improved flexibility and information that a mobile phone app provides. The information that our parking team collect has been analysed and carefully considered in the context of developing this document and its actions.

Assisting the City in developing this *Parking Futures Action Plan* are expert transport consultants MRCagney. MRCagney have extensively researched parking and city building across Australia and New Zealand. They are leaders in contemporary thinking about transport and parking and their advice is based on proven, workable solutions that are suited to Bendigo. In the interests of keeping the Action Plan brief, we have included several memos written by MRCagney as appendices, rather than reproduce them in the body of the document.

While some of the actions included in this Action Plan might appear as though they don't have much commentary to support them, additional information can be found in the appendices, and may have already made their way into mainstream thinking about parking management. While every city centre is different, parking itself operates relatively consistently across cities. We do not have to reinvent the wheel when it comes to parking policy, but we do have to decide what sort of city centre we want and tailor our actions to help us get there.

EXECUTIVE SUMMARY

The City of Greater Bendigo is continuing to grow and evolve. The number of residents in Greater Bendigo is expected to grow from the current population of approximately 118,000 to 155,000 by 2036, an increase of over 30 per cent. Higher rates of growth are forecast in the central Bendigo area, growing from the current population of approximately 5,800 people to 8,700 in 2036; a growth of approximately 49 per cent.

The City's existing plan for transport, the *Integrated Transport and Land Use Strategy 2015* (ITLUS) supports a new strategic approach to meeting the future transport, development and housing needs of Greater Bendigo. The ITLUS sets out a new framework and direction for integrating transport and land use planning, reducing the reliance on operating private vehicles for daily tasks and making the best possible use of the available infrastructure, including road space, to meet the city's future traffic demands.

This *Parking Futures Action Plan* has been prepared to support future decision-making relating to car parking in the Bendigo City Centre. It has been prepared concurrently with the *Bendigo City Centre Plan*, which has at its core a focus of guiding investment and development for the next decade and beyond. Critically, this Action Plan builds on the ITLUS to directly influence outcomes relating to car parking management with a focus on improving sustainable transport, creating a vibrant public realm and providing greater flexibility and reducing costs for new commercial and residential properties.

The Action Plan acknowledges the role that the City plays as a manager, planner and provider of car parking in the City Centre and includes seven core objectives to communicate a definition of success for car parking management outcomes, broader transport goals and the creation of a successful and vibrant Bendigo City Centre.

The objectives are:

Objective 1

Car parking is managed at a precinct scale to support the continued growth and vitality of the Bendigo City Centre as a people-oriented urban environment.

Objective 2

Public subsidies for car parking are reduced and parking demand and supply are increasingly balanced by using market-based tools.

Objective 3

Car parking is well located, accessible and convenient, particularly meeting the needs of those that require parking most (people with limited mobility).

Objective 4

Car parking is managed using technology, pricing and time limits to achieve optimal utilisation and to deliver broader transport policy goals including a shift towards sustainable transport and Mobility as a Service (MaaS).

Objective 5

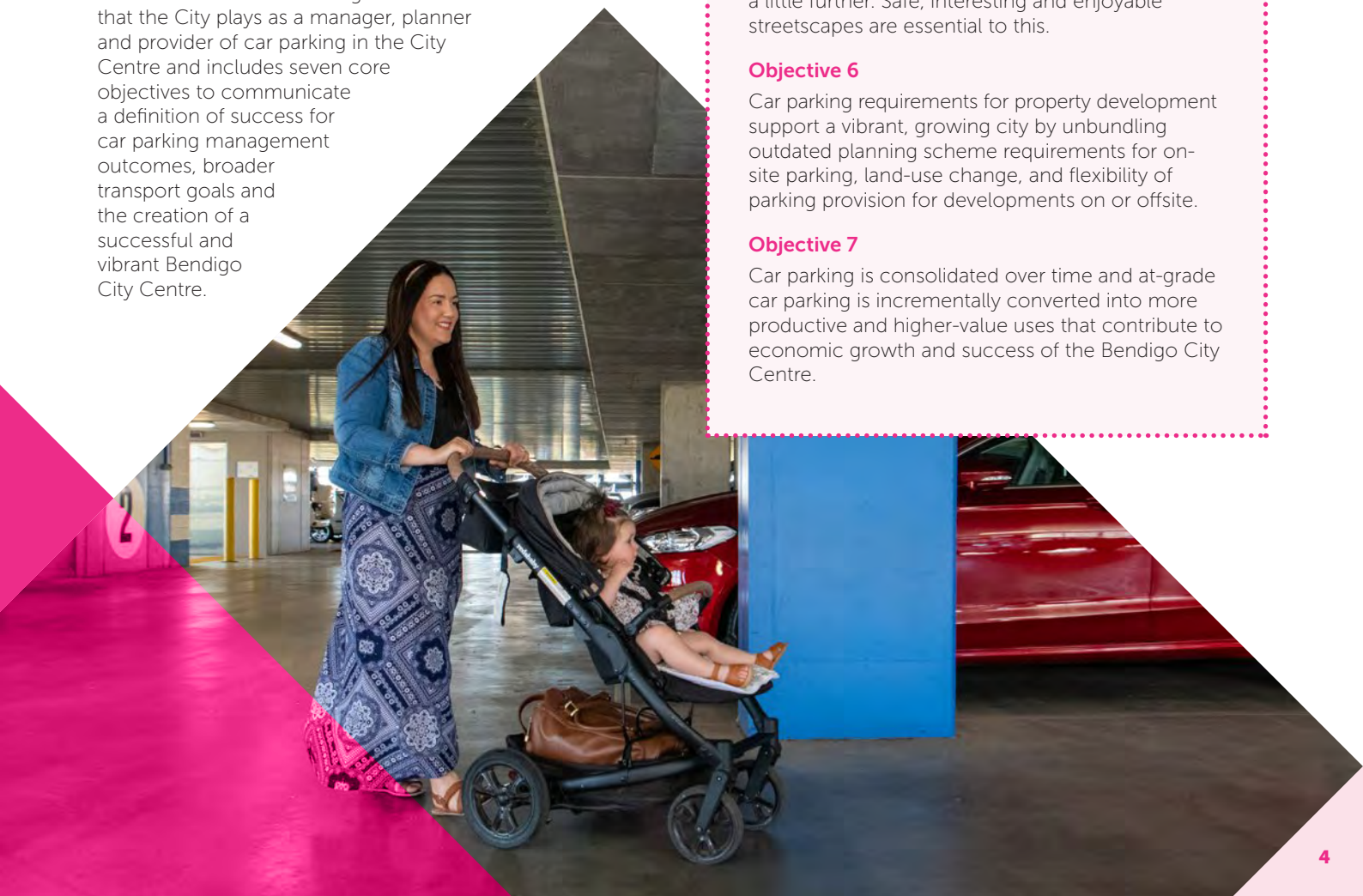
Car parking is provided and managed to encourage people to get out of their cars sooner and walk a little further. Safe, interesting and enjoyable streetscapes are essential to this.

Objective 6

Car parking requirements for property development support a vibrant, growing city by unbundling outdated planning scheme requirements for on-site parking, land-use change, and flexibility of parking provision for developments on or offsite.

Objective 7

Car parking is consolidated over time and at-grade car parking is incrementally converted into more productive and higher-value uses that contribute to economic growth and success of the Bendigo City Centre.



Developing this Action Plan involved an assessment of car parking demand in the Bendigo City Centre, an audit of the City's car parking facilities, a review of Council adopted documents and established policy, a review of international best practice approaches to car parking management and case studies. This Action Plan also draws on an analysis of planning applications processed by the City for developments in the City Centre area between 2012 and 2018, where the required rate of parking under the *Greater Bendigo Planning Scheme* was reduced or waived. This showed that a total of 29 applications were granted that involved waiving the standard minimum parking requirements (MPR) and confirmed that if planning requirements under the Planning Scheme were strictly adhered to, Bendigo's City Centre could today have an additional 1,800 underutilised parking spaces (assuming all proposed developments proceeded). This Action Plan acknowledges the unintended consequences that can arise from the existing MPR and develops sustainable solutions through targeted actions that can address these problems effectively in the future.

The recommendations of the Action Plan also promote sustainable transport and a move away from the 'business as usual' approach to car parking policy that is common in regional settings. While there are 10 actions in total, the 'big three' that would stimulate growth, development and jobs in central Bendigo are highlighted. Research suggests that the actions identified are the right ones for Bendigo, and while we won't see a dramatic change overnight, they will ultimately stimulate development, investment and guide the infrastructure provision needed for the Bendigo City Centre to thrive for generations to come.

The BIG THREE actions

1. Complete investigations into the construction of a new mixed use multi-deck car park in the Market Street precinct.
2. Commence an amendment to the Greater Bendigo Planning Scheme to remove parking minimums to help stimulate development and jobs growth.
3. Implement dynamic pricing and enhanced technology in paid areas to better balance demand with supply.

INTRODUCTION

This *Parking Futures Action Plan* has been prepared to inform the new *Bendigo City Centre Plan*, which will guide investment and development across the Bendigo City Centre over the next decade and beyond. The *Bendigo City Centre Plan* updates and replaces the *Bendigo CBD Plan* (2005) and the *Bendigo CBD Parking Strategy* (2008) and responds to longstanding issues that continue to constrain the Bendigo City Centre vision.

Integrating the outcomes of the Action Plan into the *Bendigo City Centre Plan* has followed a slightly different approach to that used in the past. It recognises that an effective and adaptable parking system is intrinsically linked to the creation of a vibrant, dynamic and liveable city centre. By integrating the issues into one concise policy document we can provide the community and the private sector with some clear and targeted directions around the type of development and investment that our City Centre wants and needs, both now and into the future. This approach includes a degree of flexibility to enable cities to respond to the technological changes and challenges that they will invariably experience in the future.

As we know, every city centre around the world has its own unique set of circumstances and characteristics that require a tailored approach to manage their parking systems.

But those cities that are on the path to success all have one thing in common – their planning focusses on people and places, rather than on cars and traffic. They have recognised that there is no point having great parking if there is nothing to do once you have arrived!

In Bendigo we will continue to welcome cars into the City Centre for many years to come, however we will be welcoming them into a lower speed, people-friendly and safe environment. While for the foreseeable future many of us will still be driving around in our own cars, it is predicted that within the next decade or two many of us will shift some of our trips to different modes of transport, or to things such as rideshare or even autonomous vehicles.

Even though our street grid was laid out in 1854, long before we had cars, it has proven to be very adaptable and flexible. We think that it has the capacity to once again adapt to the changing demands that are being placed on it, and this Action Plan proposes to continue with an incremental approach of evolution rather than revolution. Let's makes the best use of the flexibility that is inherently built into our street grid.

This Action Plan also acknowledges that parking itself doesn't determine how many people come to the City Centre, just how they get there.

In this respect it is a significant departure from the former way parking plans were prepared, which were heavily biased towards 'predict and provide' engineering models. This contemporary approach doesn't rely on endless tables, charts and calculations (although you do need some); rather it starts with identifying the type of city centre that you want to create and seeks to implement actions to get there. While the outcomes of this Action Plan will ultimately be delivered through the new *Bendigo City Centre Plan*, this document can be read as a standalone document that gives readers a broad understanding about the policy directions that the City is looking to implement. We know that regardless of your experience, or depth of knowledge of how car parking systems work, everyone has an opinion. Parking is one of the most commonly raised community issues across the western world and Greater Bendigo is no exception – that is the one thing that we don't expect to change!

PURPOSE OF THE PLAN

The purpose of this Plan is to guide decision-making for car parking management in the Bendigo City Centre. It provides a suite of actions which aim to manage car parking effectively and sustainably in the City Centre and ensures that parking policy can support and contribute to the creation of the the world's most liveable community (our vision expressed in the *Greater Bendigo Community Plan*).

The City's well-received 2015 *Integrated Transport and Land Use Strategy* (ITLUS) envisages that 'the level of car parking in the City Centre will be slowly reduced over time as car parking demand reduces due to more people choosing to use public transport, walk or cycle rather than drive'. The purpose of this Plan is to work towards this by developing a suite of actions that can assist the transition to a more sustainable movement network. It is not going to happen overnight, and it is not about taking parking away, but rather slowing down the process of adding more without thinking about how well it is going to be utilised, or even if it is needed in the first place.

This Plan will be used for strategic purposes and for guiding decision making on car parking management in the Bendigo City Centre. It will also be used as a basis for justifying changes to the Greater Bendigo Planning Scheme regarding requirements for the provision of car parking.

OUR OBJECTIVES

This Parking Futures Action Plan needs to consider many competing issues and balance them with the role that the City plays as a parking manager, parking provider and parking planner. They then need to be considered in the context of the 'creation of a successful and vibrant city centre' and ultimately distilled into a set of deliverable actions. To assist in this process seven overarching objectives have been prepared, which are:

Objective 1

Car parking is managed at a precinct scale to support the continued growth and vitality of the Bendigo City Centre as a people-oriented urban environment.

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Car parking is consolidated over time and at-grade car parking is incrementally converted into more productive and higher-value uses that contribute to economic growth and success of the Bendigo City Centre.

BACKGROUND/CONTEXT

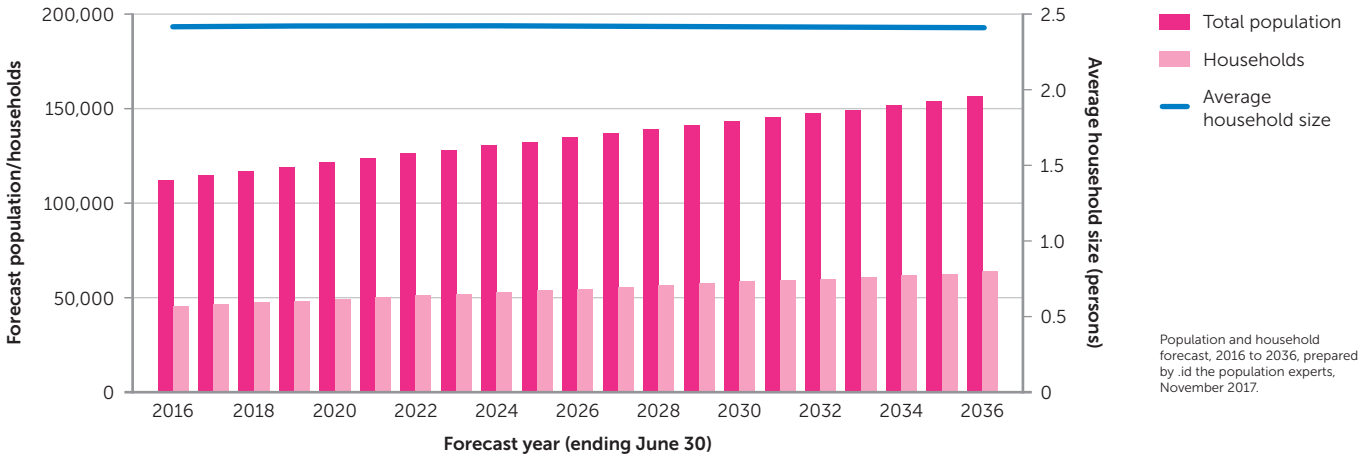
A review of Bendigo's parking system has found that it is well managed and is working well, but that regular review and fine-tuning is needed. This is a result of having a dedicated team that have kept pace with contemporary thinking in parking management and through incremental improvements to parking infrastructure. There is no doubt that having a long history of paid parking has helped Bendigo keep pace and enabled more investment to be made than if we didn't (free car parking cannot pay for a multi-deck car park for example, or for the streetscape improvements that we have seen in recent decades). Parking management has enabled us to adapt and evolve our parking system as we have moved from being a big country town to a small city. However, we are now preparing to transition into a fully-fledged regional city that services a catchment of close to 300,000 people. We need to continue to stay a step ahead. Some of the most relevant demographic information we must consider is provided below.

POPULATION GROWTH

Greater Bendigo's population is forecast to continue to grow steadily at 1.7 per cent per annum. Our current population of around 118,000 is predicted to be over 150,000 by 2036 and close to 200,000 by the middle of the century.

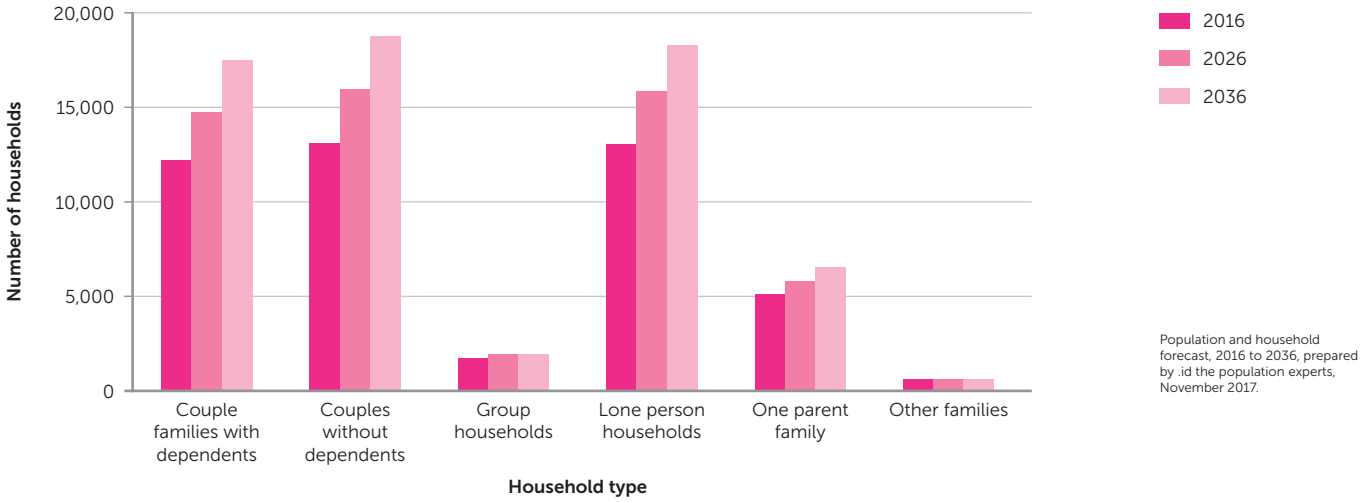
To accommodate this growth, it is expected that another 17,000 new households will be formed (there are currently around 46,000 households), but interestingly of these new households around 61 per cent will be made up of only one or two people. It is expected that the demand for smaller houses in well serviced locations will continue to grow as a result.

Figure 1: Forecast population, households and average household size



Population and household forecast, 2016 to 2036, prepared by .id the population experts, November 2017.

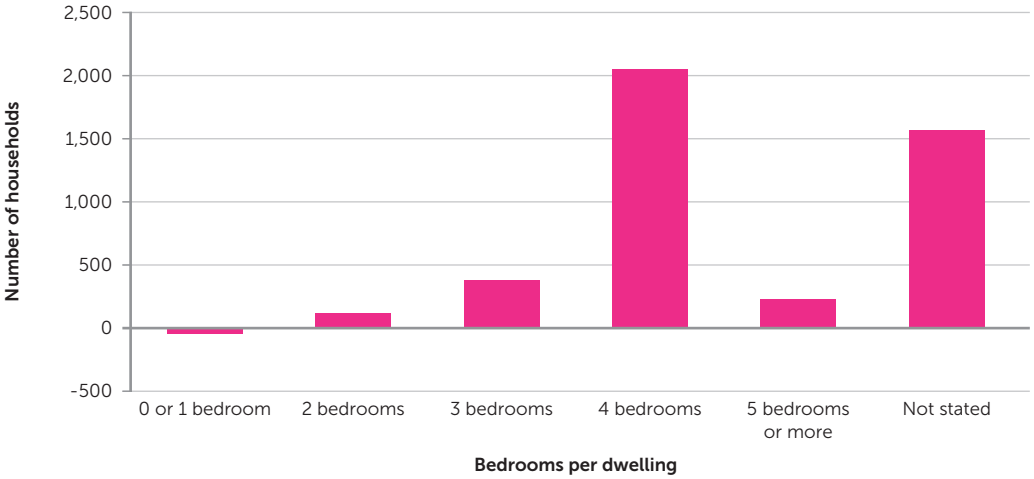
Figure 2: Forecast household types



Population and household forecast, 2016 to 2036, prepared by .id the population experts, November 2017.

One of the challenges in getting a greater diversity of housing relates to the planning and building systems tending to favour the construction of larger homes on the fringes of our urban areas. As you can see in the graph below, the greatest number of new homes constructed between 2011 and 2016 were four bedroom homes. Clearly there is a market for these homes however policy changes may be required to facilitate a greater mix of housing types being delivered.

Figure 3: Change in the number of bedrooms per dwelling

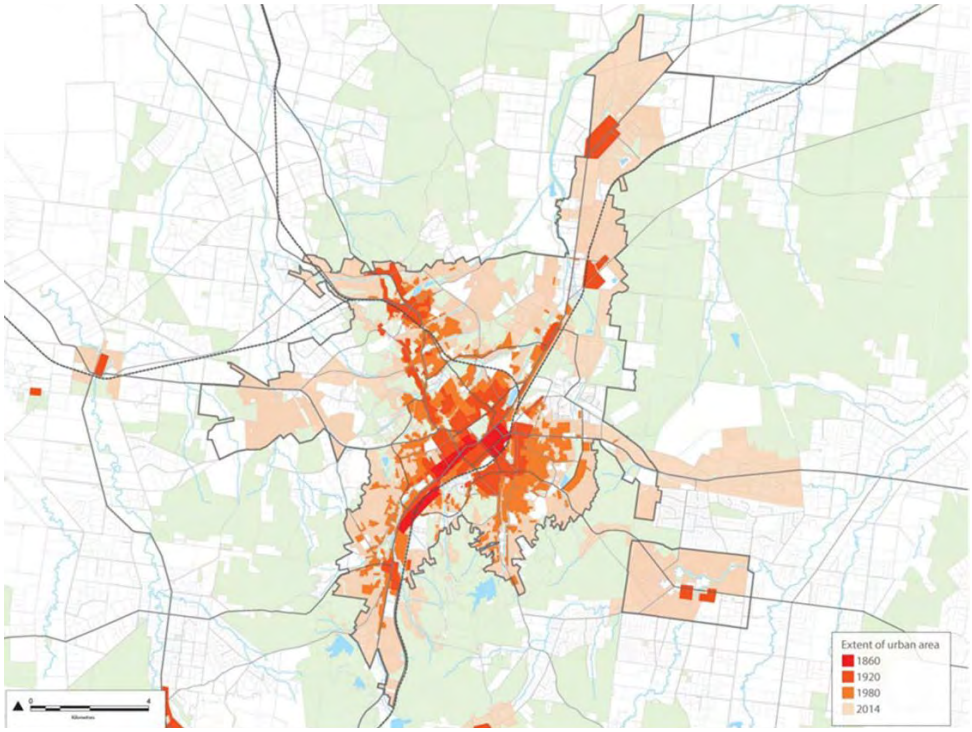


Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 and 2016 (Enumerated data). Compiled and presented in profile.id by .id, the population experts.

URBAN EXPANSION

Our urban form (where people live, go to school, work or recreate and the roads, pathways, rail lines / stations, bus routes that we use to get around) and the 'shape' of our urban area all contribute to the way Bendigo works, and ultimately where those of us that do drive, park our cars. In short, if we live a long way away from the City Centre, if there is plenty of road capacity and ample parking at our destination, then the decision to drive becomes the logical default option and car use becomes second nature. Public transport can't compete on time, many people are reluctant to cycle because of the lack of safe cycling infrastructure, and it is too far for most people to walk. Changing this will take time, with much of it being driven by demographic change and the choices that some people will make. Some people will trade-off a large backyard and downsize into a location that is close to services. Some may make a deliberate decision to drive less and cycle more to try and improve their health and wellbeing. Some people will shift to electric bikes, which increases the range and carrying capacity that a person of average health can comfortably cycle. Many e-bike riders aren't choosing to ride for health reasons, however it is a demonstrated by-product, but rather because they provide an easier and more enjoyable 'door to door' trip to and from work. The RACV and La Trobe University are currently researching the motivations of e-bike riders to find out a little bit more about the potential of this transport mode, but based on overseas examples, it is expected to be significant.

Figure 4: Extent of urban area 1860-2014



All of the issues above, and the many others not mentioned, are expected to slowly but gradually change the shape of Bendigo and ultimately reduce the demand for parking on a per capita basis. With supporting infrastructure we can expect to see a shift in where people are choosing to live and how they get around – this is all about choice and the trade-offs that people are willing to make to better suit their family circumstances. It is likely that we will start to see an increase in population density in and around our activity centres and near transport infrastructure.

BENDIGO CBD PARKING STRATEGY 2008

The City's current policy for car parking in central Bendigo is the *Bendigo CBD Parking Strategy* (2008), which places a strong focus on transitioning to a sustainable transport system and supporting a vibrant city centre environment. The Strategy has delivered a range of recommendations that have incrementally improved car parking management in the Bendigo City Centre and have reformed parking regulations through the City of Greater Bendigo Planning Scheme.

The Strategy has delivered:

- A Parking Overlay with lower car parking rates and a cash-in-lieu option for new developments compared to those that were in Clause 52.06 of the Planning Scheme
- A new mixed-use building with consolidated/multi-deck public car parking in Edward Street
- Policy support for the development of residential dwellings within the City Centre and recognition of the constraints which exist in providing car parking on individual sites, in particular when retrofitting or refurbishing existing buildings
- Support to explore opportunities for car share providers to operate in Bendigo. This is an ongoing action
- Policy support that encourages sustainable transport alternatives such as walking, cycling and public transport

CURRENT PLANNING CONTROLS

Supporting the policy directions of the 2008 Parking Strategy, the Greater Bendigo Planning Scheme also sets out requirements for the provision of on-site parking for all new development in the City Centre.

CLAUSE 52.06 OF THE GREATER BENDIGO PLANNING SCHEME – CAR PARKING

Clause 52.06 of the Greater Bendigo Planning Scheme specifies the minimum rate of parking to be provided for different land uses and building types. The requirements of this clause form part of the Victorian Planning Provisions which are set by the Department of Environment, Land, Water and Planning and establish a consistent framework across the entire State of Victoria.

Clause 52.06 of the Greater Bendigo Planning Scheme establishes both an 'A Rate' and 'B Rate'. The A rate is the default parking requirement for all Victorian municipalities. The B Rate is a standard variation for areas where a Parking Overlay applies and provides for a modest reduction in the level of car parking required. Parking overlays currently apply to two locations within Bendigo – the 'Bendigo City Centre' and the 'Bridge Street Activity Area and Health Precinct'.

Where parking cannot be provided on-site due to it not being needed, land constraints, a poor urban design outcome, or other circumstances, the City can reduce or waive parking requirements by requiring a financial contribution from developers in lieu of providing the parking on-site, via a schedule to the parking overlay in the planning scheme.

CLAUSE 45.09 OF THE GREATER BENDIGO PLANNING SCHEME – PARKING OVERLAY

As mentioned above, the Planning Scheme applies Parking Overlays to land in the Bendigo City Centre and the Bridge Street Activity Centre and Health Precinct. The overlays allow for a reduced minimum provision of car parking for different land uses and override the State wide provisions of Clause 52.06. When car parking spaces are being waived, the cash-in-lieu contribution per car space is $10,562, which is adjusted by Council at the beginning of each financial year in accordance with the relevant Building Price Index (Melbourne).

MINIMUM PARKING REQUIREMENTS

Minimum parking requirements (MPRs) refer to the minimum amount of car parking a new development is required to provide to accommodate the expected users of a particular land use. These requirements attempt to predict demands for parking generated by individual developments based on the type (residential, commercial, etc) and scale of the activity. Scale may be based on the number of people the activity is designed to provide for (e.g. a church), measured by area (gross or leasable), or (in residential development) the number of bedrooms.

Minimum parking requirements were developed in the middle of the last century in response to rapid growth in car ownership and growing concerns about excessive demand for public parking. At this time there were limited technological options for managing public parking. Most places in Australia followed the lead of those in the USA (notably Los Angeles) and required private developments to provide their own off-street parking.

However, during the last 25 years an extensive body of research and professional experience has highlighted the negative impacts of minimum parking requirements including:

- Economic development – minimum parking requirements increase the costs of development, particularly in medium to high density developments
- Travel and lifestyle – low-cost parking has stimulated demand for vehicle-based travel and lifestyle patterns
- Environmental sustainability – low-cost parking undermines more environmentally efficient travel and lifestyle options
- Social equity – compliance costs of minimum parking requirements disproportionately fall on low income households
- Urban form – minimum parking requirements fragment the urban form and contribute to sprawl

Figure 5: Case study – 16 Gheringhap Street, Geelong

A 10,000sqm office building has been approved in Geelong that includes 100 bicycle parking spots and 'end of trip' facilities such as showers and lockers. The 12 storey building includes only 24 car parking spaces. Objections relating to the low provision of car parking were rejected based on the argument that the proposal would encourage more sustainable forms of transport. Had the minimum parking requirements been rigorously implemented, a building with this amount of office floorspace would be required to provide 300 car spaces, which would render the development unviable. Prospective tenants are aware that parking isn't provided and will make a call as to whether or not this development is for them. The investors therefore take on the risk that they can lease or sell the property in the future.

MAXIMUM PARKING RATES

Unlike minimum parking requirements that place a 'minimum' rate of car parking provision requirements for different land uses, maximum parking requirements restrict the amount of parking that is allowed to be provided in a new development. This means a new development can propose a rate of parking provision between the maximum rate and zero.

While the negative impacts of minimum parking requirements are now becoming better understood, parking maximums are acknowledged as offering a variety of additional benefits including reducing traffic congestion, improving housing affordability and offering greater flexibility for commercial interests.

REMOVING PARKING FROM THE PLANNING EQUATION

An increasing number of local governments are now removing parking from the planning debate and leaving it to the private sector to determine the right amount to provide to ensure a project works. By leaving the decision to the private sector it puts the onus on them to design buildings that they are confident will be tenanted or be able to be sold over a 20 or 30 year timeframe. They are the ones that need to justify their proposals to financiers for a building to be constructed. It therefore makes sense that they only provide the parking that is needed for a development to work, not what an arbitrary figure set by bureaucrats many years ago has estimated.

THE ROLE OF PARKING

Local government plays a leading role in car parking supply and management in cities and towns throughout Australia. Municipalities build, own, maintain and manage *on-street* parking. They build, own and operate off-street car parking in activity centres and at community facilities such as at parks. Local government also directly impact the amount of on-site car parking that developers are required to provide with new construction and change of land use on private land through the planning scheme.

Through these various roles, the City of Greater Bendigo plays a major part in influencing the level of parking supply and the cost of parking within the City Centre.

While there is a well-established convention that has emerged in Australia about how local governments manage parking, there is a growing professional consensus that this conventional approach to parking policy has some significant costs and unintended negative impacts. The professional and academic literature on parking management commonly refers to the following spectrum of parking policy approaches:

- Conventional – parking treated as 'essential infrastructure' for which public authorities need to ensure adequate provision. Tools focus on 'predicting and providing' parking supply to match demand – both on private property and in public space
- Parking management – parking treated as a resource to be managed to achieve multiple economic and social objectives. Tools focus on managing demand within limited supply rather than attempting to build to meet demand
- Market-based – parking treated as a market rather than public good. Tools focus on pricing public parking to allocate demand and reducing the influence of public authorities in requiring private on-site provision

The problems with conventional approaches to parking policy include that providing ample supply incentivises car ownership and use, working against transport policies aiming for less traffic congestion and more walking, cycling and public transport use.

Ample parking supply also takes up significant space, with a single space occupying 12 – 35 square metres and constituting a significant opportunity cost due to lost potential for higher-value land uses. Requiring high levels of on-site parking to accompany private development can increase development costs and impact on broader objectives such as housing affordability and commercial vitality.

Professional and academic work on parking is increasingly finding evidence of benefits from a more managed, and in some contexts, market-led approach to parking. Managing parking demand and supply can be a powerful lever for achieving sustainable transport objectives. In activity centres like the Bendigo City Centre, managing parking can mean less infrastructure spending for local ratepayers, more walking in centres, longer stays and larger retail spending. Allowing the market to play a greater role in deciding on levels of supply on private land can reduce development costs and increase flexibility of land use.

HOW PARKING IS MANAGED

Managing parking supply and demand in highly sought after locations is a constant balancing act. The primary tools used are pricing, time restrictions and enforcement. The ability to tailor pricing and time limits to suit different peak and low demand periods is currently limited as we are using relatively basic parking meters. Over time these are likely to be upgraded with more sophisticated models. Longer term, they will most likely be replaced by technologies such as phone-based apps.

The proactive management of public parking to support the growth and effective operation of the Bendigo City Centre has been happening for quite some time. Bendigo was one of the early adopters of parking meters, with the first ones installed in 1958. While many people believe parking meters are just a *revenue raising activity*, priced parking is based on sound economic theory.

Being a supply led commodity, the laws of economics apply to parking just as they do to any other product that people consume.

Pricing parking actually works to balance demand with supply. Prices can be decreased to encourage more people to an underutilised location, or they can be increased to free up a few spaces per block in heavily congested areas where you know people are willing to pay for the convenience.

It also makes sense that parking is based on a user pays principle to help reduce the subsidy that all ratepayers contribute regardless of whether or not they use it. Decisions need to be made between land used for parking and land that could be used for other community uses or benefits. A subsidy to support the economic health of the City Centre is a legitimate one, however it needs to be balanced against all the other worthwhile subsidies that ratepayers provide and the cost to provide the service. All available evidence suggests that in highly sought after locations, such as the core retail and commercial area of Bendigo, priced parking is the most effective way to balance these competing demands and provide value for ratepayers.

In these highly sought after areas the evidence also suggests that we should be aiming to achieve an occupancy rate of around 80-85 per cent. When we achieve this figure there is usually going to be one or two parking spaces available along each block. If the price is set too low, then occupancy is usually going to be above 85 per cent and it will be extremely difficult to find a vacant space. If the price it is set too high, then people may choose to park a little further away where it is cheaper and there will be too many available spaces. Too many available spaces might sound like a good thing, as people coming into the centre will have an abundance of parking options to choose from. However, if people are avoiding parking there because the price is set too high then it defeats the purpose. A lot of money is tied up to provide, maintain and manage parking, so it needs to be as efficient as possible. As mentioned earlier – it needs regular fine-tuning to get the balance right.

PARKING TECHNOLOGY

In the Bendigo City Centre the principle of encouraging short term visitors to park on-street and longer stays to use off-street car parks has also been successfully implemented and is working well. Time limits and pricing have been the primary tools used to facilitate this, although it would be improved with some additional real time signs to direct people to long term parking areas with excess capacity. Once again technology will also be used in the future to assist people find a park. In some cities, they are already using mobile phone apps that are synced to parking meters to accurately identify areas where parking is available and direct people towards them. In the future, with the use of different technology, we will also have the scope to consider 'progressive pricing', where someone could choose to park for longer in a short-term location by paying a premium for doing so. Progressive pricing increases the hourly rate once you go over the default time limit. This would provide some flexibility, particularly for business users that want ready access to their car or are uncertain as to how long they need to be parked when they arrive. This pricing model is not something that all users are likely to use, or need to use, and those that fit within the preferred time limits would not see any change to the current system. However what it would do is provide additional flexibility for those that are willing to pay a premium for the convenience of not having to move their car. It also ensures that they avoid a fine for overstaying.

An example of how progressive parking pricing works can be seen in the table below. As you can see, the price starts to increase for each hour beyond the default two-hour time limit. Someone theoretically could save themselves money by feeding the meter every two hours and avoid the higher fees, however evidence from where similar systems have been implemented indicate that around 78 per cent of visitors stick to the default two-hour time limit in any case, and the few who did stay longer appreciate the opportunity to choose to stay longer for a higher fee without fear of receiving a ticket.

Figure 6: An example of Progressive Parking Prices

Parking Time	Price per Hour	Total Price Paid
First hour	$1.80	$1.80
Second hour	$1.80	$3.60
Third hour	$2.30	$5.90
Fourth hour	$2.80	$8.70
Fifth hour	$3.30	$12.00
Sixth hour	$3.80	$15.80
Seventh hour	$4.30	$20.10
Eighth hour	$4.80	$24.90
Ninth hour	$5.30	$30.20
Tenth hour	$5.80	$36.00

Progressive parking pricing is becoming more popular in areas where there is a need to discourage long term parking, while still providing the flexibility to do so if someone wanted to. In Bendigo, we generally encourage short term parking (two-hour) on-street, and encourage those that need to park longer into off-street car parks. Using the parking prices listed above as an example, we can see that if someone wanted to park on-street in such an area then they could feed the meter and end up paying $18 for 10 hours of parking, use the progressive parking prices and pay $36 for 10 hours of parking (and not need to feed the meter), or look for a park in one of our off-street locations, which have a maximum all-day fee of only $8.50. In essence, you pay a premium for the convenience of parking in an area where a turnover of parking is generally more beneficial to nearby businesses.

PARKING IN RESIDENTIAL AREAS

Some of the principles used to manage commercial parking can also be applied in the free unrestricted areas surrounding the City Centre. In inner city residential areas it is generally accepted that many City Centre employees will park and take a short 5-10 minute walk to and from their workplaces. For the most part this is an acceptable use of community-owned public space. Sharing on-street parking with workers is one of the trade-offs that inner city residents accept for the convenience of living so close to the City Centre. However, if the streets are too full with all day parking then it can be very difficult for daytime visitors and tradespeople to access these areas. The introduction of some time-limited bays can help rectify this situation.

The idea of paid parking or resident parking permits has been used in some inner-city locations, however the issue is usually the opposite to the one we have in Bendigo, in that they are usually designed to assist residents returning home in the evening to find an on-street car park. In Bendigo, most of our inner city residential areas have access to off-street parking and a driveway (however it is accepted that this is not always the case), and our issue is people trying to find a park during work hours when workers are parked there. Rather than design a permit process that needs costly administration, our first approach is to undertake some fine tuning of on-street parking to ensure it works better for residents (and their visitors) living in these streets. This will be done on a relatively small 'precinct by precinct' basis, as there are different pressures in each of these inner city residential areas, such as nearby schools, churches and hospitals.

Figure 7: An example of all day parking in residential streets in the hospital precinct

FUTURE PARKING DEMAND

Bendigo is going to continue to experience the growing pains that come with evolving into a larger regional city and we know that our future transport needs will be different to what they are today. Our parking demands will also be different, as there just isn't the space available to continuously add cheap and plentiful car parking like you can in smaller towns.

As cities get bigger, they also tend to become more mixed use and include a residential population – both of these are objectives for the Bendigo City Centre. As a result, the ratio of car spaces needed per square metre of floorspace starts to decline (this doesn't mean there is less parking, just less parking per square metre of floorspace). This is also a result of property prices increasing to such a point that dedicating large areas of land to subsidised car parking doesn't make financial sense when compared to building leasable floorspace that can be used to generate jobs and economic activity.

In larger cities alternative transport options also start to become viable and people are more likely to make choices about the way they move based on how they want to use their time. For example, it can be cheaper and quicker to ride a bike for short journeys compared to driving and parking. Some people also choose to catch the bus or train because they can use their travel time to do other things, such as checking emails/social media or reading. There are of course some people who are unable to choose a different method of transport because of where they live, or due to physical limitations or for health reasons. We need to prioritise their needs in our planning and ensure that an adequate number of accessible parking spaces are provided across the City Centre. The good news for those who have no option but to drive is that, even with a small shift in behaviour from other users, it makes a noticeable difference to lowering congestion and demand for parking. This is good for all ratepayers, who are subsidising parking whether they use it or not.

One of the measures that experts have developed to assist us to understand and compare car parking across activity centres is a calculation of how much floorspace we have per car space. An analysis of the amount of car parking and floorspace that we have across the Bendigo City Centre has found that we currently have one car space for every 50sqm of floorspace (refer to Appendix B). Experts believe that the sweet spot for successful regional city centres (with limited public transport options) is around one space for every 100sqm. In a capital city like the Melbourne city centre (with quality public transport options), the ratio is around 1 car space for every 500sqm of floorspace.

Figure 8: Appropriate Parking Supply (source: MRCagney)

Location	Commercial (in locations with quality PT access)	Commercial	Residential (in locations with quality PT access)	Residential
Capital CBD	1 space per 500m²	1 space per 200m²	0.5 space per unit/house	1 space per unit/house
Regional CBD	1 space per 150m²	1 space per 100m²	1.00 space per unit/house	1.25 spaces per unit/house
Capital suburb	1 space per 100m²	1 space per 75m²	0.75 spaces per unit/house	1.00 space per unit/house
Regional suburb	1 space per 75m²	1 space per 50m²	1.00 space per unit/house	1.25 spaces per unit/house

While such calculations are averaged out across the City Centre, the data is collected on a finer scale which allows us to delve a little deeper and to think about the parts of the City Centre that we like and that work well. For example, if we look at the two blocks that Myer and Officeworks are located on, we find that the ratio is significantly higher than the average, and that there is one car space for every 339sqm of floorspace. This is our most densely populated retail precinct which generates good levels of foot traffic. There is limited parking, but what's on offer is good enough for people to make the decision to visit the area on foot regardless.

An example of a precinct that demonstrates the benchmark ratio of one car space for every 100sqm of floorspace is the two blocks flanking Bath Lane (between Mitchell and Edward Streets). While the majority of public parking is on-street, this area also includes the Bendigo Centre (Bendigo and Adelaide Bank), which incorporates a level of car parking within the building (not that it caters for all staff though – it provides just the right amount for the building to work). Most people would think that this is a good precinct and one that is enjoyable to be in. Other redeeming features are that it is almost fully built out (which provides continuous visual interest when you are on foot), traffic speeds are low (which is safe for people on foot), and there are awnings to provide protection from the sun and rain as well as established leafy street trees (which makes it comfortable for people on foot). Traders have taken the opportunity to spill out onto the footpaths with their outdoor dining or street trading. Overall, it's a nice place for people to be in and there are a number of things you can do in the one visit.

At the other end of the scale we have blocks such as the one where the City of Greater Bendigo main office is located (the block bounded by Lyttleton Terrace, St Andrews Avenue, Myers and Mundy Street). On this block the ratio is one car space for every 32sqm of floorspace. This block has more land dedicated to car parking than it does for buildings! As a result it doesn't generate very much economic activity, foot traffic is low, and there is less likelihood that you will do multiple things during your visit there – you get in and get out as quickly as you can.

For the Bendigo City Centre to gradually move from 1:50 to the sweet spot figure of 1:100 there are two main approaches that in combination could get us there. The first is to incrementally convert a small number of on-street parking bays each year to other uses such as wider footpaths, outdoor dining and green spaces where there is sufficient demand. Melbourne and Copenhagen are just two examples of cities that have successfully done this to better reflect that this space is needed to accommodate the amount of people on foot. The second approach is to stop adding an over-supply of parking to the system as part of new development approvals. The most common way to do this is to remove the minimum parking requirements from the Planning Scheme and leave it to the private sector to decide how much parking they need to provide in order for their development to be successful. Melbourne City Council has done this, as has Christchurch (New Zealand), and several other municipalities in Melbourne are in the process of doing it. The Planning Scheme currently dictates how many parking bays it thinks should be included in any new development. It assumes that every development of a certain type creates the same demand for parking, which we now know is a flawed argument and has been proven to be incorrect. While this approach is founded on good intentions, as it assumes that if every development provided their own parking there would never be a shortage, all that it has actually done is spread out all the activities within city centres, reinforced car use and added unnecessary cost to all development. These costs are ultimately passed on to purchasers, tenants or customers, who pay for this unproductive space whether it is used or not. City centres that have religiously followed these outdated planning controls have become significantly less viable rather than stronger (as they had expected), while those cities that have challenged them and either removed them or have reduced or waived them have performed much better. If there was evidence that supported the notion of 'the more parking the better' it would be used and referenced, but there isn't any. By leaving the decision about the amount of parking included in a development to the private sector it puts the onus on them to design buildings that they are confident will be tenanted or able to be sold over a 20 or 30 year timeframe. It makes sense that they only provide the parking that is needed for a development to work, not what an arbitrary figure set by bureaucrats many years ago has estimated.

Some people may think that unbundling parking from development is a retrograde step as surely it would just add cars that would've been parked in or around the building to the surrounding streets. The reality is that parking will still be included in the majority of new developments. However, if the 'worst case' scenario did actually eventuate and parking demand was so high that more parking could be justified and it was financially viable to construct a new multi-deck car park, then the private sector or the City could step in and do it (there is no need for the City to be the only provider of off-street parking, and the absence of the private sector generally indicates that it is too heavily subsidised by ratepayers).

As cities grow their parking systems naturally become more complicated and multifaceted. Each city centre will have its own set of unique circumstances that they need to tailor their solutions towards, but the reality is that parking is actually pretty similar right across the western world. We don't need to reinvent the wheel and there are many examples to draw on for what works and what doesn't.

It is often commented that parking is already too expensive and is difficult to find in Bendigo. In some locations and at some times it is hard to get a park. That is a result of there being lots of people wanting to park and also being willing to pay to do so. In the future if we don't manage parking correctly it may become even harder to park, but the research suggests that parking demand is fluid and we need to use a variety of tools to manage it effectively. The main thing to remember is that we need to plan for a Bendigo City Centre that people want to be in, and when they are here, that there are plenty of things to do. If we can achieve this, parking naturally becomes a secondary, yet still important, issue.

WHAT ARE THE KEY ISSUES?

This section involves assessing the performance of the car parking environment in the Bendigo City Centre to highlight the key challenges and issues associated with its management. This section also draws attention to some commonly raised questions regarding car parking and provides responses to each question to offer clearer thinking on the topic.

EXISTING CAR PARKING DEMAND

Parking occupancy surveys are undertaken across both the paid and unpaid areas of the Bendigo City Centre. Surveys are completed manually at different times of the year at different times of the day (between 9-10am, 11-12am and 2-3pm). The data is collected on 'average' days to try and get a snapshot-in-time assessment of how each area is performing. The City Centre is broken down in to Green, Pink and Blue areas, as shown in Figure 10. Within each precinct the data is collected on a street by street basis.

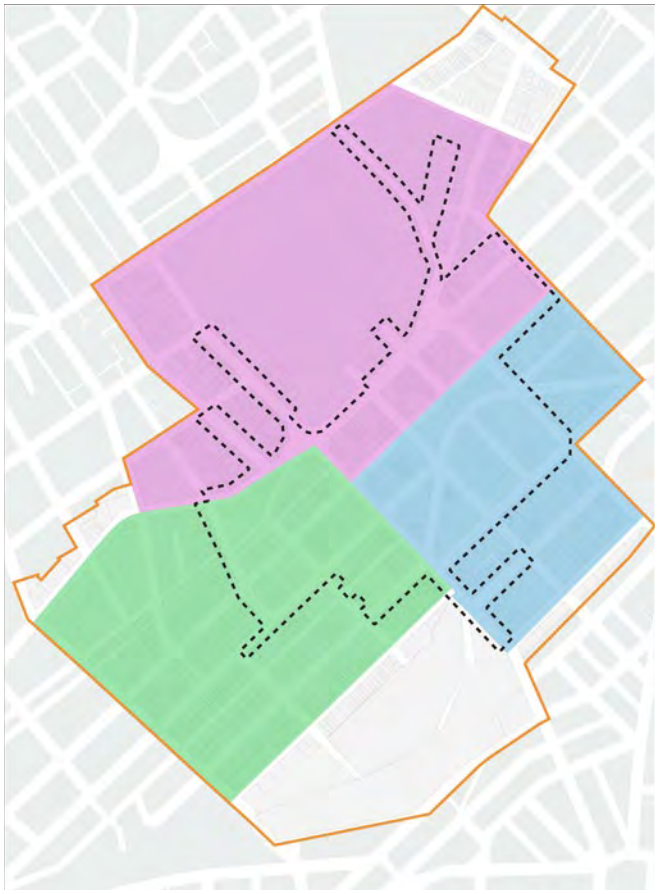
Figure 9: Summary parking occupancy data

Paid Parking Areas (Average occupancy = 58.6%)			
Green	14/05/18	59.3	May 54.6
Pink	14/05/18	49.9	
Blue	05/06/18	68.1	June 59.9
Green	12/06/18	67.6	
Pink	12/06/18	44.0	
Green	03/08/18	57.3	August 53.5
Pink	03/08/18	45.4	
Green	31/08/18	53.7	
Pink	31/08/18	57.7	
Green	14/05/18	59.3	Green 59.5
	12/06/18	67.6	
	03/08/18	57.3	
	31/08/18	53.7	
Pink	14/05/18	49.9	Pink 49.3
	12/06/18	44.0	
	03/08/18	45.4	
	31/08/18	57.7	
Blue	05/06/18	68.1	Blue 66.9
	04/10/18	65.6	

Unmetered Parking Areas (Average occupancy = 58.4%)			
Green	14/05/18	67.4	May 53.3
Pink	14/05/18	39.1	
Blue	05/06/18	70.0	June 59.4
Green	08/06/18	62.3	
Pink	12/06/18	45.8	
Green	03/08/18	55.9	August 59.0
Pink	06/08/18	45.5	
Blue	06/08/18	74.1	
Green	31/08/18	53.2	
Pink	31/08/18	66.2	
Blue	04/10/18	63.3	Oct 63.3
Green	14/05/18	67.4	Green 59.7
	08/06/18	62.3	
	03/08/18	55.9	
	31/08/18	53.2	
Pink	14/05/18	39.1	Pink 49.2
	12/06/18	45.8	
	06/08/18	45.5	
	31/08/18	66.2	
Blue	05/06/18	70.0	Blue 69.1
	08/08/18	74.1	
	04/10/18	63.3	

The tables above provide a summary of the amalgamated data. It is useful to get a sense of how a broad precinct is operating, but it doesn't tell the full story. The data shows that in the paid parking areas the occupancy varied between 49.3 per cent and 66.9 per cent. This indicates that on the survey days there were plenty of available parking spaces. However, if you looked at the data for each street, you would find that vacant spaces were not spread evenly across the precinct - some streets were at a much higher occupancy, while others were quite low. When it comes time to implement changes to our parking system, this detailed level of information will be used to inform the changes. However, overall the data suggests that there is significant capacity to cater for any future growth in parking demand. Street level data can be found in Appendix A.

Figure 10: City Centre Parking Occupancy Survey Precincts



Note: The coloured areas represent the three precincts (Pink, Green and Blue) where the occupancy data is collected. The dashed line indicates the extent of the paid parking area.

HOW MANY CAR PARKING BAYS DO WE HAVE?

Across the Bendigo City Centre there are over 11,400 parking spaces that occupy close to 40 hectares (100 acres, or the equivalent of 22 Queen Elizabeth Ovals) of land.

Around 3,600 (approximately 32 per cent) of these parking bays are located 'on-street', with the remaining 7,800 (68 per cent) being located 'off-street' in a combination of large public car parks (in multi-decks and surface / at-grade car parks) or on private land.

Our parking system is designed to encourage short term parking (up to 2-hours) in areas where a high turnover of customer parking is required to support economic activity, such as in the core retail and commercial precincts. It is generally located on-street, such as the parking bays that flank each side (and sometimes the middle) of our streets. For longer stays (over 2-hours), including all day parking, our system encourages people to park in off-street locations, such as in our two multi-deck car parks or in one of the many large at-grade car parks.

Of the 11,400 parking bays, 2,259 (about 20 per cent) are in paid parking areas. Users pay a fee ranging from $1.10 per hour to $8.50 all day. Another 1,893 bays are in time restricted areas (where there are time restrictions but no fees). This means that the remaining 7,000 or so bays (over 60 per cent) are either in unrestricted areas or on private land for use by residents, tenants, customers or visitors.

Overall, it is a system that works relatively well, and users are relatively familiar with it. Our parking system approach can be summarised as:

- Short term parking is primarily 'on-street' parking
- Long term parking is primarily 'off-street' parking, or on-street slightly further out
- The closer to the centre of Bendigo you are, the higher the cost and the more restrictive the time limits are likely to be

MINIMUM PARKING REQUIREMENTS ARE STILL TOO HIGH

Often it is not desirable, feasible nor even possible to include the amount of parking required by the Planning Scheme. In these instances, the City has the ability to waive some, or all, of the parking requirement. This section reviews data associated with approved planning applications where parking has been waived between 2012 and 2018.

The analysis finds that a total of 29 applications were granted that involved waiving the standard minimum parking requirements. Across these applications, requirements for a total of 1,800 car parking spaces were waived. That is, if planning requirements were strictly adhered to, Bendigo's City Centre could today have an additional 1,800 spaces of parking supply (assuming all proposed developments proceeded). Given we already have excess parking supply, this would have resulted in an additional 1,800 underutilised car spaces adding unnecessary costs to everything. Other key findings from the analysis were:

- In 15 of the 29 approved applications, developments were approved with no on-site parking spaces at all. These were generally involving re-use of historic buildings without space to provide parking
- Across all 29 approved applications, an average of 71% of the minimum parking requirement was waived, with actual parking supplied being only 29% of the minimum parking requirement (i.e. if the Planning Scheme required a development to have 10 on-site car parks, an average of only 2.9 car parks were supplied, and the remainder of the requirement waived)
- 25 of the 29 applications involved change of use for existing buildings or development of historic buildings
- Only 4 new buildings were approved with some waiving of car parking
- Most applications involve waiving less than 100 car parking spaces. Two applications involved very large waivers (397 spaces for a Dairy Factory on Bannister Street unable to accommodate the parking requirement for workers on-site, which has proven to not be an issue, and 465 spaces for the temporary Library development on Pall Mall, which once again demonstrates that the Planning Scheme requirements are excessive as the library successfully operated without any additional car parking)
- One of the more interesting examples of where a planning permit was required to consider a parking waiver related to the fit out of The Coffee Club in Edward Street. The ironic thing about this application is that The Coffee Club is located underneath a 420 bay public car park!

The fact that parking is routinely waived through the planning permit process suggests that the planning controls are out of step with actual parking needs, and that they may be acting as a barrier to development in the City Centre.

KEY CONCERNS AND QUESTIONS

ISN'T CHEAP AND PLENTIFUL PARKING BETTER FOR EVERYONE?

The most common parking related suggestions in the City Centre include calls for more parking, free parking, time limit changes and less over-zealous enforcement. These calls are usually accompanied by the belief that this will improve trading conditions and attract more people to the City Centre. There is no question that this is a worthwhile objective. However, those that have researched this issue in great depth have found that parking is a much more complicated issue than many people would think, and that the success of a city centre hinges more on it being a place that people want to visit (that there are things to do once you arrive), rather than having plentiful and cheap parking. In short, there is no evidence anywhere in the world that supports the approach of more and cheaper parking being the silver bullet solution that many people believe it to be – the opposite is actually proven to be the case.

Take the time to think about the places you love. Are they great places to go to because of what you do in them, or because it's cheap and easy to find a park in them? If what's on offer is attractive enough, people will get there and they will make trade-offs along the way, such as how far they are willing to walk or how much they are willing to pay. Bendigo experiences this first hand with each of its major exhibitions at the Bendigo Art Gallery – where we have a lot of extra people visiting, yet we don't add any more parking to cater for the increased demand – people trade off being able to park in front of the Gallery for a great experience while they are there. A similar thing happens when you attend a major sporting event – the bigger the event, the further away you are willing to park, or the higher the fee you are willing to pay. As a result, visitors, who generally do have extra time on their hands, explore the City Centre on foot and spend a little extra money in local businesses, many of which they didn't even know existed until they were enticed into them whilst walking past. Finding and maintaining the balance between price, time limits, number and location of car parking to match the needs of our evolving City Centre businesses is what we are trying to achieve with this Parking Futures Action Plan. Emerging technologies will help us with this.

SHOULDN'T NEW DEVELOPMENTS PROVIDE THEIR OWN PARKING?

A common concern is that people believe that insufficient parking is often proposed as part of new developments. Once again, this is a logical concern to a new large scale development, with the most common question being "where are the extra workers going to park?" In practice, the relationship between the number of workers and parking is not as linear as you might think, and not every worker creates the same demand for parking across the week. As a city centre gets bigger, the less reliant it becomes on cheap parking, and workers determine where they will park (assuming that they drive) based on price, time-limits and distance. In a large city very few people expect to be able to park on-site or out the front without paying a premium to do so. The main reason that big cities don't have cheap parking is simply a result of property economics determining what the highest and best use of land is. Parking generally doesn't pay its way and is a significant cost to development, which just gets added to the final purchase or lease cost – free parking is very expensive to provide and it is the end user who pays for it. Many cities are now removing parking minimums from their planning controls and leaving it to the private sector to determine the correct amount of parking to provide in new developments. We know from experience that the private sector will still provide parking in new developments where it makes sense (for example in many residential apartment buildings where purchasers are willing to pay a premium for a parking space). However, they will generally only provide the amount that is needed – no more, no less. While some in the community see this as shifting the burden to the public parking system, investors are not going to build a building that they can't lease, so they will provide the right amount of parking for each development, which will vary based on a whole range of factors. To respond to this, it is recommended that we change our Planning Scheme from the one size fits all approach by removing the parking minimums from the relevant clauses. The thing to remember with this approach is that if the parking demand is greater than expected, then it may make financial sense to construct a new multi-deck car park to meet the demand and reinforce the dense urban character of the City Centre. The payback period for a mixed use car park structure is expected to be somewhere between 10 to 20 years if the demand is strong enough.

WON'T NEW OFFICE DEVELOPMENTS RESULT IN EVEN MORE CARS TAKING UP PRECIOUS PARKING SPACES FOR SHOPPERS?

Retail precincts in larger cities rely on having city centre workers already in them that are able to easily get around during the day on foot. For this reason, our parking management policies tend to encourage all day parking in off-street car parks and multi-decks. This leaves the on-street parking available for shorter visits, which are more suited to casual users of the City Centre. The great thing about office workers is that on average, half of their yearly discretionary retail spending is done long after they have parked their cars (if they drove at all) while they are at work, during coffee and lunch breaks or on their way home. City centre workers are a captive audience that retailers should be trying to leverage off. This is the trade-off that successful city centres have made – they have encouraged development that houses lots of jobs in a small area to enable them to undertake much of their shopping needs without occupying short-term car parks.

In Bendigo, how this currently plays out is that many City Centre employees park in all day paid parking lots or park for free in the inner city residential streets and take a short 5-10 minute walk to and from their workplaces. As we've discussed already, for the most part this is an acceptable use of community owned public space and a trade-off that inner city residents have made for the convenience of living so close to the City Centre. The introduction of some time-limited bays can help ensure that there will be a spare space for short term visitors to these areas.

SHOPPING CENTRES PROVIDE LOTS OF FREE PARKING, WHY CAN'T IT BE THE SAME IN THE CITY CENTRE?

Generally we only think about parking when we are in our car looking for somewhere to park at the end of our trip. At this point of time, an ideal world would appear to be one where we are able to park in front of the place that we wanted to visit. The reality is that this is not physically possible, nor is it actually good for our retailers.

People often refer to shopping centres and how appealing they are because of their free and ample car parking. However, when you look a little closer you can see that their strategy is to get people out of their cars and walking past as many shops in their centre as possible. If people calculated how far they walked on a visit to a shopping centre, most would be surprised at how much walking they actually did! A large shopping centre in suburban Brisbane calculated the average distance walked by customers was 4.2km. With regard to the parking being free, all that expensive land needs to be paid for by someone, and that is usually the tenant. These costs ultimately get passed onto customers through higher prices. One of the advantages of shopping centres that some people refer to is that they are internal and protected from variable weather conditions and from traffic. One of the disadvantages that some people refer to is that almost every shopping centre is the same, no matter where you are, unlike a traditional city centre environment that has a higher percentage of locally owned and operated small businesses. While the Bendigo City Centre cannot compete on climate control, for the most part our climate is pretty good (although it can get unbearably hot at times in summer and chilly in winter). Successful city centres worldwide have embraced their climatic conditions, but more importantly they have also been successful in creating safe and enjoyable places for people on foot. A strong pedestrian network and getting people (potential customers) walking past as many shopfronts as possible to give shop keepers the opportunity to entice new customers in is the key. When you combine this with accessible and well-located car parking you can have the best of both worlds.

WHY FOCUS ON WALKING WHEN PEOPLE PREFER TO DRIVE?

One of the reasons successful city centres around the world have been focusing on creating pleasant and walkable environments is that it actually decreases the demand for parking and increases economic activity – walking is good for business! In a walkable city centre the density of activity means that people are able to do multiple things in the one trip. For example, you can go to the bank, pop-in and have a coffee, get your hair cut and grab some supplies for dinner before returning home. Sometimes you can do all of this in your lunch break. In places where you can easily get a park in front of your destination, you are more likely to do just one thing before leaving – most retailers rely on having many customers across the day (which only foot traffic can supply) and could not survive only on those that parked in front of their stores (which when parking is free, is often the cars of staff of nearby shops!).

The Bendigo City Centre already provides a pretty good walking environment. Our historic grid layout, numerous lanes and arcades, an increasing number of zebra crossings and signalised crossings provide people on foot with a range of options for getting from A to B. Combined with a long-term program of incremental improvements to footpaths and streetscapes that started in the mid-90s, the City Centre is well on the way to creating a people-friendly environment that is enjoyable to spend time in. This is a proven strategy that is good for business. In saying that, this is another area where it is a case of constant evolution – the City Centre will never be finished! There will always be things to do. At the smallest scale, there is a need to work with Regional Roads Victoria to revise traffic light sequencing in high pedestrian areas to allow more time for slower walkers to get across the road and to reduce the waiting times. At a medium scale, there are still plenty of crossings that could be raised and priority given to people on foot to allow them to walk a little further and hopefully visit a few more shops. At a larger scale, there is a need to consolidate car parking into convenient locations so that visitors can find a car space quickly and take the rest of their journey on foot. If we get this right, it also frees up parking for those that need it (people with limited mobility) close to where they are going.

Walkable city centres also attract a residential population. Many will still have a car, but it will be parked in an off-street parking garage for the majority of the time. These residents end up visiting local shops more frequently throughout the week, without creating any additional demand for parking. Walkable city centres are also good for those who don't drive and arrive by train, bus, by bike or on foot. Around the world there is also a growing shift towards mobility that is consumed as a service on an ad hoc basis. This is referred to as Mobility as a Service, or MaaS for short.

MOBILITY AS A SERVICE

Mobility as a Service (MaaS) includes a range of innovative new mobility service providers such as ride-sharing and e-hailing services (e.g. Uber), bike-sharing programs and car-sharing services (e.g. GoGet). This trend also anticipates the evolution of self-driving cars, which will really challenge the economic benefit of owning a personal car compared to using on-demand services, which are widely expected to become significantly more affordable when cars can drive autonomously. Millennials in particular are likely to be the early adopters of MaaS, as they tend to not be as interested in driving or owning private vehicles compared to previous generations (whom are only familiar with this option). However, older people are also interested in MaaS as it can be a more socially inclusive and cost effective form of transport. Recent research published in the *Journal of Transport and Land Use* in 2018 suggests that:

- Ride-hailing is replacing driving trips and could reduce parking demand, particularly at airports, event venues, restaurants, and bars
- Parking stress is a key reason respondents chose not to drive
- Respondents are generally willing to pay more for reduced parking time and being closer to their primary destination

Regardless of what the mix ends up being, there is no doubt that urban mobility in the future will be different to what it is today and our parking approach needs to be flexible enough to cater for these changes.

DO WE NEED ANOTHER MULTI-DECK CAR PARKING GARAGE?

In the *Parking Strategy* (2008) it was identified that two new multi-deck car parks would most likely be needed in the future – one in Edward Street and one behind the current City offices in Market Street. The multi-decks would not only service casual users, but more importantly, they would enable smaller sites nearby to be developed without needing to provide parking on-site. Consolidated parking structures provide a parking solution across the day, night and week. It is estimated that consolidated parking is around three times more efficient than parking on individual sites.

The Edward Street multi-deck car park was investigated and constructed in 2012. By including commercial floorspace at ground level, and because there is a good demand for long term parking in this location, the building has a payback period of only 11 years. This is a good deal for ratepayers, whom ultimately have funded this infrastructure. It's also a good deal for nearby property owners who may be able to more easily redevelop their sites and create more jobs without wasting valuable land on parking.

With recent announcements made for the new Bendigo Law Courts, Bendigo TAFE and GovHub, now is the time to investigate if a similar development is needed in Market Street, as identified in the previous Strategy. The investigations will include an Investment Business Case to determine the feasibility of the project, how many bays it would include, how much commercial floorspace it could support, and whether or not it should include residential accommodation on top for example.

Figure 11: The Little National Hotel in Canberra (a hotel on top of a car park)

Building a new multi-deck car park might sound as though it goes against the earlier argument that we don't need to add anymore car parking to the City Centre (as we move from a ratio of 1:50sqm of floorspace to 1:100sqm). However we must remember that public car park facilities are much more efficient when compared to parking that is provided on individual sites (as mentioned earlier, about three times more efficient). By consolidating car parking into structures like these, other sites currently used for at-grade parking are freed up for more valuable and commercially viable developments to provide a better return to ratepayers.

Current thinking about any new multi-deck car park design must also consider issues such as their future adaptability should demand not be as strong as predicted. This can be done through higher than normal floor to ceiling heights, ensuring floorplates are flat and making the ramps external or isolated from the main structure. While it may sound fanciful for a car park to be repurposed, it wasn't all that long ago that many of Melbourne CBD's vacant office buildings were repurposed to residential. If the basic structure has the correct dimensions then there is no reason why it couldn't be possible. Many buildings are adaptable, but for car parking structures to be adaptable, this must be designed in from the start.

DESPITE PEOPLE PAYING FOR PARKING IT IS STILL SUBSIDISED

Not everyone owns or has access to a car, and some that do spend a higher percentage of their income on running it than they would like to. While we might assume that those who don't have access to a car just substitute their transport needs with buses, bikes, taxis or walking, many people end up travelling less than they would like to and are put at risk of becoming socially isolated. Given the City Centre is the hub where most jobs and services are located, together with several senior secondary schools, we need to constantly consider ways of improving access. Our thinking needs to be broader than just assuming that everyone drives and expects to be able to park at every destination.

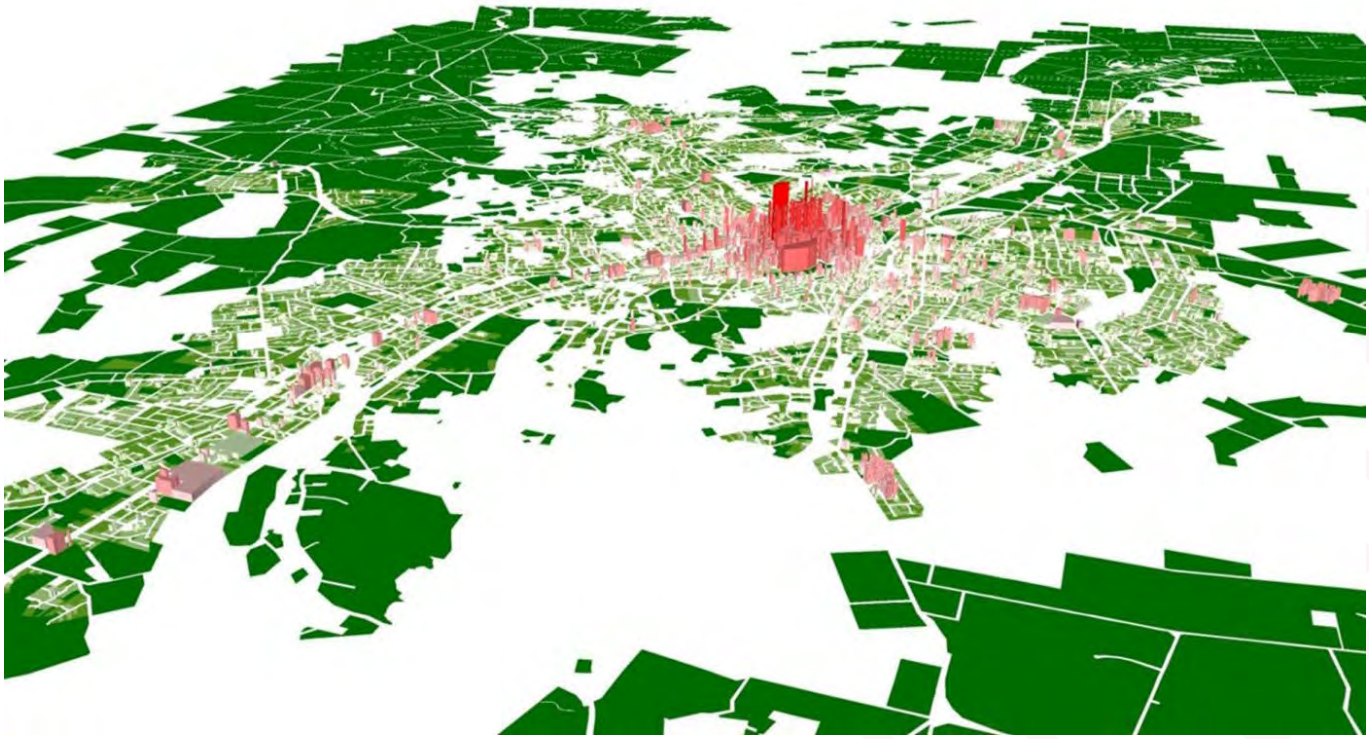
Given that not everyone uses car parking, but every ratepayer contributes to providing it, we need to regularly question the level of ratepayer subsidy that is appropriate. In the past there was the expectation that the City would provide plentiful parking to allow us to park very close to where we wanted to go. As new developments were added to the City Centre, the Planning Scheme sought to maintain this high level of parking by requiring new parking to be included in each development. As the City Centre grew, and we realised that putting car parking on every site doesn't make sense (it degrades the amenity of the place, adds cost and spreads everything out), the City started looking at ways to make the parking more efficient and developed our two multi-deck car parks. The Hargreaves Street multi-deck was built in the early 1980s and was funded in part by a Special Rate. This allowed for properties that contributed to the fund to be redeveloped or upper levels used without requiring additional parking. The Edward Street multi-deck was built and opened in 2012 and was built to facilitate the redevelopment of nearby sites. The advantages of multi-deck car parks is that they can be used by anyone, not just the customers of a particular business, and they have the potential to be used at all times of the day and night. However, they need to pay their way. They are expensive assets that provide benefit to a relatively small number of people, so they are therefore based on the user pays principle. If this was not the case then all ratepayers, regardless of whether they used them or not, would be subsidising the provision of parking by too much. In saying this, it could be argued that the subsidy is already too high given the lack of the presence of private sector car parking providers. Other than for a small number of car parks that are privately owned and managed, public parking in Bendigo is provided by the City. This is not uncommon in smaller cities. However, we should remember that despite parking being seen as a revenue raising exercise by many in the community, the reality is that its provision is still subsidised by all ratepayers, regardless of whether they use it or not. It could be seen as an acceptable subsidy to assist small business, however the decision to continue to subsidise parking to the level that it is must be balanced against the myriad of other subsidies that the community benefit from.

COULD SOME OF THE PARKING METER REVENUE BE USED TO PROMOTE THE BENDIGO CITY CENTRE?

Across Victoria there are around 60 Special Rate Schemes that place a levy on landowners in commercial centres to contribute towards the management and promotion of that centre. In the Bendigo City Centre there was a Special Rate between 2007 and 2011 that generated around $300,000 per annum. This fund was administered by the Downtown Bendigo incorporated association. When the time came to consider a second term of the Special Rate, this was not popular with a large number of land and business owners due to perceptions that it had not achieved the outcomes that were expected. As a result it was not renewed. Without a revenue stream there has been very limited promotion of the City Centre since 2011, which has primarily focused on activating the Hargreaves Mall for community-based events. The City has also explored issues impacting on the retail sector through work such as the *Transforming the Bendigo City Centre Action Plan* (2018), which has resulted in some modest expenditure to improve the appeal of the Hargreaves Mall. To achieve more requires a new funding stream, and in overseas examples, directing some of the revenue from parking fees has proven to be successful. Research from Donald Shoup suggests that in places where the parking revenue is spent in the area that it is collected, it is no longer seen as revenue raising, but an investment into the local area that benefits small businesses by making nicer places to visit. This provides retailers with a different response to comments from customers about the price of parking. They can say that some of the cost goes directly to paying for other things that people benefit from, such as footpath upgrades, trees and landscaping, cleaning, marketing and events.

The decision to direct some of the revenue from parking to improvements in the local area still needs to be carefully examined, as at present those funds are going to a range of City services across the municipality, with some of it no doubt being spent in the City Centre. Our current accounting processes don't clearly separate out how much is spent on cleaning the City Centre compared to other City owned assets for example. However, given the rates that are generated by City Centre property owners are significantly higher than in residential areas, there is an argument that more should be spent to support our commercial areas to create jobs and increase economic activity. This is an issue that needs further investigation, but the concept is sound.

Figure 12: Rates per square metre



DOES PARKING PROVIDE A GOOD RETURN ON INVESTMENT?

A significant amount of freehold land is tied up in the City Centre for car parking. Its performance needs to be regularly reviewed to ensure that it is providing value for ratepayers. A simple way to do this for off-street car parks is to review the income and compare it to the rental returns generated from nearby commercial properties. This is usually calculated as a dollar per square metre per annum figure. In general, office floorspace in central Bendigo returns somewhere between $170 to $300sqm pa, while retail floorspace returns around $200 to $500sqm pa.

Clearly these are properties that have buildings on them that cost money to build and maintain, so a simple calculation can only provide us with a very basic comparison of current versus potential income. This does not factor in potential rates income (that City-owned car parks do not pay) or the cost to maintain or manage the property – it really is just a rough calculation to help find the highest and best use for land. Some simple calculations are provided below as an example.

Figure 13: Financial return from off-street car parks (parking income only)

36-40 Mundy Street (at-grade - all day)	20-22 Myers Street (at-grade - all day)	393-409 Hargreaves St (at-grade - 2hr)	41-49 Edward St (multi-deck)	244-254 Hargreaves St (multi-deck)
1,100sqm	2,300sqm	1,970 sqm	2,800sqm site (4 levels = 11,200sqm)	1,700sqm site (4 levels = 6,800sqm)
46 bays	80 bays	64 bays	420 bays	290 bays
$6.50 per day	$6.50 per day	$1.80 per hour	$8.50 per day $1.90 per hour	$8.00 per day $1.80 per hour
96% occupancy	84% occupancy	26% occupancy	66% occupancy	76% occupancy
$91,000 income pa	$140,000 income pa	$71,000 income pa	$464,000 income pa	$420,000 income pa
Return of $83sqm pa	Return of $61sqm pa	Return of $36sqm pa	Return of $41sqm pa excluding commercial	Return of $62sqm pa excluding commercial

As you can see above, at-grade car parks do not provide a very good commercial return to the community, although when you factor in that there are no buildings to maintain and the parking is there to support small business it may not be as bad as first thought. In saying this, it does highlight the need to consider if there is a higher and better use of at-grade car parks. If there are opportunities to consolidate the parking into a mixed-use building such as the Edward Street example, then it might make sense for underperforming car parks to be considered for a higher and better use. For example, an office building, hotel or apartment building built on one of these sites would create much more economic activity, add vibrancy and more reasons for people to visit the precinct than a patch of asphalt does. This should only be considered where there is existing parking capacity nearby or where there is an opportunity for a strategically located multi-deck to be built to better service the City Centre.

Figure 14: The Hargreaves / Edward at-grade car park at 1pm on Thursday March 7, 2019.

Note: The low occupancy demonstrates that the current demand for 2 hour parking in this precinct is very low. It has since been changed to all-day parking and occupancy has increased significantly.

OUR ACTIONS

Ten actions have been developed to deliver on the seven objectives identified and to respond to the key issues discussed earlier in this Action Plan. The actions are loosely grouped under the headings of the three parking reforms that parking expert, Professor Donald Shoup, has recommended and are proven to work. Professor Shoup's three reforms are shown below:

Professor Shoup's Top 3 Parking Reforms

1. **Charge the right prices for on-street parking.** The right prices are the lowest prices that will leave one or two open spaces on each block, so there will be no parking shortages. Price is used to balance the demand with supply for on-street parking.
2. **Remove off-street parking requirements.** Developers and businesses are best positioned to decide how many parking spaces are required for their buildings to be leasable and meet the needs of their customers.
3. **Spend parking revenue to improve public services on the metered streets.** If people can see their meter money at work, demand-based prices for on-street parking can become more acceptable and politically popular.

As you will see, the actions below are focused on fine-tuning our current approach rather than reinventing the wheel (which we don't need to do). Implementing the actions won't noticeably change Bendigo or our parking system overnight. Over time they will help facilitate the type of development our City Centre needs as a growing regional city that serves the needs of not only Greater Bendigo, but also the Loddon Campaspe Region.

The Actions identified in this Plan are:

CHARGE THE RIGHT PRICE FOR PARKING

1. Implement a **dynamic pricing model based on occupancy triggers** (using a target of 80-85%) to ensure optimal parking efficiency is achieved. In some areas the hourly rate may go up, while in other areas the price may come down. Progressive pricing should also be investigated to allow for longer stays in short term parking areas (where the price increases significantly once you stay longer than the short term time limit).
2. Implement **occupancy-based triggers to inform changes to time limits** and the extent of time restricted areas to ensure optimal parking efficiency is achieved.
3. Implement a **kerbside user hierarchy** systematically across the City Centre to better allocate bays to different users such as: Buses, Delivery vehicles, DDA permit holders, Pick-Up / Click & Collect (10 min), Short Term (2hr) and Long Term (All Day). Electric vehicle charging locations should also be considered.
4. Commence the consolidation of surface / at-grade car parking, starting with the **planning for a multi-deck parking structure on the block bound by St Andrews Avenue and Myers, Mundy, Market Streets**. Nearby surface / at-grade car parks could then be decommissioned and planning permits obtained for their future use and development. The process for disposing of the properties could then be commenced to maximise the return to ratepayers. This approach is founded on the principle of having a small number of financially viable consolidated parking facilities located across the City Centre to support and encourage new private sector investment.
5. **Change the time restrictions of the at-grade car park on the corner of Hargreaves and Edward Streets from 2 hour to longer term** (we could trial dynamic pricing, where the longer you stay the hourly rate goes up accordingly).
6. **Remove the 1 hour time restricted bays** from the paid area and replace them with longer time limits (2 hour minimum).

REMOVE OFF-STREET PARKING REQUIREMENTS

7. **Remove minimum car parking rates from the City of Greater Bendigo Planning Scheme**. The number of parking bays provided would no longer be a planning permit consideration and it would be left to the private sector to provide the right amount of parking for new developments to work. This approach is supported by research and is the one action that cities that want to prosper in the future must take.
8. **Remove the cash-in-lieu scheme from the Greater Bendigo Planning Scheme**. This would no longer be required, as the number of parking bays to be provided is determined by the private sector rather than the Planning Scheme. New multi-deck parking facilities should be financially viable without the need to 'tax development' to fund them.

SPEND PARKING REVENUE TO IMPROVE PUBLIC SERVICES ON THE METERED STREETS

9. Investigate the potential to **spend some of the parking meter revenue to improve the areas where it is collected**. In the United States this can be done through the creation of a Parking Benefit District. In Australia, it may be more similar to a Special Rate Area (with the meter revenue providing the income, rather than a fee imposed on landowners). Those administering the income could use it for improvements to the local area (street trees, new paving, seating, etc) as well as marketing, events and activities. Everyone who lives, works, visits or owns property in such an area can see their meter money at work.
10. Install **variable wayfinding signage** (with real time advice on parking availability) on arterial roads to direct drivers to major car parks. Real time advice alerts drivers to the availability of car parking.

Many of the actions listed above relate to the fine tuning of the City's current approach to parking management and they will be relatively straightforward to commence implementation. Actions seven and eight are slightly more complicated to implement and recommend changes be made to the Greater Bendigo Planning Scheme. The proposed amendment to the Greater Bendigo Planning Scheme would amend the Schedule to Clause 45.09 to remove minimum requirement for parking provision; amend the planning scheme map of where minimum parking requirements no longer apply; amend the text under 'purpose' and 'objectives' in Clause 45.09; removes 45.09-6 Financial contribution requirement and redrafts Schedule 45.09-4 to specify minimum provision of car parking. It is proposed that the planning scheme amendment would be carried out as part of the amendment required to implement the *Bendigo City Centre Plan*.

CONCLUSION

This Action Plan has been prepared to assist the City to better understand the complexities of city centre parking and to ensure informed parking related decisions can be made in the future. The Plan is quite different from the standard parking plan or strategy that local governments often prepare. It has been prepared concurrently with the *Bendigo City Centre Plan* and is designed to ensure our approach to parking provision and its management supports the evolution of our City Centre into a financially successful and vibrant place.

The actions contained in the Plan might be few in number, but they are highly researched and targeted. If implemented successfully, they will make a significant difference and facilitate new development that contributes to the quality and experience of the City Centre – development that is highly efficient in terms of use of land, infrastructure and financial resources. This is the type of development that the Bendigo City Centre needs. The actions also include a degree of flexibility within them, which is in response to the rapid period of change that the world is going through – we know that the way we move about will be different in the future, but we don't know exactly how. That's fine as long as we get the fundamental elements right and that we base our changes on good research and a thorough understanding of how cities work.

In conclusion it is worth repeating a statement from the introduction as it concisely sums up why this Parking Futures Action Plan and the *Bendigo City Centre Plan* focus on the creation of a place for people *- there is no point having great parking if there is nothing to do once you have arrived!*

APPENDIX A

CAR PARKING OCCUPANCY DATA

May – metered

PINK AREA METERED											
Date: 14/05/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Hargreaves	Chapel / Mundy	1P	9	4	44%	2	22%	2	22%	2.67	29.63%
	centre	4P	49	43	88%	28	57%	41	84%	37.33	76.19%
McCrae	Mundy / Chapel	4P	16	7	44%	10	63%	6	38%	7.67	47.92%
		3P	11	7	64%	3	27%	2	18%	4.00	36.36%
Bridge	Bull / Park	2P	15	6	40%	2	13%	3	20%	3.67	24.44%
		3P	37	18	49%	32	86%	19	51%	23.00	62.16%
William Vahlan	Pall Mall / Rosiland Park	2P	14	8	57%	9	64%	12	86%	9.67	69.05%
Bull St	Hargreaves / Pall Mall	2P	37	30	81%	33	89%	23	62%	28.67	77.48%
Pall Mall	Mundy / Wiliamson	2P	37	5	14%	17	46%	13	35%	11.67	31.53%
		1/2P	9	4	44%	7	78%	3	33%	4.67	51.85%
	Williamson / Mitchell	1P	19	7	37%	19	100%	10	53%	12.00	63.16%
Park Road	Bridge / Barnard	3P	50	6	12%	4	8%	6	12%	5.33	10.67%
QEO	View / Park Rd	4P	17	5	29%	10	59%	7	41%	7.33	43.14%
		2P	24	8	33%	4	17%	3	13%	5.00	20.83%
View Point	View / Forest	2P	9	3	33%	5	56%	5	56%	4.33	48.15%
High	Mitchell / Short	2P	33	18	55%	5	15%	18	55%	13.67	41.41%
Mundy	Hargreaves / Pall Mall	2P	22	19	86%	15	68%	14	64%	16.00	72.73%
Williamson	Hargreaves / Pall Mall	1P	20	13	65%	18	90%	17	85%	16.00	80.00%
		1/2P	3	0	0%	3	100%	3	100%	2.00	66.67%
	Pall Mall / Rpsiland Park	1/2P	18	10	56%	6	33%	11	61%	9.00	50.00%
View	Mackenzie / View Point	2P	16	1	6%	6	38%	6	38%	4.33	27.08%
		1P	16	6	38%	6	38%	8	50%	6.67	41.67%
	Mackenzie / Rowan	2P	18	6	33%	9	50%	6	33%	7.00	38.89%
Forest	High / Mackenzie	2P	33	8	24%	18	55%	10	30%	12.00	36.36%
		All Day	27	26	96%	25	93%	24	89%	25.00	92.59%
Totals			**559**	**268**	**47.94%**	**296**	**52.95%**	**272**	**48.66%**		

GREEN AREA METERED											
Date: 14/05/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Mitchell	Garsed / Wills	1/2P	3	3	100%	1	33%	1	33%	1.67	55.56%
	Wills / King	2P	6	2	33%	3	50%	2	33%	2.33	38.89%
	King / Queen	2P	3	2	67%	2	67%	3	100%	2.33	77.78%
	Bath Lane / Pall Mall	1P	3	3	100%	3	100%		0%	3.00	100.00%
Wills	Mitchell / Edward	1P	17	2	12%	5	29%	12	71%	6.33	37.25%
		2P	14	8	57%	11	79%	9	64%	9.33	66.67%
King	Mitchell / Edward	2P	30	24	80%	30	100%	24	80%	26.00	86.67%
Queen	Mitchell / Edward	2P	68	32	47%	40	59%	48	71%	40.00	58.82%
	Edward / Arthur	1/2	3	1	33%	0	0%	1	33%	0.67	22.22%
		2P	6	4	67%	3	50%	4	67%	3.67	61.11%
		3P	12	10	83%	11	92%	11	92%	10.67	88.89%
		4P	35	4	11%	24	69%	24	69%	17.33	49.52%
Target	Wills/King	1 1/2	104	84	81%	103	99%	85	82%	90.67	87.18%
Hargreaves	Mitchell / Edward	1/4P	5	1	20%	4	80%	5	100%	3.33	66.67%
		2P	61	2	3%	61	100%	41	67%	34.67	56.83%
	Edward / Short	2P	27	15	56%	15	56%	16	59%	15.33	56.79%
Hargreaves / Edward Off Street	Edward / Short	2P	66	8	12%	16	24%	9	14%	11.00	16.67%
Bath Lane	Mitchell / Short	2P	52	40	77%	33	63%	17	33%	30.00	57.69%
Edward	Queen / Creek	2P	30	21	70%	21	70%	16	53%	19.33	64.44%
Short	Hargreaves / Queen	1P	3	0	0%	0	0%	0	0%	0.00	0.00%
		2P	6	2	33%	2	33%	3	50%	2.33	38.89%
		3P	8	1	13%	5	63%	2	25%	2.67	33.33%
	Hargreaves/Creek	3P	10	3	30%	9	90%	4	40%	5.33	53.33%
	Hargreaves / High	2P	11	0	0%	6	55%	8	73%	4.67	42.42%
		All Day	10	10	100%	10	100%	10	100%	10.00	100.00%
Totals			**593**	**282**	**47.55%**	**418**	**70.49%**	**355**	**59.87%**		

June – metered

PINK AREA METERED											
Date: 12/06/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Hargreaves	Chapel / Mundy	1P	9	8	89%	5	56%	2	22%	5.00	55.56%
	centre	4P	49	49	100%	38	78%	22	45%	36.33	74.15%
McCrae	Mundy / Chapel	4P	16	11	69%	11	69%	6	38%	9.33	58.33%
		3P	11	7	64%	8	73%	8	73%	7.67	69.70%
Bridge	Bull / Park	2P	15	3	20%	5	33%	3	20%	3.67	24.44%
		3P	37	31	84%	29	78%	26	70%	28.67	77.48%
William Vahlan	Pall Mall / Rosiland Park	2P	14	13	93%	12	86%	12	86%	12.33	88.10%
Bull St	Hargreaves / Pall Mall	2P	37	27	73%	29	78%	37	100%	31.00	83.78%
Pall Mall	Mundy / Wiliamson	2P	37	20	54%	21	57%	20	54%	20.33	54.95%
		1/2P	9	0	0%	0	0%	0	0%	0.00	0.00%
	Williamson / Mitchell	1P	19	11	58%	16	84%	15	79%	14.00	73.68%
Park Road	Bridge / Barnard	3P	50	7	14%	10	20%	6	12%	7.67	15.33%
QEO	View / Park Rd	4P	17	1	6%	3	18%	5	29%	3.00	17.65%
		2P	24	4	17%	4	17%	3	13%	3.67	15.28%
View Point	View / Forest	2P	9	9	100%	6	67%	7	78%	7.33	81.48%
High	Mitchell / Short	2P	33	28	85%	23	70%	27	82%	26.00	78.79%
Mundy	Hargreaves / Pall Mall	2P	22	16	73%	10	45%	21	95%	15.67	71.21%
Williamson	Hargreaves / Pall Mall	1P	20	18	90%	20	100%	17	85%	18.33	91.67%
		1/2P	3	1	33%	2	67%	1	33%	1.33	44.44%
	Pall Mall / Rpsiland Park	1/2P	18	11	61%	11	61%	3	17%	8.33	46.30%
View	Mackenzie / View Point	2P	16	6	38%	15	94%	8	50%	9.67	60.42%
		1P	16	12	75%	10	63%	15	94%	12.33	77.08%
	Mackenzie / Rowan	2P	18	13	72%	7	39%	13	72%	11.00	61.11%
Forest	High / Mackenzie	2P	33	14	42%	27	82%	23	70%	21.33	64.65%
		All Day	27	27	100%	27	100%	27	100%	27.00	100.00%
Totals			**559**	**198**	**35.42%**	**212**	**37.92%**	**327**	**58.50%**		

GREEN AREA METERED												
Date: 12/06/2018				Vehicles present								
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Mitchell	Garsed / Wills	1/2P	3	1	33%	1	33%	1	33%	1.00	33.33%
	Wills / King	2P	6	6	100%	6	100%	5	83%	5.67	94.44%
	King / Queen	2P	3	3	100%	3	100%	0	0%	2.00	66.67%
	Bath Lane / Pall Mall	1P	3	3	100%	3	100%	2	67%	2.67	88.89%
Wills	Mitchell / Edward	1P	17	2	12%	6	35%	10	59%	6.00	35.29%
		2P	14	2	14%	6	43%	4	29%	4.00	28.57%
King	Mitchell / Edward	2P	30	20	67%	23	77%	20	67%	21.00	70.00%
Queen	Mitchell / Edward	2P	68	50	74%	65	96%	49	72%	54.67	80.39%
	Edward / Arthur	1/2	3	3	100%	1	33%	3	100%	2.33	77.78%
		2P	6	4	67%	6	100%	5	83%	5.00	83.33%
		3P	12	5	42%	8	67%	12	100%	8.33	69.44%
		4P	35	7	20%	34	97%	30	86%	23.67	67.62%
Target	Wills/King	1 1/2	104	63	61%	83	80%	47	45%	64.33	61.86%
Hargreaves	Mitchell / Edward	1/4P	5	3	60%	3	60%	4	80%	3.33	66.67%
		2P	61	59	97%	57	93%	53	87%	56.33	92.35%
	Edward / Short	2P	27	17	63%	25	93%	17	63%	19.67	72.84%
Hargreaves / Edward Off Street	Edward / Short	2P	66	18	27%	23	35%	15	23%	18.67	28.28%
Bath Lane	Mitchell / Short	2P	52	51	98%	44	85%	44	85%	46.33	89.10%
Edward	Queen / Creek	2P	30	25	83%	23	77%	19	63%	22.33	74.44%
Short	Hargreaves / Queen	1P	3	0	0%	0	0%	1	33%	0.33	11.11%
		2P	6	6	100%	5	83%	5	83%	5.33	88.89%
		3P	8	4	50%	8	100%	4	50%	5.33	66.67%
	Hargreaves/Creek	3P	10	8	80%	10	100%	10	100%	9.33	93.33%
	Hargreaves / High	2P	11	3	27%	2	18%	4	36%	3.00	27.27%
		All Day	10	10	100%	10	100%	10	100%	10.00	100.00%
Totals			**593**	**373**	**62.90%**	**455**	**76.73%**	**374**	**63.07%**		

BLUE AREA METERED											
Date: 05/06/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Mitchell	Queen / Myers	2P	9	9	100%	9	100%	9	100%	9.00	100.00%
		1/4P	2	2	100%	0	0%	2	100%	1.33	66.67%
	Myers / Mollison	2P	6	6	100%	5	83%	1	17%	4.00	66.67%
	Mollison / McLaren	P	9	0	0%	8	89%	3	33%	3.67	40.74%
Mollison	Mitchell / Williamson	2P	44	15	34%	31	70%	28	64%	24.67	56.06%
Myers	Mitchell / Williamson	2P	17	0	0%	11	65%	4	24%	5.00	29.41%
	Williamson / Mundy	1P	2	2	100%	2	100%	1	50%	1.67	83.33%
		3P	24	3	13%	3	13%	7	29%	4.33	18.06%
Queen	Mitchell / Williamson	1P	23	15	65%	23	100%	23	100%	20.33	88.41%
		2P	10	8	80%	5	50%	10	100%	7.67	76.67%
Hargreaves	Williamson / Mundy	2P	61	55	90%	45	74%	53	87%	51.00	83.61%
Williamson	Hargreaves / Queen	1/2P	8	8	100%	8	100%	8	100%	8.00	100.00%
	Hargreaves / Lyttleton	2P	5	5	100%	5	100%	5	100%	5.00	100.00%
	Lyttleton / Myers	2P	56	20	36%	21	38%	23	41%	21.33	38.10%
St. Andrews	Lyttleton / Myers	2P	28	18	64%	13	46%	14	50%	15.00	53.57%
		3P	27	8	30%	9	33%	11	41%	9.33	34.57%
Lyttleton	Williamson / Mundy	2P	57	40	70%	43	75%	18	32%	33.67	59.06%
	Williamson / Mitchell	2P	73	42	58%	40	55%	51	70%	44.33	60.73%
Lyttleton (coles)	Williamson / Mitchell	1 1/2P	125	111	89%	102	82%	100	80%	104.33	83.47%
		2P	153	129	84%	124	81%	132	86%	128.33	83.88%
Mundy	Hargreaves / Myers	2P	41	11	27%	12	29%	33	80%	18.67	45.53%
		P	34	34	100%	34	100%	34	100%	34.00	100.00%
Totals			**814**	**541**	**66.46%**	**553**	**67.94%**	**570**	**70.02%**		

August – metered

PINK AREA METERED											
Date: 03/08/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Hargreaves	Chapel / Mundy	1P	9	1	11%	2	22%	4	44%	2.33	25.93%
	centre	4P	49	33	67%	32	65%	46	94%	37.00	75.51%
McCrae	Mundy / Chapel	4P	16	5	31%	9	56%	4	25%	6.00	37.50%
		3P	11	4	36%	6	55%	10	91%	6.67	60.61%
Bridge	Bull / Park	2P	15	0	0%	1	7%	3	20%	1.33	8.89%
		3P	37	8	22%	21	57%	12	32%	13.67	36.94%
William Vahlan	Pall Mall / Rosiland Park	2P	14	11	79%	13	93%	13	93%	12.33	88.10%
Bull St	Hargreaves / Pall Mall	2P	37	14	38%	10	27%	36	97%	20.00	54.05%
Pall Mall	Mundy / Wiliamson	2P	37	15	41%	17	46%	32	86%	21.33	57.66%
		1/2P	9	0	0%	6	67%	3	33%	3.00	33.33%
	Williamson / Mitchell	1P	19	5	26%	9	47%	15	79%	9.67	50.88%
Park Road	Bridge / Barnard	3P	50	1	2%	6	12%	4	8%	3.67	7.33%
QEO	View / Park Rd	4P	17	0	0%	1	6%	16	94%	5.67	33.33%
		2P	24	10	42%	4	17%	6	25%	6.67	27.78%
View Point	View / Forest	2P	9	1	11%	6	67%	9	100%	5.33	59.26%
High	Mitchell / Short	2P	33	16	48%	20	61%	20	61%	18.67	56.57%
Mundy	Hargreaves / Pall Mall	2P	22	7	32%	18	82%	10	45%	11.67	53.03%
Williamson	Hargreaves / Pall Mall	1P	20	16	80%	16	80%	20	100%	17.33	86.67%
		1/2P	3	0	0%	0	0%	3	100%	1.00	33.33%
	Pall Mall / Rpsiland Park	1/2P	18	4	22%	9	50%	5	28%	6.00	33.33%
View	Mackenzie / View Point	2P	16	3	19%	8	50%	12	75%	7.67	47.92%
		1P	16	2	13%	3	19%	16	100%	7.00	43.75%
	Mackenzie / Rowan	2P	18	3	17%	11	61%	13	72%	9.00	50.00%
Forest	High / Mackenzie	2P	33	13	39%	26	79%	19	58%	19.33	58.59%
		All Day	27	27	100%	27	100%	27	100%	27.00	100.00%
Totals			**559**	**123**	**22.00%**	**281**	**50.27%**	**358**	**64.04%**		

PINK AREA METERED											
Date: 31/08/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Hargreaves	Chapel / Mundy	1P	9	4	44%	6	67%	7	78%	5.67	62.96%
	centre	4P	49	28	57%	44	90%	49	100%	40.33	82.31%
McCrae	Mundy / Chapel	4P	16	15	94%	13	81%	9	56%	12.33	77.08%
		3P	11	4	36%	8	73%	6	55%	6.00	54.55%
Bridge	Bull / Park	2P	15	0	0%	0	0%	6	40%	2.00	13.33%
		3P	37	9	24%	20	54%	15	41%	14.67	39.64%
William Vahlan	Pall Mall / Rosiland Park	2P	14	14	100%	13	93%	14	100%	13.67	97.62%
Bull St	Hargreaves / Pall Mall	2P	37	25	68%	35	95%	29	78%	29.67	80.18%
Pall Mall	Mundy / Wiliamson	2P	37	13	35%	33	89%	37	100%	27.67	74.77%
		1/2P	9	7	78%	9	100%	8	89%	8.00	88.89%
	Williamson / Mitchell	1P	19	13	68%	18	95%	18	95%	16.33	85.96%
Park Road	Bridge / Barnard	3P	50	8	16%	33	66%	8	16%	16.33	32.67%
QEO	View / Park Rd	4P	17	0	0%	0	0%	0	0%	0.00	0.00%
		2P	24	6	25%	12	50%	11	46%	9.67	40.28%
View Point	View / Forest	2P	9	8	89%	9	100%	9	100%	8.67	96.30%
High	Mitchell / Short	2P	33	14	42%	22	67%	28	85%	21.33	64.65%
Mundy	Hargreaves / Pall Mall	2P	22	5	23%	13	59%	15	68%	11.00	50.00%
Williamson	Hargreaves / Pall Mall	1P	20	17	85%	20	100%	20	100%	19.00	95.00%
		1/2P	3	1	33%	3	100%	2	67%	2.00	66.67%
	Pall Mall / Rpsiland Park	1/2P	18	0	0%	0	0%	0	0%	0.00	0.00%
View	Mackenzie / View Point	2P	16	13	81%	15	94%	16	100%	14.67	91.67%
		1P	16	12	75%	11	69%	16	100%	13.00	81.25%
	Mackenzie / Rowan	2P	18	9	50%	11	61%	16	89%	12.00	66.67%
Forest	High / Mackenzie	2P	33	20	61%	32	97%	23	70%	25.00	75.76%
		All Day	27	27	100%	27	100%	26	96%	26.67	98.77%
Totals			**559**	**173**	**30.95%**	**407**	**72.81%**	**388**	**69.41%**		

GREEN AREA METERED											
Date: 03/08/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Mitchell	Garsed / Wills	1/2P	3	0	0%	3	100%	3	100%	2.00	66.67%
	Wills / King	2P	6	2	33%	2	33%	5	83%	3.00	50.00%
	King / Queen	2P	3	2	67%	3	100%	2	67%	2.33	77.78%
	Bath Lane / Pall Mall	1P	3	2	67%	3	100%	2	67%	2.33	77.78%
Wills	Mitchell / Edward	1P	17	3	18%	4	24%	9	53%	5.33	31.37%
		2P	14	2	14%	8	57%	4	29%	4.67	33.33%
King	Mitchell / Edward	2P	30	14	47%	18	60%	26	87%	19.33	64.44%
Queen	Mitchell / Edward	2P	68	41	60%	41	60%	54	79%	45.33	66.67%
	Edward / Arthur	1/2	3	1	33%	2	67%	2	67%	1.67	55.56%
		2P	6	1	17%	2	33%	5	83%	2.67	44.44%
		3P	12	4	33%	4	33%	6	50%	4.67	38.89%
		4P	35	3	9%	15	43%	29	83%	15.67	44.76%
Target	Wills/King	1 1/2	104	41	39%	44	42%	48	46%	44.33	42.63%
Hargreaves	Mitchell / Edward	1/4P	5	5	100%	4	80%	5	100%	4.67	93.33%
		2P	61	60	98%	60	98%	58	95%	59.33	97.27%
	Edward / Short	2P	27	22	81%	12	44%	17	63%	17.00	62.96%
Hargreaves / Edward Off Street	Edward / Short	2P	66	12	18%	12	18%	9	14%	11.00	16.67%
Bath Lane	Mitchell / Short	2P	52	39	75%	47	90%	34	65%	40.00	76.92%
Edward	Queen / Creek	2P	30	28	93%	30	100%	27	90%	28.33	94.44%
Short	Hargreaves / Queen	1P	3	1	33%	0	0%	0	0%	0.33	11.11%
		2P	6	3	50%	4	67%	2	33%	3.00	50.00%
		3P	8	4	50%	6	75%	4	50%	4.67	58.33%
	Hargreaves/Creek	3P	10	3	30%	10	100%	6	60%	6.33	63.33%
	Hargreaves / High	2P	11	2	18%	3	27%	0	0%	1.67	15.15%
		All Day	10	10	100%	10	100%	10	100%	10.00	100.00%
Totals			**593**	**305**	**51.43%**	**347**	**58.52%**	**367**	**61.89%**		

GREEN AREA METERED											
Date: 31/08/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Mitchell	Garsed / Wills	1/2P	3	1	33%	3	100%	2	67%	2.00	66.67%
	Wills / King	2P	6	1	17%	6	100%	4	67%	3.67	61.11%
	King / Queen	2P	3	3	100%	3	100%	2	67%	2.67	88.89%
	Bath Lane / Pall Mall	1P	3	3	100%	3	100%	3	100%	3.00	100.00%
Wills	Mitchell / Edward	1P	17	5	29%	9	53%	8	47%	7.33	43.14%
		2P	14	1	7%	4	29%	8	57%	4.33	30.95%
King	Mitchell / Edward	2P	30	23	77%	30	100%	29	97%	27.33	91.11%
Queen	Mitchell / Edward	2P	68	33	49%	24	35%	49	72%	35.33	51.96%
	Edward / Arthur	1/2	3	0	0%	0	0%	0	0%	0.00	0.00%
		2P	6	1	17%	2	33%	2	33%	1.67	27.78%
		3P	12	6	50%	5	42%	3	25%	4.67	38.89%
		4P	35	1	3%	19	54%	25	71%	15.00	42.86%
Target	Wills/King	1 1/2	104	3	3%	3	3%	4	4%	3.33	3.21%
Hargreaves	Mitchell / Edward	1/4P	5	5	100%	5	100%	3	60%	4.33	86.67%
		2P	61	61	100%	61	100%	60	98%	60.67	99.45%
	Edward / Short	2P	27	8	30%	n/a	n/a	12	44%	10.00	37.04%
Hargreaves / Edward Off Street	Edward / Short	2P	66	8	12%	66	100%	12	18%	28.67	43.43%
Bath Lane	Mitchell / Short	2P	52	37	71%	48	92%	46	88%	43.67	83.97%
Edward	Queen / Creek	2P	30	15	50%	26	87%	24	80%	21.67	72.22%
Short	Hargreaves / Queen	1P	3	1	33%	0	0%	0	0%	0.33	11.11%
		2P	6	6	100%	4	67%	6	100%	5.33	88.89%
		3P	8	3	38%	4	50%	7	88%	4.67	58.33%
	Hargreaves/Creek	3P	10	10	100%	9	90%	10	100%	9.67	96.67%
	Hargreaves / High	2P	11	0	0%	4	36%	3	27%	2.33	21.21%
		All Day	10	10	100%	10	100%	8	80%	9.33	93.33%
Totals			**593**	**245**	**41.32%**	**348**	**61.48%**	**330**	**55.65%**		

BLACK AREA METERED – OFF STREET CAR PARKS												
Date: 08/08/2018				Vehicles present								
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Myer / Mundy. Old staff	Myers / Market	All Day	38	38	100%	38	100%	38	100%	38.00	100.00%
Myers	Myers / Mollison	All Day	81	71	88%	80	99%	79	98%	76.67	94.65%
King	Edward / Arthur	All Day	28	27	96%	27	96%	28	100%	27.33	97.62%
McCrae	Farmers / McCrae	All Day	52	52	100%	51	98%	51	98%	51.33	98.72%
Uley Street	Water/Arnold	All Day	47	44	94%	46	98%	47	100%	45.67	97.16%
QEO	View / Park Rd	All Day	123	102	83%	87	71%	85	69%	91.33	74.25%
Tom Flood	Water/Arnold	All Day	149	113	76%	122	82%	99	66%	111.33	74.72%
Market	St Andrew / Mundy	All Day	101	101	100%	101	100%	101	100%	101.00	100.00%
Totals			**619**	**548**	**89%**	**552**	**89%**	**528**	**85%**		

October – metered

BLUE AREA METERED											
Date: 04/10/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Mitchell	Queen / Myers	2P	9	4	44%	9	100%	9	100%	7.33	81.48%
		1/4P	2	2	100%	0	0%	1	50%	1.00	50.00%
	Myers / Mollison	2P	6	2	33%	4	67%	4	67%	3.33	55.56%
	Mollison / McLaren	P	9	3	33%	4	44%	2	22%	3.00	33.33%
Mollison	Mitchell / Williamson	2P	44	14	32%	29	66%	36	82%	26.33	59.85%
Myers	Mitchell / Williamson	2P	17	2	12%	12	71%	14	82%	9.33	54.90%
	Williamson / Mundy	1P	2	0	0%	0	0%	0	0%	0.00	0.00%
		3P	24	2	8%	4	17%	8	33%	4.67	19.44%
Queen	Mitchell / Williamson	1P	23	20	87%	22	96%	23	100%	21.67	94.20%
		2P	10	7	70%	9	90%	10	100%	8.67	86.67%
Hargreaves	Williamson / Mundy	2P	61	2	3%	61	100%	19	31%	27.33	44.81%
Williamson	Hargreaves / Queen	1/2P	8	2	25%	8	100%	7	88%	5.67	70.83%
	Hargreaves / Lyttleton	2P	5	1	20%	5	100%	5	100%	3.67	73.33%
	Lyttleton / Myers	2P	56	10	18%	38	68%	31	55%	26.33	47.02%
St. Andrews	Lyttleton / Myers	2P	28	21	75%	26	93%	20	71%	22.33	79.76%
		3P	27	8	30%	19	70%	6	22%	11.00	40.74%
Lyttleton	Williamson / Mundy	2P	57	17	30%	48	84%	43	75%	36.00	63.16%
	Williamson / Mitchell	2P	73	20	27%	61	84%	46	63%	42.33	57.99%
Lyttleton (coles)	Williamson / Mitchell	1 1/2P	125	73	58%	124	99%	124	99%	107.00	85.60%
		2P	153	82	54%	133	87%	137	90%	117.33	76.69%
Mundy	Hargreaves / Myers	2P	41	2	5%	23	56%	27	66%	17.33	42.28%
		P	34	31	91%	34	100%	31	91%	32.00	94.12%
Totals			**814**	**325**	**40%**	**673**	**83%**	**603**	**74%**		

BLACK AREA METERED – OFF STREET CAR PARKS											
Date: 09/10/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Myer / Mundy. Old Staff	Myers / Market	All Day	38	38	100%	37	97%	38	100%	37.67	99.12%
Myers	Myers / Mollison	All Day	81	56	69%	77	95%	75	93%	69.33	85.60%
King	Edward / Arthur	All Day	28	28	100%	28	100%	28	100%	28.00	100.00%
McCrae	Farmers / McCrae	All Day	52	52	100%	52	100%	47	90%	50.33	96.79%
Uley Street	Water/Arnold	All Day	47	47	100%	47	100%	47	100%	47.00	100.00%
QEO	View / Park Rd	All Day	123	99	80%	107	87%	99	80%	101.67	82.66%
Tom Flood	Water/Arnold	All Day	149	95	64%	113	76%	110	74%	106.00	71.14%
Market	St Andrew / Mundy	All Day	101	101	100%	100	99%	101	100%	100.67	99.67%
Totals			**619**	**516**	**83%**	**561**	**91%**	**545**	**88%**		

May – unmetered

GREEN UNMETERED TIME RESTRICTED AREAS											
Date: 14/05/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Arthur	Wills / King	1 1/2 P	8	4	50%	6	75%	8	100%	6.00	75.00%
Breen	Russell / Stanely	1/2 P	5	3	60%	3	60%	2	40%	2.67	53.33%
		2P	4	3	75%	4	100%	3	75%	3.33	83.33%
Creek St North	Short Burr	1 1/2 P	5	3	60%	2	40%	2	40%	2.33	46.67%
Creek St South	Short / Wattle	1 1/2 P	10	6	60%	4	40%	3	30%	4.33	43.33%
Edward	Queen / Garsed	1 1/2 P	29	14	48%	22	76%	21	72%	19.00	65.52%
Garsed	Mitchell / Arthur	1 1/2 P	31	19	61%	26	84%	31	100%	25.33	81.72%
Hargreaves	Short / Myrtle	1 1/2 P	29	17	59%	17	59%	15	52%	16.33	56.32%
High	Short / Myrtle	1 1/2 P	44	16	36%	24	55%	16	36%	18.67	42.42%
King	Edward / Arthur	1 1/2 P	35	26	74%	29	83%	27	77%	27.33	78.10%
Mackenzie	Girton Grammar	2 min etc	5	3	60%	2	40%	1	20%	2.00	40.00%
Myrtle	Queen/King	1 1/2 P	2	0	0%	0	0%	0	0%	0.00	0.00%
	King/Wills	1 1/2 P	3	1	33%	2	67%	2	67%	1.67	55.56%
Queen	Myrtle / Short	1 1/2 P	56	37	66%	31	55%	29	52%	32.33	57.74%
Target C.P	Will / King	1 1/2 P	121	101	83%	120	99%	102	84%	107.67	88.98%
Vine	Mackenzie / High	1 1/2 P	19	10	53%	7	37%	9	47%	8.67	45.61%
Wills	Edward / Myrtle	1 1/2 P	21	14	67%	3	14%	13	62%	10.00	47.62%
Totals			**427**	**277**	**64.87%**	**302**	**70.73%**	**284**	**66.51%**		

PINK UNMETERED TIME RESTRICTED AREAS											
Date: 14/05/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Barnard	View / Wattle	1 1/2 P	18	6	33.3%	6	33.3%	0	0.0%	4.00	22.22%
	View / Pool	3P	46	12	26.1%	22	47.8%	46	100.0%	26.67	57.97%
	Bancroft/Park Rd	3P	24	11	45.8%	24	100.0%	0	0.0%	11.67	48.61%
		1/4P	1	0	0.0%	0	0.0%	0	0.0%	0.00	0.00%
	Park / Water	3P	29	12	41.4%	9	31.0%	0	0.0%	7.00	24.14%
	Hope / Mercy	2P	12	12	100.0%	5	41.7%	0	0.0%	5.67	47.22%
Baxter	Hargreaves / McCrae	1 1/2 P	4	1	25.0%	3	75.0%	1	25.0%	1.67	41.67%
		2P	18	18	100.0%	11	61.1%	12	66.7%	13.67	75.93%
	McCrae / Havelock	2P	4	1	25.0%	0	0.0%	3	75.0%	1.33	33.33%
	Bridge / Joseph	1 1/2 P	13	4	30.8%	9	69.2%	7	53.8%	6.67	51.28%
Bridge	Baxter / Chapel	1 1/2 P	16	10	62.5%	16	100.0%	12	75.0%	12.67	79.17%
	Baxter / Arnold	1 1/2 P	24	3	12.5%	13	54.2%	13	54.2%	9.67	40.28%
Cemetery	Bridge / Park	1 1/2 P	7	1	14.3%	7	100.0%	0	0.0%	2.67	38.10%
Farmers Lane	Chapel / Bridge	1 1/2 P	2	1	50.0%	2	100.0%	0	0.0%	1.00	50.00%
Forest	Mackenzie / Barnard	1 1/2 P	7	6	85.7%	1	14.3%	0	0.0%	2.33	33.33%
Gaol Road	View / Park	1 1/2 P	5	0	0.0%	0	0.0%	0	0.0%	0.00	0.00%
Havelock	Baxter / Chapel	1 1/2 P	35	4	11.4%	4	11.4%	6	17.1%	4.67	13.33%
Joseph	Baxter / Chapel	3P	10	10	100.0%	10	100.0%	10	100.0%	10.00	100.00%
McCrae	Baxter / Chapel	1 1/2 P	18	7	38.9%	6	33.3%	0	0.0%	4.33	24.07%
Mackenzie	Forest / Short	1 1/2 P	6	5	83.3%	4	66.7%	4	66.7%	4.33	72.22%
		4P	4	0	0.0%	2	50.0%	4	100.0%	2.00	50.00%
	View / Forest	1 1/2 P	34	24	70.6%	18	52.9%	21	61.8%	21.00	61.76%
Nolan Street	Hargreaves / Charleston Road	1 1/2 P	2	0	0.0%	0	0.0%	0	0.0%	0.00	0.00%
Rowan	View / Wattle	1 1/2 P	62	30	48.4%	0	0.0%	21	33.9%	17.00	27.42%
Uley	Water / Arnold	1 1/2 P	14	0	0.0%	0	0.0%	0	0.0%	0.00	0.00%
View	Rowan / Barnard	1 1/2 P	12	5	41.7%	0	0.0%	6	50.0%	3.67	30.56%
		3P	26	17	65.4%	0	0.0%	4	15.4%	7.00	26.92%
Water	Barnard / Bridge	1 1/2 P	23	21	91.3%	0	0.0%	0	0.0%	7.00	30.43%
Sidney Myer Place	Pall Mall / Rosiland Park	1/2 P	18	10	55.6%	6	33.3%	0	0.0%	5.33	29.63%
Totals			**494**	**231**	**46.76%**	**178**	**36.03%**	**170**	**34.41%**		

June – unmetered

GREEN UNMETERED TIME RESTRICTED AREAS											
Date: 08/06/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Arthur	Wills / King	1 1/2 P	8	7	88%	6	75%	8	100%	7.00	87.50%
Breen	Russell / Stanely	1/2 P	5	5	100%	1	20%	5	100%	3.67	73.33%
		2P	4	2	50%	1	25%	3	75%	2.00	50.00%
Creek St North	Short Burr	1 1/2 P	5	5	100%	3	60%	4	80%	4.00	80.00%
Creek St South	Short / Wattle	1 1/2 P	10	5	50%	7	70%	7	70%	6.33	63.33%
Edward	Queen / Garsed	1 1/2 P	29	16	55%	26	90%	14	48%	18.67	64.37%
Garsed	Mitchell / Arthur	1 1/2 P	31	27	87%	27	87%	25	81%	26.33	84.95%
Hargreaves	Short / Myrtle	1 1/2 P	29	27	93%	22	76%	23	79%	24.00	82.76%
High	Short / Myrtle	1 1/2 P	44	12	27%	15	34%	38	86%	21.67	49.24%
King	Edward / Arthur	1 1/2 P	35	23	66%	23	66%	19	54%	21.67	61.90%
Mackenzie	Girton Grammar	2 min etc	5	4	80%	4	80%	4	80%	4.00	80.00%
Myrtle	Queen/King	1 1/2 P	2	0	0%	2	100%	0	0%	0.67	33.33%
	King/Wills	1 1/2 P	3	2	67%	2	67%	3	100%	2.33	77.78%
Queen	Myrtle / Short	1 1/2 P	56	20	36%	36	64%	35	63%	30.33	54.17%
Target C.P	Will / King	1 1/2 P	121	80	66%	100	83%	47	39%	75.67	62.53%
Vine	Mackenzie / High	1 1/2 P	19	6	32%	6	32%	10	53%	7.33	38.60%
Wills	Edward / Myrtle	1 1/2 P	21	8	38%	9	43%	14	67%	10.33	49.21%
Totals			**427**	**249**	**58.31%**	**290**	**67.92%**	**259**	**60.66%**		

PINK UNMETERED TIME RESTRICTED AREAS											
Date: 12/06/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Barnard	View / Wattle	1 1/2 P	18	6	33.3%	5	27.8%	6	33.3%	5.67	31.48%
	View / Pool	3P	22	5	22.7%	3	13.6%	3	13.6%	3.67	16.67%
	Bancroft/Park Rd	3P	11	1	9.1%	3	27.3%	3	27.3%	2.33	21.21%
		1/4P	1	1	100.0%	0	0.0%	0	0.0%	0.33	33.33%
	Park / Water	3P	29	11	37.9%	8	27.6%	12	41.4%	10.33	35.63%
	Hope / Mercy	2P	12	12	100.0%	10	83.3%	12	100.0%	11.33	94.44%
Baxter	Hargreaves / McCrae	1 1/2 P	4	0	0.0%	0	0.0%	3	75.0%	1.00	25.00%
		2P	12	4	33.3%	6	50.0%	4	33.3%	4.67	38.89%
	McCrae / Havelock	2P	4	4	100.0%	4	100.0%	2	50.0%	3.33	83.33%
	Bridge / Joseph	1 1/2 P	13	9	69.2%	9	69.2%	9	69.2%	9.00	69.23%
Bridge	Baxter / Chapel	1 1/2 P	16	12	75.0%	8	50.0%	6	37.5%	8.67	54.17%
	Baxter / Arnold	1 1/2 P	24	10	41.7%	9	37.5%	2	8.3%	7.00	29.17%
Cemetery	Bridge / Park	1 1/2 P	7	2	28.6%	0	0.0%	3	42.9%	1.67	23.81%
Farmers Lane	Chapel / Bridge	1 1/2 P	2	1	50.0%	2	100.0%	2	100.0%	1.67	83.33%
Forest	Mackenzie / Barnard	1 1/2 P	7	5	71.4%	5	71.4%	7	100.0%	5.67	80.95%
Gaol Road	View / Park	1 1/2 P	5	4	80.0%	4	80.0%	0	0.0%	2.67	53.33%
Havelock	Baxter / Chapel	1 1/2 P	35	6	17.1%	5	14.3%	2	5.7%	4.33	12.38%
Joseph	Baxter / Chapel	3P	10	8	80.0%	8	80.0%	8	80.0%	8.00	80.00%
McCrae	Baxter / Chapel	1 1/2 P	18	7	38.9%	8	44.4%	9	50.0%	8.00	44.44%
Mackenzie	Forest / Short	1 1/2 P	6	5	83.3%	5	83.3%	4	66.7%	4.67	77.78%
		4P	4	4	100.0%	4	100.0%	4	100.0%	4.00	100.00%
	View / Forest	1 1/2 P	34	17	50.0%	15	44.1%	21	61.8%	17.67	51.96%
Nolan Street	Hargreaves / Charleston Road	1 1/2 P	2	1	50.0%	1	50.0%	1	50.0%	1.00	50.00%
Rowan	View / Wattle	1 1/2 P	62	18	29.0%	26	41.9%	20	32.3%	21.33	34.41%
Uley	Water / Arnold	1 1/2 P	14	10	71.4%	4	28.6%	10	71.4%	8.00	57.14%
View	Rowan / Barnard	1 1/2 P	12	7	58.3%	4	33.3%	2	16.7%	4.33	36.11%
		3P	26	21	80.8%	13	50.0%	14	53.8%	16.00	61.54%
Water	Barnard / Bridge	1 1/2 P	23	22	95.7%	19	82.6%	18	78.3%	19.67	85.51%
Sidney Myer Place	Pall Mall / Rosiland Park	1/2 P	18	11	61.1%	11	61.1%	10	55.6%	10.67	59.26%
Totals			**451**	**224**	**49.67%**	**199**	**44.12%**	**197**	**43.68%**		

BLUE UNMETERED TIME RESTRICTED AREAS											
Date: 05/06/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Bramble	Mundy / Lyttleton	1 1/2P	11	7	64%	3	27%	6	55%	5.33	48.48%
Baxter	McCrae / Hargreaves	2P	7	7	100%	7	100%	7	100%	7.00	100.00%
		1/2 P	5	0	0%	2	40%	3	60%	1.67	33.33%
Chapel	Hopetoun / Myers	1 1/2 P	9	9	100%	9	100%	7	78%	8.33	92.59%
Coles Car park	Myers / Lyttleton	1 1/2 P	125	111	89%	102	82%	100	80%	104.33	83.47%
		2P	153	129	84%	124	81%	132	86%	128.33	83.88%
Hopetoun	Chapel / Mundy	1 1/2 P	29	26	90%	27	93%	27	93%	26.67	91.95%
		1/2P	8	6	75%	8	100%	5	63%	6.33	79.17%
Larrit	Chapel / Baxter	1 1/2 P	6	4	67%	6	100%	5	83%	5.00	83.33%
Lyttleton	Chapel / Mundy	1 1/2 P	54	0	0%	0	0%	43	80%	14.33	26.54%
Mackay	Kennedy / Charleston	1 1/2 P	6	4	67%	6	100%	3	50%	4.33	72.22%
McIvor	Neale / Sternberg	1 1/2 P	3	1	33%	0	0%	1	33%	0.67	22.22%
		2P	4	0	0%	1	25%	2	50%	1.00	25.00%
McLaren	Mundy / Williamson	1 1/2 P	17	17	100%	16	94%	7	41%	13.33	78.43%
	Williamson / Mitchell	1P	8	1	13%	3	38%	3	38%	2.33	29.17%
Mitchell	Mollison / McLaren	1 1/2 P	7	6	86%	2	29%	6	86%	4.67	66.67%
Mollison	Mundy / Williamson	1 1/2 P	8	5	63%	5	63%	7	88%	5.67	70.83%
		2P	23	11	48%	11	48%	3	13%	8.33	36.23%
Mundy	Mollison / Myers	1 1/2 P	6	0	0%	3	50%	2	33%	1.67	27.78%
		1/2P	3	1	33%	0	0%	0	0%	0.33	11.11%
		2P	5	5	100%	2	40%	5	100%	4.00	80.00%
Sternberg	McIvor / Hodgkinson	1 1/2 P	6	5	83%	6	100%	6	100%	5.67	94.44%
Williamson	Myers / Mollison	1 1/2 P	13	6	46%	5	38%	9	69%	6.67	51.28%
	Mollison / McLaren	1/2 P	4	2	50%	3	75%	4	100%	3.00	75.00%
		2P	30	27	90%	19	63%	5	17%	17.00	56.67%
Myers	Mundy / Chapel	1 1/2P	12	7	58%	8	67%	6	50%	7.00	58.33%
Hargreaves	Chapel / Baxter	1 1/2P	3	3	100%	3	100%	3	100%	3.00	100.00%
		1/2P	4	1	25%	3	75%	3	75%	2.33	58.33%
Totals			**569**	**401**	**70.47%**	**384**	**67.49%**	**410**	**72.06%**		

August – unmetered

GREEN UNMETERED TIME RESTRICTED AREAS											
Date: 03/08/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Arthur	Wills / King	1 1/2 P	8	3	38%	4	50%	0	0%	2.33	29.17%
Breen	Russell / Stanely	1/2 P	5	5	100%	4	80%	5	100%	4.67	93.33%
		2P	4	2	50%	2	50%	4	100%	2.67	66.67%
Creek St North	Short Burr	1 1/2 P	5	1	20%	2	40%	3	60%	2.00	40.00%
Creek St South	Short / Wattle	1 1/2 P	10	5	50%	4	40%	5	50%	4.67	46.67%
Edward	Queen / Garsed	1 1/2 P	29	24	83%	23	79%	24	83%	23.67	81.61%
Garsed	Mitchell / Arthur	1 1/2 P	31	24	77%	20	65%	23	74%	22.33	72.04%
Hargreaves	Short / Myrtle	1 1/2 P	29	24	83%	29	100%	18	62%	23.67	81.61%
High	Short / Myrtle	1 1/2 P	44	10	23%	8	18%	9	20%	9.00	20.45%
King	Edward / Arthur	1 1/2 P	35	17	49%	22	63%	18	51%	19.00	54.29%
Mackenzie	Girton Grammar	2 min etc	5	2	40%	4	80%	2	40%	2.67	53.33%
Myrtle	Queen/King	1 1/2 P	2	0	0%	0	0%	1	50%	0.33	16.67%
	King/Wills	1 1/2 P	3	0	0%	0	0%	3	100%	1.00	33.33%
Queen	Myrtle / Short	1 1/2 P	56	32	57%	36	64%	46	82%	38.00	67.86%
Target C.P	Will / King	1 1/2 P	121	80	66%	44	36%	65	54%	63.00	52.07%
Vine	Mackenzie / High	1 1/2 P	19	7	37%	6	32%	12	63%	8.33	43.86%
Wills	Edward / Myrtle	1 1/2 P	21	8	38%	5	24%	21	100%	11.33	53.97%
Totals			**427**	**244**	**57.14%**	**213**	**49.88%**	**259**	**60.66%**		

GREEN UNMETERED TIME RESTRICTED AREAS

Date: 31/08/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Arthur	Wills / King	1 1/2 P	8	4	50%	8	100%	7	88%	6.33	79.17%
Breen	Russell / Stanely	1/2 P	5	2	40%	4	80%	2	40%	2.67	53.33%
		2P	4	4	100%	3	75%	4	100%	3.67	91.67%
Creek St North	Short Burr	1 1/2 P	5	2	40%	2	40%	0	0%	1.33	26.67%
Creek St South	Short / Wattle	1 1/2 P	10	4	40%	4	40%	3	30%	3.67	36.67%
Edward	Queen / Garsed	1 1/2 P	29	14	48%	15	52%	28	97%	19.00	65.52%
Garsed	Mitchell / Arthur	1 1/2 P	31	17	55%	31	100%	24	77%	24.00	77.42%
Hargreaves	Short / Myrtle	1 1/2 P	29	19	66%	18	62%	21	72%	19.33	66.67%
High	Short / Myrtle	1 1/2 P	44	7	16%	14	32%	7	16%	9.33	21.21%
King	Edward / Arthur	1 1/2 P	35	10	29%	23	66%	23	66%	18.67	53.33%
Mackenzie	Girton Grammar	2 min etc	5	1	20%	2	40%	3	60%	2.00	40.00%
Myrtle	Queen/King	1 1/2 P	2	1	50%	2	100%	2	100%	1.67	83.33%
	King/Wills	1 1/2 P	3	1	33%	3	100%	2	67%	2.00	66.67%
Queen	Myrtle / Short	1 1/2 P	56	21	38%	20	36%	25	45%	22.00	39.29%
Target C.P	Will / King	1 1/2 P	121	43	36%	69	57%	106	88%	72.67	60.06%
Vine	Mackenzie / High	1 1/2 P	19	4	21%	12	63%	18	95%	11.33	59.65%
Wills	Edward / Myrtle	1 1/2 P	21	9	43%	8	38%	6	29%	7.67	36.51%
Totals			**427**	**163**	**38.17%**	**238**	**55.74%**	**281**	**65.81%**		

PINK UNMETERED TIME RESTRICTED AREAS

Date: 06/08/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Barnard	View / Wattle	1 1/2 P	18	4	22.2%	4	22.2%	8	44.4%	5.33	29.63%
	View / Pool	3P	22	18	81.8%	18	81.8%	8	36.4%	14.67	66.67%
	Bancroft/Park Rd	3P	11	4	36.4%	6	54.5%	11	100.0%	7.00	63.64%
		1/4P	1	0	0.0%	0	0.0%	1	100.0%	0.33	33.33%
	Park / Water	3P	29	10	34.5%	8	27.6%	8	27.6%	8.67	29.89%
	Hope / Mercy	2P	12	11	91.7%	10	83.3%	10	83.3%	10.33	86.11%
Baxter	Hargreaves / McCrae	1 1/2 P	4	0	0.0%	0	0.0%	1	25.0%	0.33	8.33%
		2P	12	8	66.7%	11	91.7%	3	25.0%	7.33	61.11%
	McCrae / Havelock	2P	4	3	75.0%	0	0.0%	4	100.0%	2.33	58.33%
	Bridge / Joseph	1 1/2 P	13	9	69.2%	9	69.2%	7	53.8%	8.33	64.10%
Bridge	Baxter / Chapel	1 1/2 P	16	11	68.8%	16	100.0%	9	56.3%	12.00	75.00%
	Baxter / Arnold	1 1/2 P	24	18	75.0%	20	83.3%	13	54.2%	17.00	70.83%
Cemetery	Bridge / Park	1 1/2 P	7	0	0.0%	0	0.0%	3	42.9%	1.00	14.29%
Farmers Lane	Chapel / Bridge	1 1/2 P	2	1	50.0%	2	100.0%	1	50.0%	1.33	66.67%
Forest	Mackenzie / Barnard	1 1/2 P	7	0	0.0%	3	42.9%	0	0.0%	1.00	14.29%
Gaol Road	View / Park	1 1/2 P	5	0	0.0%	0	0.0%	2	40.0%	0.67	13.33%
Havelock	Baxter / Chapel	1 1/2 P	35	6	17.1%	4	11.4%	11	31.4%	7.00	20.00%
Joseph	Baxter / Chapel	3P	10	10	100.0%	10	100.0%	7	70.0%	9.00	90.00%
McCrae	Baxter / Chapel	1 1/2 P	18	10	55.6%	9	50.0%	11	61.1%	10.00	55.56%
Mackenzie	Forest / Short	1 1/2 P	6	2	33.3%	3	50.0%	3	50.0%	2.67	44.44%
		4P	4	4	100.0%	4	100.0%	4	100.0%	4.00	100.00%
	View / Forest	1 1/2 P	34	12	35.3%	18	52.9%	11	32.4%	13.67	40.20%
Nolan Street	Hargreaves / Charleston Road	1 1/2 P	2	1	50.0%	0	0.0%	1	50.0%	0.67	33.33%
Rowan	View / Wattle	1 1/2 P	62	10	16.1%	27	43.5%	26	41.9%	21.00	33.87%
Uley	Water / Arnold	1 1/2 P	14	3	21.4%	6	42.9%	5	35.7%	4.67	33.33%
View	Rowan / Barnard	1 1/2 P	12	1	8.3%	2	16.7%	9	75.0%	4.00	33.33%
		3P	26	14	53.8%	14	53.8%	11	42.3%	13.00	50.00%
Water	Barnard / Bridge	1 1/2 P	23	13	56.5%	8	34.8%	14	60.9%	11.67	50.72%
Sidney Myer Place	Pall Mall / Rosiland Park	1/2 P	18	4	22.2%	9	50.0%	5	27.8%	6.00	33.33%
Totals			**451**	**187**	**41.46%**	**221**	**49.00%**	**207**	**45.90%**		

PINK UNMETERED TIME RESTRICTED AREAS											
Date: 31/08/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Barnard	View / Wattle	1 1/2 P	18	16	88.9%	3	16.7%	3	16.7%	7.33	40.74%
	View / Pool	3P	22	12	54.5%	22	100.0%	14	63.6%	16.00	72.73%
	Bancroft/Park Rd	3P	11	10	90.9%	11	100.0%	11	100.0%	10.67	96.97%
		1/4P	1	1	100.0%	0	0.0%	0	0.0%	0.33	33.33%
	Park / Water	3P	29	29	100.0%	29	100.0%	26	89.7%	28.00	96.55%
	Hope / Mercy	2P	12	12	100.0%	11	91.7%	10	83.3%	11.00	91.67%
Baxter	Hargreaves / McCrae	1 1/2 P	4	4	100.0%	3	75.0%	2	50.0%	3.00	75.00%
		2P	12	7	58.3%	9	75.0%	8	66.7%	8.00	66.67%
	McCrae / Havelock	2P	4	3	75.0%	2	50.0%	3	75.0%	2.67	66.67%
	Bridge / Joseph	1 1/2 P	13	10	76.9%	12	92.3%	10	76.9%	10.67	82.05%
Bridge	Baxter / Chapel	1 1/2 P	16	13	81.3%	14	87.5%	12	75.0%	13.00	81.25%
	Baxter / Arnold	1 1/2 P	24	19	79.2%	20	83.3%	18	75.0%	19.00	79.17%
Cemetery	Bridge / Park	1 1/2 P	7	2	28.6%	7	100.0%	3	42.9%	4.00	57.14%
Farmers Lane	Chapel / Bridge	1 1/2 P	2	1	50.0%	2	100.0%	2	100.0%	1.67	83.33%
Forest	Mackenzie / Barnard	1 1/2 P	7	7	100.0%	6	85.7%	5	71.4%	6.00	85.71%
Gaol Road	View / Park	1 1/2 P	5	3	60.0%	2	40.0%	3	60.0%	2.67	53.33%
Havelock	Baxter / Chapel	1 1/2 P	35	15	42.9%	13	37.1%	11	31.4%	13.00	37.14%
Joseph	Baxter / Chapel	3P	10	10	100.0%	10	100.0%	10	100.0%	10.00	100.00%
McCrae	Baxter / Chapel	1 1/2 P	18	8	44.4%	4	22.2%	7	38.9%	6.33	35.19%
Mackenzie	Forest / Short	1 1/2 P	6	2	33.3%	5	83.3%	1	16.7%	2.67	44.44%
		4P	4	4	100.0%	4	100.0%	4	100.0%	4.00	100.00%
	View / Forest	1 1/2 P	34	26	76.5%	32	94.1%	29	85.3%	29.00	85.29%
Nolan Street	Hargreaves / Charleston Road	1 1/2 P	2	1	50.0%	1	50.0%	0	0.0%	0.67	33.33%
Rowan	View / Wattle	1 1/2 P	62	11	17.7%	57	91.9%	55	88.7%	41.00	66.13%
Uley	Water / Arnold	1 1/2 P	14	2	14.3%	3	21.4%	3	21.4%	2.67	19.05%
View	Rowan / Barnard	1 1/2 P	12	7	58.3%	4	33.3%	5	41.7%	5.33	44.44%
		3P	26	21	80.8%	26	100.0%	23	88.5%	23.33	89.74%
Water	Barnard / Bridge	1 1/2 P	23	11	47.8%	23	100.0%	16	69.6%	16.67	72.46%
Sidney Myer Place	Pall Mall / Rosiland Park	1/2 P	18	0	0.0%	0	0.0%	0	0.0%	0.00	0.00%
Totals			**451**	**267**	**59.20%**	**335**	**74.28%**	**294**	**65.19%**		

BLUE UNMETERED TIME RESTRICTED AREAS											
Date: 08/08/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Bramble	Mundy / Lyttleton	1 1/2P	11	4	36%	4	36%	4	36%	4.00	36.36%
Baxter	McCrae / Hargreaves	2P	7	7	100%	7	100%	4	57%	6.00	85.71%
		1/2 P	5	5	100%	5	100%	5	100%	5.00	100.00%
Chapel	Hopetoun / Myers	1 1/2 P	9	5	56%	3	33%	5	56%	4.33	48.15%
Coles Car park	Myers / Lyttleton	1 1/2 P	125	124	99%	4	3%	100	80%	76.00	60.80%
		2P	153	115	75%	140	92%	124	81%	126.33	82.57%
Hopetoun	Chapel / Mundy	1 1/2 P	29	29	100%	29	100%	29	100%	29.00	100.00%
		1/2P	8	6	75%	5	63%	7	88%	6.00	75.00%
Larrit	Chapel / Baxter	1 1/2 P	6	2	33%	3	50%	3	50%	2.67	44.44%
Lyttleton	Chapel / Mundy	1 1/2 P	54	43	80%	50	93%	43	80%	45.33	83.95%
Mackay	Kennedy / Charleston	1 1/2 P	6	4	67%	5	83%	6	100%	5.00	83.33%
McIvor	Neale / Sternberg	1 1/2 P	3	0	0%	1	33%	2	67%	1.00	33.33%
		2P	4	2	50%	2	50%	1	25%	1.67	41.67%
McLaren	Mundy / Williamson	1 1/2 P	17	15	88%	2	12%	13	76%	10.00	58.82%
	Williamson / Mitchell	1P	8	4	50%	2	25%	1	13%	2.33	29.17%
Mitchell	Mollison / McLaren	1 1/2 P	7	4	57%	6	86%	5	71%	5.00	71.43%
Mollison	Mundy / Williamson	1 1/2 P	8	6	75%	6	75%	4	50%	5.33	66.67%
		2P	23	21	91%	23	100%	20	87%	21.33	92.75%
Mundy	Mollison / Myers	1 1/2 P	6	6	100%	6	100%	6	100%	6.00	100.00%
		1/2P	3	0	0%	1	33%	3	100%	1.33	44.44%
		2P	5	4	80%	5	100%	5	100%	4.67	93.33%
Sternberg	McIvor / Hodgkinson	1 1/2 P	6	4	67%	4	67%	6	100%	4.67	77.78%
Williamson	Myers / Mollison	1 1/2 P	13	5	38%	11	85%	9	69%	8.33	64.10%
	Mollison / McLaren	1/2 P	4	1	25%	3	75%	1	25%	1.67	41.67%
		2P	30	23	77%	25	83%	22	73%	23.33	77.78%
Myers	Mundy / Chapel	1 1/2P	12	10	83%	12	100%	8	67%	10.00	83.33%
Hargreaves	Chapel / Baxter	1 1/2P	3	3	100%	3	100%	1	33%	2.33	77.78%
		1/2P	4	4	100%	4	100%	1	25%	3.00	75.00%
Totals			**569**	**456**	**80.14%**	**371**	**65.20%**	**438**	**76.98%**		

October – unmetered

BLUE UNMETERED TIME RESTRICTED AREAS											
Date: 04/10/2018				Vehicles present							
Street	Between	Time Limit	Spaces	9am-10am		11am-12pm		2pm-3pm		Average vehicles	Average %
Bramble	Mundy / Lyttleton	1 1/2P	11	9	82%	5	45%	5	45%	6.33	57.58%
Baxter	McCrae / Hargreaves	2P	7	4	57%	7	100%	5	71%	5.33	76.19%
		1/2 P	5	4	80%	3	60%	1	20%	2.67	53.33%
Chapel	Hopetoun / Myers	1 1/2 P	9	7	78%	6	67%	6	67%	6.33	70.37%
Coles Car park	Myers / Lyttleton	1 1/2 P	125	73	58%	124	99%	124	99%	107.00	85.60%
		2P	153	82	54%	133	87%	0	0%	71.67	46.84%
Hopetoun	Chapel / Mundy	1 1/2 P	29	21	72%	29	100%	24	83%	24.67	85.06%
		1/2P	8	3	38%	2	25%	1	13%	2.00	25.00%
Larrit	Chapel / Baxter	1 1/2 P	6	0	0%	1	17%	1	17%	0.67	11.11%
Lyttleton	Chapel / Mundy	1 1/2 P	54	40	74%	46	85%	29	54%	38.33	70.99%
Mackay	Kennedy / Charleston	1 1/2 P	6	3	50%	3	50%	5	83%	3.67	61.11%
McIvor	Neale / Sternberg	1 1/2 P	3	1	33%	1	33%	1	33%	1.00	33.33%
		2P	4	3	75%	4	100%	2	50%	3.00	75.00%
McLaren	Mundy / Williamson	1 1/2 P	17	8	47%	13	76%	10	59%	10.33	60.78%
	Williamson / Mitchell	1P	8	1	13%	4	50%	2	25%	2.33	29.17%
Mitchell	Mollison / McLaren	1 1/2 P	7	4	57%	7	100%	2	29%	4.33	61.90%
Mollison	Mundy / Williamson	1 1/2 P	8	3	38%	5	63%	7	88%	5.00	62.50%
		2P	23	21	91%	19	83%	18	78%	19.33	84.06%
Mundy	Mollison / Myers	1 1/2 P	6	4	67%	4	67%	4	67%	4.00	66.67%
		1/2P	3	2	67%	1	33%	0	0%	1.00	33.33%
		2P	5	5	100%	4	80%	4	80%	4.33	86.67%
Sternberg	McIvor / Hodgkinson	1 1/2 P	6	1	17%	4	67%	4	67%	3.00	50.00%
Williamson	Myers / Mollison	1 1/2 P	13	5	38%	3	23%	7	54%	5.00	38.46%
	Mollison / McLaren	1/2 P	4	0	0%	1	25%	2	50%	1.00	25.00%
		2P	30	14	47%	23	77%	21	70%	19.33	64.44%
Myers	Mundy / Chapel	1 1/2P	12	6	50%	6	50%	5	42%	5.67	47.22%
Hargreaves	Chapel / Baxter	1 1/2P	3	1	33%	2	67%	0	0%	1.00	33.33%
		1/2P	4	1	25%	4	100%	1	25%	2.00	50.00%
Totals			**569**	**326**	**57.29%**	**464**	**81.55%**	**291**	**51.14%**		

APPENDIX B

CAR PARKING SUPPLY VERSES FLOORSPACE

Block ref	Floorspace (sqm)	Parking (on street)	Parking (off street)	Parking total	Floorspace per bay
1	1,728	65	186	251	7
2	5,433	100	119	219	25
3	8,544	156	254	410	21
4	109,637	163	289	452	243
5	10,091	39	103	142	71
6	6,448	71	15	86	75
7	12,253	118	182	300	41
8	24,330	131	250	381	64
9	23,394	129	190	319	73
10	6,221	72	233	305	20
11	2,418	128	110	238	10
12	6,474	111	183	294	22
13	8,671	29	94	123	70
14	12,833	117	229	346	37
15	27,196	73	208	281	97
16	16,776	80	132	212	79
17	42,418	70	59	129	329
18	24,093	126	365	491	49
19	21,736	83	16	99	220
20	7,749	93	27	120	65
21	10,349	77	122	199	52
22	3,299	137	163	300	11
23	7,462	131	728	859	9
24	18,598	87	112	199	93
25	15,517	147	280	427	36
26	13,569	92	108	200	68
27	10,375	78	259	337	31
28	6,974	55	49	104	67
29	7,576	80	106	186	41
30	7,524	91	227	318	24
31	0	17	198	215	0
32	29,711	47	1314	1361	22
33	12,110	84	287	371	33
34	17,933	118	188	306	59
35	7,015	59	200	259	27
36	5,484	122	105	227	24
37	3,758	97	53	150	25
38	6,189	105	97	202	31
Total	**561,886**	**3,578**	**7,840**	**11,418**	**49sqm/bay**

APPENDIX C

AUDIT OF THE BENDIGO CITY CENTRE PARKING STRATEGY 2008

The 2008 Parking Strategy was prepared to assist the City to better understand the complexities of the parking situation (at that time) and ensure that informed parking related decisions could be made in the future. The 2008 Parking Strategy found that parking was operating efficiently and was generally well-managed. Notable deliverables of the 2008 Parking Strategy include the construction of the Edward Street Multi-Deck Car Park, which has delivered 420 parking bays in a mixed use building, and the reduction of car parking ratios in the Greater Bendigo Planning Scheme to levels more appropriate (at the time). An audit of the 13 actions is provided below, with implementation progress comments using traffic light reporting (*green* = completed, *amber* = in progress, *red* = not started):

1. Prepare a Parking Precinct Plan to introduce revised car parking rates for new commercial developments within the Bendigo CBD.

   Completed: Delivered through Planning Scheme Amendment C169 on 13/12/2012.

2. Prepare a Parking Precinct Plan to allow consideration of a 10% reduction in car parking rates subject to the adoption of a range of sustainable transport and travel demand management initiatives.

   Completed: Delivered through Planning Scheme Amendment C169 on 13/12/2012.

3. Prepare a Parking Precinct Plan to provide guidance on the provision of future car parking.

   Completed: Delivered through Planning Scheme Amendment C169 on 13/12/2012.

4. Prepare a Parking Precinct Plan to provide guidance on the parking requirements for future CBD residential development.

   Completed: Delivered through Planning Scheme Amendment C169 on 13/12/2012.

5. Prepare an amendment to the Greater Bendigo Planning Scheme to make changes to the MSS, and to include any Parking Precinct Plan prepared to enable its statutory implementation.

   Completed: Delivered through Planning Scheme Amendment C169 on 13/12/2012.

6. Undertake full investigations to progress the development of multi-deck public parking facilities in Edward Street and mid-block between St Andrews Avenue and Mundy Street.

   In progress: Edward Street multi-deck (420 parking bays) and was opened on 25 May 2012. A feasibility study has commenced for a similar structure between St Andrews Avenue and Mundy Street.

7. Adopt a policy to guide the setting of time restrictions for on-street parking.

   Completed: Implemented, however will be updated as part of the 2019 Parking Plan.

8. Implement programs to encourage the use of sustainable transport options, including implementation of the TravelSmart initiative, particularly for employees during peak times such as the Christmas period.

   Completed: TravelSmart was rolled out between 2008 and 2010. It had very limited success and the State Government no longer supports the program.

9. Investigate options to better utilise CBD bus services, or shuttle services to connect key CBD locations and parking areas.

   Completed: A City Centre Mobility Review has been completed which has found that there are better alternatives to shuttle buses in low density small cities such as Bendigo. In short, we don't have the population to justify shuttle services for a relatively compact and walkable area and there are more cost effective solutions.

10. Investigate opportunities to utilise the tram network to provide a 'park and ride' service.

    Completed: Bendigo Heritage Attractions investigated the potential of their trams to operate for commuter purposes and concluded that it was not viable and not their core business. They continue to use their trams to deliver a popular and successful service to support major events such as the Easter Festival and White Night.

11. Explore the interest of Car Share companies locating in the Bendigo CBD to support residential development.

    In progress: Meetings have been held with various car share companies and interestingly, it is likely that they will establish in Bendigo if they can find businesses to sign on rather than residents. The City will likely need to provide supporting infrastructure, such as dedicated parking bays.

12. Incorporate variable signage into the development of new major off-street car parks to give drivers real time advice on where vacant parking spaces are located.

    Not started: This issue will be once again considered in the 2019 Parking Plan.

13. Improve pedestrian and cycle links across High Street / Pall Mall / McCrae Street to improve the connection of the CBD Core to activities and parking facilities to the north-west.

    Not started: This issue will be referred to the new Bendigo City Centre Plan for consideration.