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CAR PARKING AUDIT & STRATEGY GRAFTON CBD

Submission to Clarence Valley Council

Prince Street and Surrounding Streets
Grafton CBD

for:

clarence VALLEY COUNCIL

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1. Introduction

Ardill Payne & Partners (APP) has been engaged by Clarence Valley Council (Council) as part of a consultancy team (with Vee Design and Fourfold Studio) to deliver to Council a *'Precinct Plan and Transport & Car Parking Strategy'* for the Grafton CBD. There are two combined projects that form the scope that Council wants assistance with:

1. A Car Parking and Transport Strategy for Prince Street and the Grafton CBD; and
2. A Precinct Plan for Prince Street, Grafton along with the main entrance from South Grafton.

The project is needed to better support the social and economic wellbeing of the Grafton community and to provide for a prosperous future for Grafton businesses. It is also necessary to ensure the efficient and effective coordination of Council activities across the Grafton CBD and South Grafton entrance, to take a 'place making' approach to help ensure that Prince Street and the CBD are places locals and visitors want to spend time in, to socialise in, and do business and invest in. Council wants to identify and use a range of policy and investment tools to support resilient, sustainable, and innovative businesses in the CBD.

While the focus of this scope of work is on Prince Street, the project takes a 'place making' approach to the wider area to tie in with other projects that Council is progressing in and around Grafton.

One critical input is a car parking and land transport strategy for Prince Street and the Grafton CBD, to understand and plan for car parking needs, and to encourage more active modes of travel (walking, cycling, and improved mobility and accessibility), and to provide for an inviting and useable main street.

This report comprises the *'Car Parking Audit and Strategy'*.

1.1 Background

Grafton is a regional city on the North Coast of NSW, with a 2021 population (in the Grafton and South Grafton area) of 17,345 people *(Population forecast, 2016-2014, .id (informed decisions))* and a predicted growing population.

Grafton was the first City on the North Coast and operates as the main centre of commerce and employment in the Clarence Valley. Grafton also hosts a range of successful annual festivals and events.

Major infrastructure projects, such as the rerouting of the Pacific Highway east of Grafton, are improving the connectivity and accessibility of Grafton to regions across the North Coast and further afield. The new Grafton Bridge and realigned transport routes also means that Prince Street is in the process of being re-designated as a local road under Council's responsibility. The completion of these projects presents an opportunity for Council to improve traffic movement, car parking, and facilities for walking, cycling, and improved mobility in the Grafton CBD.

In the last 12 months, due to the impacts of COVID-19, the potential for regional centres to offer improved lifestyles and increased job opportunities has been realised. For similar reasons, there has been an increase in demand for regional tourism experiences. These factors combined have contributed to a greater demand on existing facilities in regional centres.

The *'North Coast Regional Plan'* (NCRP) promotes vibrant and engaged communities. Action 14.1 of the NCRP requires the preparation of precinct plans in centres bypassed by the Pacific Highway, including Grafton, in order to guide development and establish appropriate land use zoning, development standards, and developer contributions.

This project responds to that Action, but also responds to the current needs of business and the wider community with an interest in Grafton. Council wants to make Grafton somewhere that locals and visitors choose to visit, to socialise in, to spend money in, and to do business and invest in. There is also an opportunity to 'learn by doing' and expand upon the approach taken with the successful *'Vibrant Places'* trial in 2019. 'Tactical urbanism' has been successfully used in cities and regional centres around the world. It provides the opportunity to trial initiatives and change street function, car parking, or footpaths temporarily and measure the impacts before committing significant funds to concrete projects.

Council wants to have agreed plans and strategies in place to better support future grant applications and prioritise Council resources.

1.2 Study Area

The study area for the car parking audit is centred on Prince Street but includes the surrounding streets across the CBD. The study area is bounded by Queen Street, Bacon Street, Villiers Street, and the Clarence River, and roughly coincides with the 'B3-Commercial Core' zone.

The study area also includes Council supplied parking areas on Council managed Operational Land at the Grafton Regional Library, and at 92 Victoria Street and Post Office Lane.

The key activities and land uses within or adjoining the study area include:

- Retail shopping centres, strip shopping, restaurants, and cafes
- State and Local Government offices
- Commercial and office premises

- Schools and places of worship
- Accommodation buildings
- Residential premises
- Council community land (Market Square)
- Crown Land (Memorial Park).

Fitzroy Street and Pound Street (B91) serve as the major arterial roads into Grafton from the south (via the two Grafton Bridges); Prince Street is the main road in from the north, and Villiers Street (B91) adjoins the eastern side of the study area. Route B91 is known as the Summerland Way.

The study area and the B3 zone are shown in **Figure 1** and **Figure 2** below.

Figure 1: Study area of Car Parking Audit

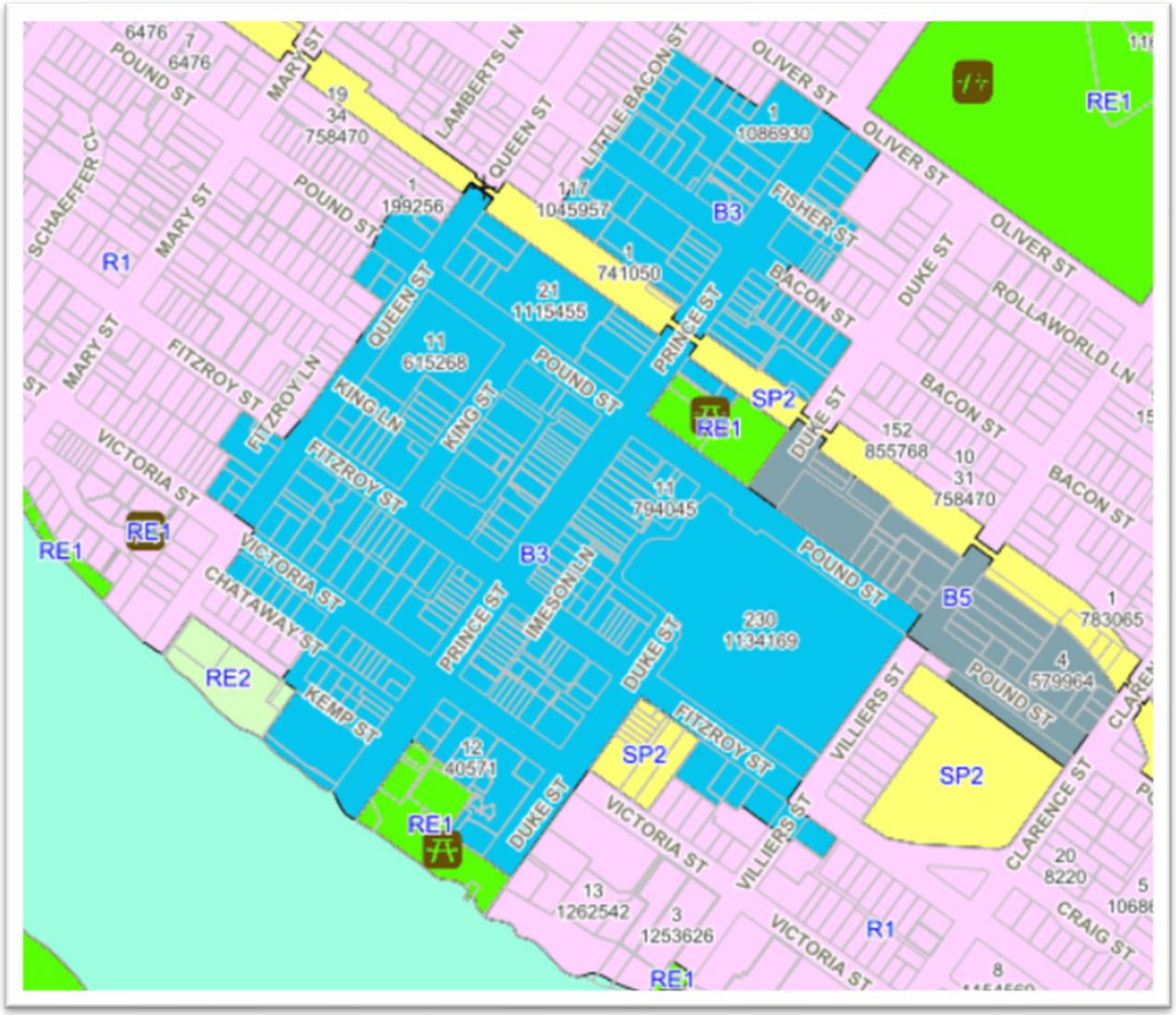


Figure 2: B3 Commercial Core Zone

2. Objectives

The objectives of the *'Car Parking Audit and Strategy'* are to:

1. understand and plan for car parking needs in and around Prince Street and servicing the CBD
2. analyse existing arrangements and make recommendations for optimal outcomes (including safety, protection of street trees, 'nose-in' vs 'rear-to-kerb' parking, and other more contemporary parking arrangements)
3. improve the safety and accessibility, traffic movement, and usability of the CBD
4. provide for an inviting and useable main street
5. better understand the specific servicing needs for businesses within the study area.

3. Study Methodology

The study methodology was as follows:

- Confirmed with Council the extent of the study area.
- Review of existing data and research information. The desktop review of Council plans and strategies included the *'Business Zone Development Control Plan 2011'* (DCP), *'Pedestrian Access and Mobility Plan 2015'* (PAMP), *'Bicycle Plan 2015'*, *'Local Strategic Planning Statement, July 2020'* (LSPS), *'Market Square Plan of Management, December 2000'* (MSPOM), and the *'Vibrant Places Trial business factsheet (1 Nov 2018 – 31 Oct 2019)'.*
- Liaised with Vee Design and Council throughout the study to identify any relevant issues.
- Attended inception meeting.
- Undertook car parking audit survey within the study area. APP counted, inspected, and mapped all car parking spaces (formal and informal), including public transport.
- Concurrent with the car parking audit survey, a number plate survey was conducted for APP by Matrix Traffic and Transport Data (Matrix) to ascertain travel patterns.
- Reviewed public transport and pedestrian/cyclist provisions and connectivity within the study area.
- After completion of the review and parking audit survey, data was collated into a draft report. The report analyses existing parking arrangements and determines future requirements; identifies car parking management options, including parking format, paid and/or unpaid parking areas, and parking restriction enforcement; and makes recommendations for optimal outcomes.
- Analysis considers safety, protection of street trees, 'nose-in' vs 'rear-to-kerb' parking, and other contemporary parking arrangements.
- Attended design workshop with relevant stakeholders
- The draft report was reviewed with Vee Design and by Council before being finalised for consultation and included with the *'Issues and Options Paper'* submission for Council.
- After consultation and review by Council, the Parking Audit report was finalised, with the final report to be included in the *'Land Transport Strategy'*.
- Following consultation, APP will identify mechanisms to fund recommended works and provide indicative costs to Vee Design for inclusion in the *'Implementation Strategy'* for Council.

3.1 Data Collection

Car parking audit surveys were undertaken by APP on Thursday 4 February (between 9:00am and 5:00pm) and Saturday 6 February 2021 (between 9:00am and 12:00pm).

The surveys were undertaken outside of school holidays and are considered to represent typical days. Grafton's Twilight Market was held in Market Square on the evening of the surveyed Thursday.

The surveys were undertaken by a drive through of all streets in the study area at approx. 2hr intervals, with videos being recorded from the dashboard of the vehicle. Between video drive throughs, the APP

audit team walked the streets noting parking types, restrictions, signage, utilisation rates, obstructions (trees, driveways), and any other relevant features.

In conjunction with the car parking survey, an origin-destination (OD) survey was carried out by Matrix Traffic and Transport Data Pty Ltd. The OD survey was conducted on Thursday 4 February (between 6:00am and 6:00pm) and Saturday 6 February 2021 (between 8:00am and 2:00pm).

Matrix deployed number plate recognition video cameras at 9 locations on the fringe of the study area (refer **Figure 3**) to capture information regarding vehicle licence plates to provide origin-destination data for all vehicles passing through the study area. This data will be used to ascertain travel patterns in and around Prince Street and servicing the CBD.

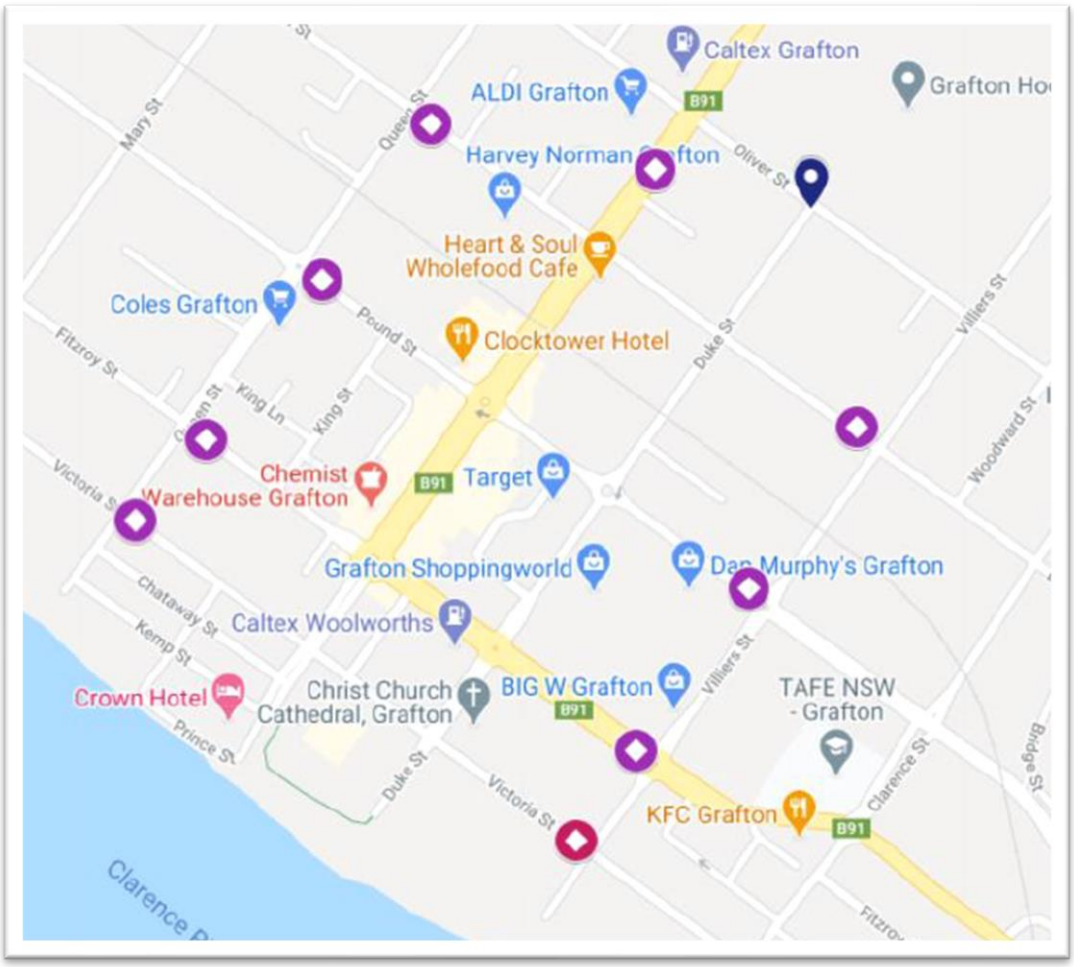


Figure 3: Matrix camera locations (purple circles)

4. Parking Requirements

Council provides and maintains public parking facilities as a community service for user convenience, to improve safety (both traffic and pedestrian), and to improve local amenity. Council's role in parking can be summarised as follows:

- Supply and maintain public on and off-street parking facilities for all road users
- Regulate and enforce the use of this public parking through time restrictions
- Regulate the supply of private on-site parking through the provisions contained in the DCP (refer Section 4.1 below).

4.1 Development Control Plan Requirements

Car parking provisions for the Grafton CBD are set out in the *'Clarence Valley Council Business Zones Development Control Plan 2011, Part F: Parking and Vehicular Access Controls'*.

The parking and vehicular access objectives for business zones are:

- To ensure that the parking demands generated by business development are met on site.
- To ensure that adequate manoeuvring areas are available on-site to permit forward entry and exit of vehicles.
- To ensure the efficient functioning of parking areas, loading bays and access driveways.
- To ensure that parking areas are visually attractive and constructed, designed, and situated so as to encourage their safe use.

The number of car parking spaces required for different land uses should be provided in accordance with **Table 1**. These usually relate to the provision of on-site parking. This provision is managed through the development application process.

Table 1: Car Parking Requirements

Land Use	DCP Car Parking Requirement
Business Premises	1 space per 30m^2 GFA
Office Premises	1 space per 30m^2 GFA
Pub	1 space per 4m^2 of licensed public floor area
Restaurant or Café	1 space per 5m^2 GFA, or 1 space per 6 seats
Retail Premises	1 space per 30m^2 GFA

- Adequate provision, in accordance with the DCP, shall be made for delivery and service vehicle access (loading bays).

- On-street provision for public transport services (bus and taxi zones).
- Accessible on-street parking is provided in accordance with AS 2890.5:2020 'Parking facilities Part 5: On-street parking'. For retail/commercial areas, the recommended minimum number of spaces is 2%.
- The number of accessible parking spaces required in a shopping centre is determined by the National Construction Code 2016 (NCC) and other regulations. In a carpark of up to 1000 car spaces there must be, as a minimum, 1 accessible space for every 50 car parking spaces and an additional accessible space for every 100 spaces after that.

Generally, where car parking required by the DCP cannot be met, the *'Environmental Planning and Assessment Act'* enables Council and the developer to voluntarily enter into a Planning Agreement in relation to the provision of public car parking. Council's policy for *'Planning Agreements – Car Parking Deficits'* (2015) provides further guidance including suggested contribution rates. The contribution rates have not been reviewed since 2015 and may need updating to reflect Council's costs to provide extra parking.

4.2 Local Context

Historically, drivers have been able to park close to their intended destination within the CBD. The increased demands described in Section 1.1 have created a situation where, on occasions, drivers cannot always park as close to their destination as they would like. This can create the perception, especially among locals, that there is an undersupply of parking within the CBD.

Most businesses within the CBD provide part of or all their parking requirements on-site. However, there are some businesses that appear to rely solely on freely available public car parking for the needs of their business. Typically, this has occurred as a function of history at a time when older developments were constructed when no (or less) parking requirements applied. This inequity in the provision of car parking has created a situation where some businesses may currently receive a commercial advantage over other businesses.

Council should ensure that all businesses contribute to the overall parking supply within the Grafton CBD.

5. Parking Audit Findings

5.1 Mode of Travel

Locals and visitors to the Grafton CBD are generally reliant upon private vehicles for transport. The contributing catchment to the Grafton CBD would primarily be the significant urban area, which includes Grafton, South Grafton, Junction Hill, Waterview Heights, and Grafton West. Based on the 2016 ABS Census (refer **Figure 4**), approx. 74.7% of Grafton residents (in the significant urban area) travel to work by car as the driver or passenger. Only 0.6% identified as travelling to work by public transport, with 1.9% cycling to work.

Travel to work, top responses *Employed people aged 15 years and over*	Grafton	%
Car, as driver	4,432	68.4
Car, as passenger	379	5.8
Walked only	315	4.9
Worked at home	226	3.5
Bicycle	120	1.9
People who travelled to work by public transport	38	0.6
People who travelled to work by car as driver or passenger	4,854	74.7

Figure 4: Extract from 2016 ABS Census for Grafton

The census data is roughly supported by data from the Fourfold 'Place Assessment Survey' (154 surveys received). In this survey, participants were asked *"How do you normally travel to Prince St and CBD?".* Responses were 75% car on own; 1.4% bus; 2% cycle; 10.1% walk; 1.4% other.

From the Matrix OD survey, approx. 2.2% of vehicles entering the CBD were heavy vehicles, including buses.

5.2 Parking Supply

Public car parking, both on-street and off-street, is provided throughout the study area. In total there are 1,801 public car spaces (made up of 1,456 on-street spaces and 345 off-street spaces). This total includes 38 accessible spaces (27 on-street and 11 off-street). Refer **Figure 5**. Outside of the study area there is ample all-day parking, albeit a further walk from the CBD.

There are several single hoops for securing bicycles located throughout the CBD.

Maps of parking availability throughout the study area are provided in **Attachment 1**.

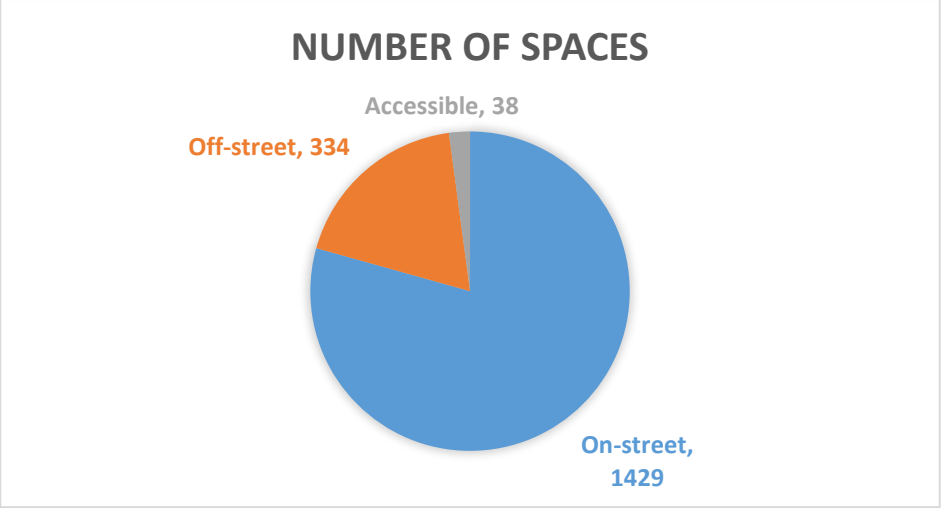


Figure 5: Number of Parking Spaces

5.2.1 On-street Parking

The main on-street public parking types are:

- Short-term (up to 2hrs) – 970 spaces (67.9%)
- Long-term parking (>2hrs) – 459 spaces (32.1%)
- Mostly angled kerb-side parking (77.7%), but some parallel parking (14%) and some centre island parking (8.3%)
- Specialty use areas (spaces for people with disabilities (27); loading zones; bus and taxi zones; parking for fire station personnel; police vehicle parking; parking at church for weddings and funerals)
- An area for parking of vehicles >6m in length in Queen Street behind the Food Emporium (approx. 5 spaces).

5.2.2 Public Off-street Parking

The main public off-street parking locations are:

- Grafton Regional Library in Pound Street - 269 spaces (236 open air spaces, incl. 8 accessible spaces; 33 under cover spaces, incl. 2 accessible spaces)
- 92 Victoria Street – 23 spaces
- Post Office Lane - 53 spaces, incl. 1 accessible space. (Note that there are an additional 12 spaces marked for private use within this carpark)
- Grafton Community Centre in Duke Street – 15 spaces, incl. 5 accessible spaces (all for the exclusive use of the Community Centre).

5.2.3 Private Off-street Parking

There is also a supply of private off-street (on-site) parking within the study area, mostly behind commercial premises. Notable sites include Grafton Shopping World (approx. 850 undercover

spaces + 150 on upper level + staff parking areas) and the Grafton Food Emporium (approx. 150 spaces).

5.3 Parking Demand

From the Matrix OD survey, the median time between same plate detections on a weekday was 35 minutes (range 15 minutes to 2 hrs – some longer times of 4-8 hrs). On a Saturday, the median time was 25 minutes (range 15-30 minutes – some longer times up to 2 hrs in the Victoria Street area).

Between 23 January and 21 February 2021, Council ran an on-line survey through 'Clarence Conversations' on Council's website. Responses showed that 46% visited the CBD 3-4 times/wk; 26% everyday; and 24% once/month. Average stay 8+ hrs (12.5%); 3-6hrs (24%); 1-2hrs (41%); 30-60mins (15%); and <30mins (7.5%).

5.3.1 On-street Parking

- The highest demand for public on-street parking existed from around 10:00am to 12:00 noon on Thursday with a peak utilisation of approx. 65.6% across the study area.
- Areas most sought after have utilisation as high as 90% by 9:00am – some areas are full (refer Section 5.3.4 for more detail).
- Earlier than 10:00am, and from 12:00 noon to 3:00pm, the average utilisation was approx. 55%.
- By 5:00pm, utilisation had dropped to approx. 38.5%.
- On Saturday morning, from 9:00am to 12:00 noon, the average utilisation was approx. 25%.
- Clarence Valley Council population and household forecasts 2016-2041, undertaken for Council by .id (informed decisions), indicates that the population is estimated to grow at an approx. rate of 0.7% to year 2041. With a current peak parking utilisation rate of 65.6% across the study area (see above), it is projected that an adequate supply of parking should be available within the study area for approx. 40 years until an 85% utilisation rate is achieved. It is noted that parking utilisation rates are not uniform across the study area, and some areas will experience peak demand well before 40 years. Beyond 85%, motorists spend more time circulating and become frustrated at finding a parking space. It should also be noted that growth in population does not necessarily correlate with increased parking demand. Other factors to be considered in parking demand projections are changes in amount of private car use, improvements to public transport services, improved work flexibility (staff working from home), uptake of vacant shop tenancies, changes in demographics, on-line banking, and shopping, etc.

5.3.2 Public Off-street Carparks

- On Thursday, the Library carpark typically had utilisation of approx. 60%, dropping to approx. 30% by 4:30pm. On Saturday, utilisation was approx. 15-20%.

- On Thursday, the Victoria Street carpark had 100% utilisation for most of the day, dropping to approx. 70% by 4:30pm. On Saturday, utilisation was approx. 35%.
- On Thursday, the Post Office Lane carpark had 100% utilisation for most of the day, dropping to approx. 45% by 4:30pm. On Saturday, utilisation was approx. 25-30%.

5.3.3 Shopping Centre Carparks

Shopping World:

- Thursday utilisation approx. 90% at peak; 75-85% most of the day
- Saturday utilisation approx. 35% at 9:00am; 75-80% at 12:00 noon.
- It is possible that people shopping in Prince Street, and other retail and office workers, use the all-day parking facilities at Shopping World.

Food Emporium:

- Thursday utilisation approx. 85-90% at peak; 75-80% most of the day
- Saturday utilisation approx. 30% at 9:00am; 70% at 12:00 noon.

5.3.4 Hot Spots/Empty Spots

- On-street parking in Prince Street (between Pound and Fitzroy Streets); Duke Street (between Pound Street and the river); and King Street are in high demand on weekdays, regularly having utilisation of better than 90% for most of the day.
- On-street parking in Fitzroy Street (between Queen and King Streets); Victoria Street (between Queen and Villiers Streets); Queen Street (between Fitzroy Street and the river; and Kemp and Chataway Streets are also in high demand on weekdays, regularly having utilisation of better than 70% during the mornings.
- Off-street carparks at 92 Victoria Street and Post Office Lane were full most of Thursday. It can be inferred that they are full most weekdays.
- The hot spots in the 'civic' precinct end of the CBD are mostly driven by demand from workers, particularly State Government and Council staff.

Maps of peak utilisation areas are provided in **Figure 6** on the following page and in **Attachment 2.**

5.3.5 Underutilised Areas

- Library carpark is unrestricted (except for the undercover section) – utilisation during the survey was no higher than 60%.
- Pound Street between Prince and Queen Streets – utilisation average 35% (max 50%)

- Fitzroy Street between Duke and Villiers Streets – only limited car parking available as mostly taken up with bus and taxi zones. No taxis observed during surveys, and only 2 buses. Parking utilisation max 15%
- The short-term parking in Victoria Street between Prince and Duke Streets was heavily utilised before noon (65-70%), however afternoon utilisation rates drop to around 25-35%
- Utilisation in the northern end of the study area was typically no higher than 40%.

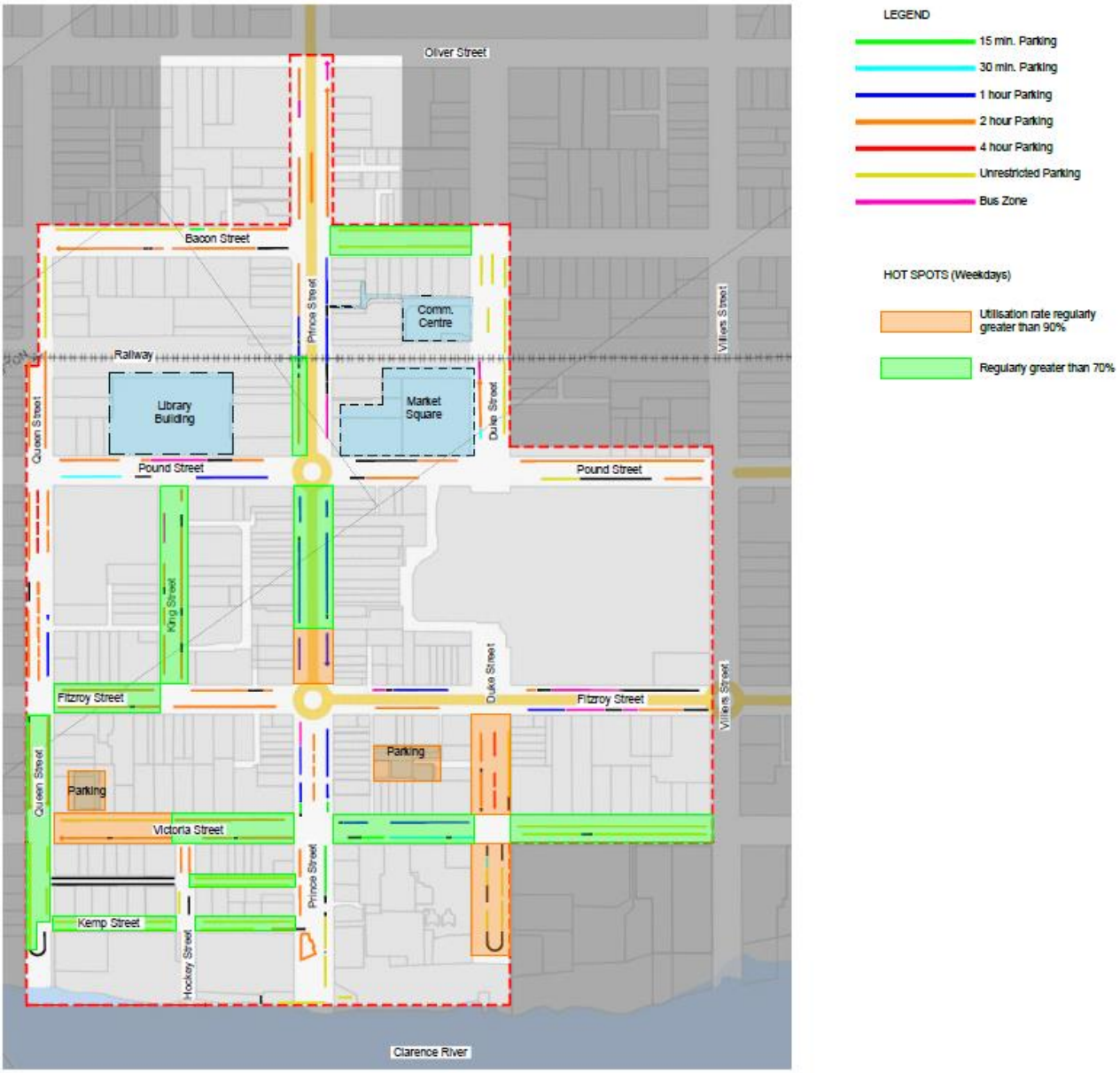


Figure 6: Peak Utilisation Areas

5.4 Parking Restrictions

5.4.1 On-street Parking

On-street parking within the study area is free, with the time restrictions varying from 15 minutes to 4 hours, and some unrestricted areas. Time restrictions are generally between 8:30am and 5:30pm (or 6:00pm) Monday to Friday, and 8:30am to 12:00pm (or 12:30pm) Saturday.

The breakdown of time restricted on-street parking is as follows (refer also **Figure 7**):

- 15 min 23 spaces (1.6% of total)
- 30 min 35 spaces (2.4%)
- 1 hour 227 spaces (15.9%)
- 2 hour 685 spaces (48.0%)
- 4 hour 40 spaces (2.8%)
- Unrestricted 419 spaces (29.3%).

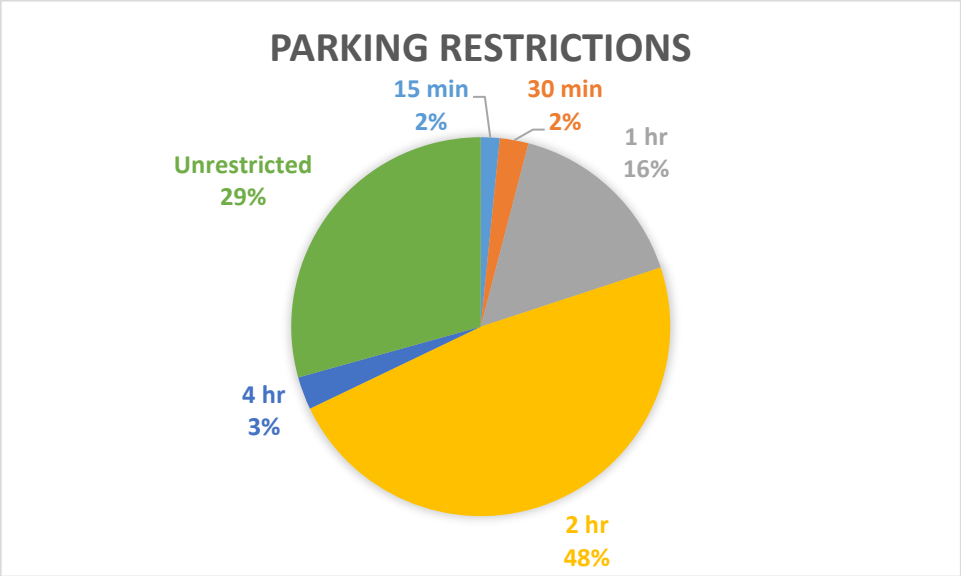


Figure 7: On-Street Parking Restrictions

Some sections of Bacon Street, Victoria Street, Duke Street, Queen Street, Kemp Street, Chataway Street, and the river end of Prince Street (river side of the levee wall) have unrestricted parking.

Parking restrictions in Chataway Street, between Hockey and Queen Streets, are unclear. Existing signage ('No Stopping' and 'No Parking') tends to indicate that parking is prohibited. However, frequent parking was observed in this street (possibly residents).

Parking spaces are also designated throughout the study area for people with disabilities, or as loading, taxi or bus zones.

Maps of parking restrictions throughout the study area are provided in **Attachment 1**.

5.4.1 Public Off-street Parking

Off-street parking within the study area is also free, and predominantly unrestricted (90.4%). Undercover parking beneath the Grafton Library is restricted to 2hrs (9.6%).

5.4.1 Private Off-street Parking

Parking in the Shopping World carpark is currently unrestricted.

The Food Emporium carpark has a 3hr time restriction to deter all day parking by office workers and encourage turnover of shoppers.

5.5 Signage

5.5.1 Parking Restriction Signage

Parking restriction signage is generally clear. However, there are some streets where the extent of timed zones is not clear. For example, in Chataway Street between Hockey and Queen Streets, existing signage ('No Stopping' and 'No Parking') tends to indicate that parking is prohibited. However, frequent parking was observed in this street (possibly residents). Refer **Figure 8**.

Figure 8: Parking and signage in Chataway St

5.5.2 Wayfinding Signage

There is currently no wayfinding signage to direct drivers to any of the Council managed off-street carparks, or at the entrance to the carparks. There is however, some signage in the city approaches directing drivers to the 'City Centre'.

There is a sign located at the entrance to the Library carpark to notify drivers of the parking restrictions in the carpark.

There is no wayfinding signage to direct drivers to the long vehicle parking area (vehicles >6m in length) in Queen Street behind the Food Emporium. It is not clear if this area was intended to be specifically for travellers (car/caravan combinations). Signage is not very prominent. Single vehicles were observed parking in this area (refer **Figure 9**). The adjoining Coles supermarket administers 'Click & Collect' via a personnel door in the Queen Street frontage (adjacent to the long vehicle parking area). Consequently, it seems that some customers may use this parking zone as a convenient pick-up location.

Figure 9: Vehicles parked in area sign posted for vehicles >6m in length in Queen St

5.6 Compliance

5.6.1 Dimensional

Without measuring every parking space, dimensional compliance of marked spaces was generally acceptable. It is noted that the configuration of accessible parking spaces is not compliant with the current Australian Standard (refer **Figure 10**).

5.6.2 Compliance with Time or Other Parking Restrictions

This audit surveys did not check compliance with time limits or other restrictions.

Figure 10: Typical layout of existing accessible parking space

5.6.3 Enforcement

Council advises that they employed a permanent parking officer at the start of 2021.

From the start of 2021, the parking officer issued 177 infringement notices in the CBD in January, 160 in February, and 97 in March. This data shows a declining trend, possibly due to public awareness of increased enforcement activity. The parking officer noted that Prince Street is a big issue throughout the day with trucks and vans double parking because of insufficient loading zones or loading zones too small.

5.7 Origin –Destination Survey

In conjunction with the car parking survey, an origin-destination (OD) survey was carried out by Matrix Traffic and Transport Data Pty Ltd. The OD survey was conducted on Thursday 4 February (between 6:00am and 6:00pm) and Saturday 6 February 2021 (between 8:00am and 2:00pm).

Matrix deployed number plate recognition video cameras on the fringe of the study area to capture information regarding vehicle licence plates to provide origin-destination data for all vehicles passing through the study area.

The main findings from the OD survey are as follows:

- Traffic arriving to the CBD is primarily from the bridges via Fitzroy Street (Site 2) and Pound Street (Site 3) (approx. 42% combined); from the north via Prince Street (Site 1) (approx. 16%); and from the west via Pound Street (Site 4) (approx. 19%).

- Of the traffic entering from old bridge/Fitzroy Street (Site 2), approx. 21% continues straight through; and approx. 31% turns right into Prince Street. Approx. 28% exit back over the bridge via Fitzroy Street
- Of the traffic entering from new bridge/Pound Street (Site 3), approx. 33% continues straight through; approx. 14% turns left into Prince Street; and approx. 18% turns right into Prince Street. Approx. 10% exit back over the bridge via Pound Street
- **Summarising the above, of the traffic entering the CBD from the bridge, approx. 35% turns into Prince Street.**
- Of the traffic entering from the north via Prince Street (Site 1), approx. 16% turn left into Pound Street to exit the CBD; and approx. 22% turn left into Fitzroy Street. Approx. 20% exit back via Prince Street. **Approx. 30% in total continue into the main retail block of Prince Street, between Pound and Fitzroy Streets.**
- Of the traffic entering from the west via Pound Street (Site 4), approx. 25% continue straight through; approx. 14% turn left into Prince Street; and approx. 18% turn right into Prince Street. Approx. 15% exit back via Pound Street
- Saturday traffic volumes are approx. 42% of weekday volumes.
- The median time between same plate detections on a weekday was 35 minutes (range 15 minutes to 2 hrs – some longer times of 4-8 hrs). On a Saturday, the median time was 25 minutes (range 15-30 minutes – some longer times up to 2 hrs in the Victoria Street area).
- Traffic arriving via Victoria Street and Bacon Street from the west tended to stay longer – median time between same plate detections 1-1.5hr. These coincide with all day parking areas.
- Approx. 2.2% of vehicles entering the CBD were heavy vehicles, including buses. This compares to approx. 9-10% HV on the arterial roads outside of the study area (TfNSW studies for new bridge crossing).

Traffic flow diagrams from the Matrix OD survey are provided in **Attachment 3**.

5.8 Existing Community Concerns

The project team undertook a 3-day workshop series in Grafton including a targeted ideation session with key stakeholders from the community. The workshop focused on unpacking the local identity of Grafton and capturing ideas and aspirations for the future of the CBD. One activity focused on issues and opportunities in relation to 'Movement, Parking and Access'.

In addition, Council ran an on-line survey through 'Clarence Conversations' on Council's website.
Key issues and opportunities identified in these workshops and surveys are summarised below (in no particular order):

Issues

- Rear-to-kerb parking – damage to buildings, exhaust fumes, reduces footpath amenity, etc.
- Angled street parking

- Parking too cluttered
- Parking availability
- Insufficient all-day parking, particularly in Fitzroy and Victoria Streets
- Some areas close to businesses have all day parking, which restricts customer parking availability
- Need for large central parking areas
- Not easy to cross the road – safer pedestrian crossings
- Remove central barrier in Prince Street to allow pedestrians to cross anywhere
- Pedestrian safety
- Lack of accessible bus stops
- Lack of cycle facilities
- Cycle/pedestrian and cycle/car conflicts
- CBD has a car focus – cars/roads have dominance over pedestrians
- Accessibility – paths, crossings, public transport
- Better planned and located loading docks
- Street signage

Opportunities

- Reduce car dominance
- Shared traffic zones – traffic calming
- Pedestrian crossings – need calming humps
- Wider footpaths / narrower roads
- Nose-in car parking
- 2-hour car parking
- More parking generally
- More centre parking
- Multi-level carpark
- Parking for RV's
- Off-street parking for service vehicles
- Improved accessibility
- Disability Discrimination Act 1992 (DDA) compliant bus stops
- Remove median in Prince Street – reconfigure travel lanes
- Provide cycle paths, bicycle parking, and other end of route facilities

6. Parking Management Options

The following section discusses potential parking management options, which respond to issues identified during the car parking surveys and the stakeholder workshops. Not all these options may be adopted or implemented.

6.1 Parking Format

6.1.1 'On-street' vs 'Off-street'

A driver's ability to find a place to park at a reasonable distance from their intended destination can make a difference between choosing to visit one place over another. A shopping centre is more dependent on off-street parking than strip shopping. Health facilities also rely heavily on off-street parking to provide convenient access for visitors.

The main advantages of on-street parking are:

- On-street parking has a higher turnover than off-street parking
- A high turnover of vehicles, encouraged by short-term parking, can add vitality to an area
- On street parking offers a more efficient use of land than dedicated off-street parking, which could be used for commercial developments
- On street parking, especially on two-lane streets, can have the net effect of slowing traffic down as people must wait for drivers to reverse into or out of a space. In pedestrian and high-volume areas, this slowing of traffic can lower the likelihood or severity of accidents
- Shoppers can make quick stops for purchases, which is an advantage for small businesses
- It encourages business in an area.
- Council already owns the land and therefore it is a more cost-effective option to optimise on-street opportunities.

On-street parking does have some disadvantages. It is not very kind towards cyclists and motorcyclists who have to co-exist with moving as well as stationary vehicles, and opening doors in parallel parking areas. Operation of car doors in congested spaces can also be a problem.

6.1.2 'Angle' vs 'Parallel'

Historically, parking in regional towns and cities was in a parallel fashion (to suit a horse and cart). As space became scarcer and motor vehicles more common, angle parking became the preferred option to maximise the number of kerb-side parking spaces.

Many country towns have adopted 'rear-to-kerb' angle parking, mainly for the following reasons:

- Angle parking can accommodate up to twice as many vehicles as parallel parking (Austroads *'Guide to Traffic Management, Part 11: Parking Management Techniques, 2020'*)

- Business operators like having more people parking in front of their business because it offers convenience to customers
- People who alight from 'rear-to-kerb' vehicles, especially children, are forced by the angle of the doors to walk towards the kerb, rather than being directed towards the road
- Loading and unloading from the rear of a vehicle is much easier and safer when done from the kerb rather than the roadway
- It is easier to see oncoming traffic when driving forward out of a parking space (compared to reversing out from a 'nose-in' parking space).

Angle parking is typically done at 30, 45, 60 or 90 degrees to the kerb. In unmarked areas where angle parking is permitted, drivers do not always get the angle right. If the first car gets it right, they all tend to be right; but if one gets the angle wrong, they are all wrong.

In angle parking, cars are pointed at the footpath and store fronts – rolling vehicles, vehicles in a collision, or accidental accelerator/brake pedal confusion are more likely to result in a vehicle crashing into a pedestrian or a shop front.

When searching for an angle parking space, large vehicles can obstruct the view of empty spaces.

Angle parking can be more hazardous when lanes are narrow and lane volumes are high. Angle parking is not recommended on roads where one-way traffic volumes are greater than 800vph.

The advantages and challenges with parallel parking are:

- Drivers can more easily spot empty spaces
- Entering a parallel parking space often takes more time and skill than entering 'nose-in' angle parking
- Parallel parking is quicker to exit than 'nose-in' angle parking
- Requires a parking space width of only 2.0-2.3m (3.2m for an accessible space)
- Car doors can be a hazard for cyclists or on-road cycle lanes
- Loading and unloading from the rear of a vehicle happens between cars rather than close to traffic
- Some motorists will drive out of their way to find a space that does not require reversing into a parallel space.
- Parallel parking provides less capacity than angle parking along a given length of street.

Regardless of whether it is 'angle' or 'parallel' parking, reversing takes more time than driving forward. In both 'angle' and 'parallel' parking, a vehicle must reverse. Backing into a space is a challenge for some drivers. Some motorists will hog the entire roadway to do a comfortable reverse manoeuvre, holding up the traffic flow in both directions.

Prince Street is a 40m road reserve. As such it has additional room for the manoeuvring of parking vehicles, out of the through traffic stream. The section between Fitzroy Street and Bacon Street has a dedicated (marked) parking lane. This has the benefit of less delays for through traffic.

6.1.3 Centre-of-Road Parking

Centre-of-road parking should only be considered in streets with little through traffic and where all traffic moves slowly. This type of parking separates opposing traffic flows and provides a refuge for pedestrians. However, it also generates additional pedestrian movements across the road.

By providing additional centre-of-road parking in suitable locations where there would be no change to existing kerb side parking arrangements, the number of parking spaces could be increased.

6.1.4 'Nose-In' vs 'Rear-to-Kerb' Angle Parking

Austroads *'Guide to Traffic Management, Part 11: Parking Management Techniques, 2020'* (Austroads GTM Part 11) prefers 'nose-in' parking because:

- it keeps traffic flowing in a one lane traffic environment.
- vehicle exhaust emissions face away from the footpath, pedestrians, and outdoor dining.
- vacant spaces are more visible, and a motorist can slow down and move directly into a parking space causing little delay to following motorists.
- drivers reversing out from the parking bay can select a time when passing traffic will not be disrupted.
- a stationary driver about to reverse into the parking bay tends to disrupt passing traffic by trapping a vehicle behind.
- when parking, motorists can view high kerbs and footpath obstructions more easily.
- cars are not reversing into a pedestrian environment. Vehicle attachments such as tow bars and cycle racks also pose a hazard to pedestrians when overhanging the edge of the kerb.
- motorists approaching a vehicle exiting a 'nose-in' space can typically see the reversing lights as a warning.

However, Austroads GTM Part 11 says 'rear-to-kerb' parking does have its place, for example:

- when loading or unloading vehicles because the rear of the vehicle is facing towards the footpath.
- reversing out of a 'nose-in' parking space involves some of the vehicle protruding into the roadway before the driver can see oncoming traffic, affecting traffic and cyclist safety. A driver about to drive forward from a 'rear-to-kerb' space has a relatively good view of approaching traffic and cyclists.

6.2 Demand Management

It is considered that there is currently sufficient parking within the Grafton CBD study area to meet peak demands. However, the parking audit survey data does indicate that on-street parking is more highly sought after in the southern (river) end of the study area than in other areas. Off-street parking is limited in these areas but also highly utilised.

The greatest number of available (vacant) spaces are at the northern end of the study area and are thus not as conveniently located or as accessible for customers (particularly those that work in the office precinct near the river).

The general consensus from the stakeholder workshops and on-line surveys is that there is adequate parking. However, some participants raised issues such as parking too cluttered, parking availability, insufficient all-day parking (particularly in Fitzroy and Victoria Streets), and some areas close to businesses have all day parking (which restricts customer parking availability).

Anecdotal evidence is that some parking is used by CBD staff for all day parking, even though the parking area may be time restricted. In these cases, staff are putting their needs for convenient parking above the needs of customers and visitors.

Demand management strategies such as paid parking, a review of parking restrictions, increased public transport services, encouragement of active transport options, and green travel plans, can be considered to manage demand, and are discussed in the following sections.

6.3 Improve Utilisation of Underused Car Parking Areas

It is considered that an evaluation of opportunities to convert spaces that are currently being utilised for long-term parking to shorter term uses can be undertaken. Generally, parking in front of retail and office properties should be for customers and short-term uses. Long-term or unrestricted parking should be located further from the CBD centre.

Underutilised areas of parking with short-term timed restrictions represent an opportunity to improve the efficiency of a valuable resource.

Office staff will typically park and walk to work once in the morning and return to their vehicle in the evening. Shoppers will walk over 450m to cover both sides of Prince Street, so it is considered that a walk of approx. 500m or less from the centre of Prince Street to the main long-term parking areas is not considered unreasonable for staff parking.

6.4 Improved Enforcement

Council advised that they employed a parking officer at the start of 2021.

Improved enforcement is a key component in ensuring compliance and therefore effectiveness of time restrictions. This promotes appropriate usage and higher turnover.

Enforcement data can be used to review on-street parking restrictions in terms of effective length of time of restrictions and numbers. It can also indicate areas of need for additional off-street car parking.

6.5 Paid Parking

There is no such thing as 'free' parking. There are underlying costs that are priced into housing, business, and development costs, in addition to the cost of the impact of motor vehicles on the environment.

Paid on-street parking encourages a regular turn-over of vehicles in high-demand areas to balance the needs of businesses, visitors, residents, and workers.

However, paid on-street parking has the potential to be contentious to members of the community without a strong and public business case. Any implementation must be transparent, measured, and incremental to manage community concern.

Paid parking has up-front installation costs for machines and signage, and ongoing maintenance costs. A higher level of enforcement is required unless an automated system is installed. Parking rates are typically set based on usage and viability for operating costs to be met.

In the absence of wider scale parking restrictions there would be a relocation of current parking to streets where parking remains ‘free’ as users are price sensitive. Drivers are usually willing to walk some distance to avoid paying for parking. There is merit in paid on-street parking where supply is constrained. However, it would need to apply to a sufficiently wide area so that users would be inclined to pay rather than seek free car parking spaces further away.

Before implementation of any paid parking scheme, Council would need to consider feedback from the community and the possible economic impacts on businesses recovering from drought, COVID, etc.

6.5.1 Automated Parking Management Systems

Licence Plate Recognition (LPR) technology is able to capture a plate number and record the time a car enters or leaves a parking space. When a car is parked, a pole mounted sensor at the parking space reads the plate number and starts timing. After the car leaves the space, the driver is notified of the elapsed time and the amount to be paid. The system can run occupancy tests across the network. An example of this type of system is SmartBot Parking.

6.6 New Parking Technology

6.6.1 Parking Guidance Schemes

‘Parking Guidance Schemes’ can reduce traffic by making it easier to locate empty parking spaces, thus lowering the risk of distracted driving. Through the use of individual bay sensors that detect whether a space is empty or occupied, smart parking technology and the use of dynamic signage can help direct drivers to vacant spots.

More recent developments allow customers to locate their car at the end of their shopping visit, with kiosks provided where drivers can punch in a registration plate or ticket number and be told the location of the vehicle. This type of system works well in a private off-street carpark (such as at Shopping World).

6.6.2 City Wide Guidance

A natural extension of these systems is the development of a city-wide guidance scheme where a number of car parks collaborate in order to offer drivers clear information at key intersections

as to the location and availability of parking. The initiative for these systems rests with local Councils who have overall transport and congestion issues on the roads under their control, particularly where they operate off-street and on-street parking facilities. Getting private operators to participate ensures that drivers have a wide range of choice and, at the same time, reduces the amount of time spent driving around looking for a space on the street or in a car park near their final destination.

6.6.3 Smartphone Apps

There are now parking apps available. There are apps which allow you to find a free parking space; help you to remember where you parked your car; find nearby car parks; and for paid parking, keep track of the time left on the meter.

6.6.4 Enforcement

Current parking enforcement is done on-foot. There are new and emerging enforcement technologies that can make the process more efficient.

6.7 Increased Public Transport Services

Separate public transport studies are currently being conducted by Transport for NSW (TfNSW). The results of these studies are not available at the time of drafting this report – expected to be released later in 2021.

Improved services should result in higher usage of public transport, which in turn should reduce demand for car parking spaces in the CBD.

6.8 Cycle Parking

Provision of secure cycle parking facilities and end of journey facilities (changing facilities, showers, etc.) in both public places and private business spaces, especially in areas with the highest parking demand, would encourage less car dependency.

6.9 Green Travel Plans

These plans detail the policies and practices that can be implemented by a business to encourage staff to walk or cycle to work, catch public transport, or car share.

The main benefits of a Green Travel Plan are:

- Reduces the need to travel
- Reduces motor vehicle use and encourages alternative non-car methods of travel
- Ensures the most efficient use of car parking spaces.

Green Travel Plans can include a number of strategies, such as:

- increased use of public transport
- increase active transport modes (walking, cycling)
- subsidies for public transport users
- encourage carpooling
- flexible work arrangements.

Larger businesses and Government offices should work with employees to look for the best ways to get to and from work without reliance on cars and the resultant demand on car parking spaces.

6.9.1 Carpooling

Carpooling involves two of more people using a common vehicle to share a ride together. Carpooling reduces wear and tear on people and vehicles, saves money on fuel, helps reduce road congestion, thereby making roads safer and reducing the carbon footprint.

6.10 Car Share Schemes

Car sharing is popular in cities in large developments which have a high proportion of apartments without cars. Developers are now planning car share vehicles into proposed developments so that buyers and future residents have more transport alternatives.

Though not warranted now, Council, or larger-scale property developers could in the future explore the introduction to Grafton of a car share scheme (such as GoGet, or similar).

Car sharing companies can also offer bike sharing facilities.

7. Parking Management Strategies

Based on the survey findings and a review of parking management options available, there are a number of parking strategies which should be implemented to improve the current parking situation in the Grafton CBD.

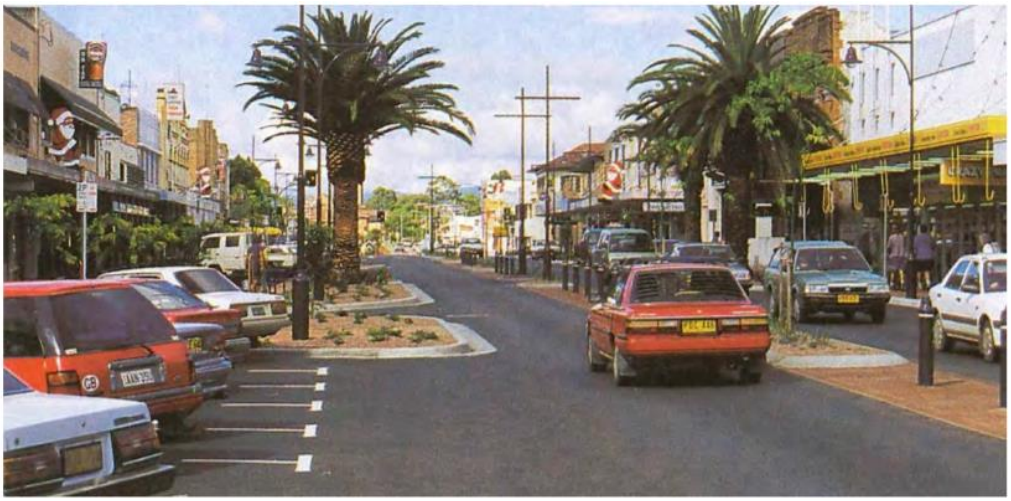
7.1 Nose-in Parking

Reducing the dependency on cars, reducing vehicle speeds, and circulation of cars and pedestrians, are central to the 'Grafton Precinct Plan' to make it a more pedestrian friendly precinct. However, while reducing vehicle speeds is safer for pedestrians, it is important to keep traffic flowing to avoid delays and frustration for motorists. That's why nose-in angled parking is recommended to replace rear-to-kerb parking in some sections of the CBD (refer **Figure 11** for typical arrangement).

While the final location and extent of the implementation is yet to be finalised and is subject to trial installations, further Council discussion, and community feedback, it is recommended that nose-in parking be initially considered in Prince Street between Fitzroy Street and Bacon Street, and along Fitzroy Street between Duke Street and Prince Street. Many other locations within the study area are suitable for nose-in parking (in fact, almost anywhere rear-to-kerb parking is currently in use). Future expansion of nose-in parking to other streets throughout the CBD will be dependent the community acceptance of the initial trials and installations, and available Council funding to make the necessary infrastructure changes.

The benefits of nose-in compared to rear-to-kerb angle parking are listed in Section 6.1.4.

As it is more difficult for some drivers, especially those that are inexperienced or physically impaired, to reverse into a parking space, some will drive around looking for an easy space to get into rather than reversing. This causes extra congestion and vehicle emissions. This effect would largely be eliminated by nose-in parking.



Source: From Roads and Traffic Authority NSW (2000).

Figure 11: Example of Nose-in Parking

7.2 Reconfiguration of Parking Areas

It may be necessary to redesign or reconfigure some on-street parking to accommodate the place making visions of the 'Grafton Precinct Plan'. This may be to accommodate such measures as:

- necessary changes to accommodate the proposed nose-in parking areas, or other parking angle changes (parallel to angle, or vice versa)
- footpath widening
- safer pedestrian crossing infrastructure
- improving safety and accessibility
- provision of community spaces ('parklets', etc.)
- provision of centre-of-road parking in suitable streets
- additional line marking of parking spaces
- landscaping and street trees, etc.

More detail is provided in the 'Grafton Precinct Plan'.

7.3 Additional On-street Parking

Additional on-street parking could be created by:

- converting some existing parallel parking to angle parking. The only locations where this would generate additional spaces is:
    - in Prince Street in front of the Council offices. This would need to be in conjunction with a corresponding reduction in footpath width; and
    - in Fitzroy Street (north side) between Prince and Duke Streets. This would need to be done in conjunction with a corresponding reduction from 2 lanes down to 1 for this section. It is not desirable to convert parallel parking to angle parking in Fitzroy Street between Villiers and Duke Streets due to the existing traffic volumes (>200vph).
- providing additional centre-of-road parking in suitable locations. Since Prince and Duke Streets are 40m wide streets, centre-of-road parking can co-exist with the existing kerbside angle parking as there is adequate room to manoeuvre. This is not usual practice but has worked successfully in Grafton on the wider streets. There is no advantage in providing centre-of-road parking on other streets as existing kerbside angle parking would need to be converted to parallel parking with a corresponding overall reduction in parking numbers in that street section. However, all options should be considered.

  Suitable locations to provide additional centre-of-road parking are:
    - Prince Street between Victoria and Kemp Streets
    - Prince Street between Bacon Street and the railway bridge
    - River end of Duke Street (this would require a substantial widening of the Duke Street pavement)

- removing the unused deck from in front of the former Post Office Hotel (in Victoria Street) and reinstating angle parking.

7.4 Additional Off-street Parking Areas

Off-street parking areas in the southern (river) end of the study area are in high demand – typically full during weekdays. These sites generally provide all day parking for workers.

Council could investigate if there are any additional suitable locations for off-street parking – the old Bowling Club site on Kemp Street perhaps (subject to funding availability). These may involve lease arrangements between Council and private landowners. Additional off-street parking may be useful if there are any losses to be offset in the 'Grafton Precinct Plan', and only if additional on-street parking cannot be created elsewhere.

Council should also widely promote the Library carpark to encourage greater use by workers, coupled with other wayfinding and route improvements. The section against the railway line should be changed to all-day parking, with the remainder being restricted to a 2-4hr limit.

Given the surplus of available on-street parking now and into the future, there is no current warrant for the development of multi-storey off-street parking stations.

7.5 Traffic Calming

Since the diversion of the Summerland Way to Villiers Street, much of the traffic within the town centre is associated with vehicle circulation to find an available parking space. This is more prevalent when peak parking demands exceed 85% utilisation.

As is the case in Grafton with its wide streets, the existing road environment does not encourage low vehicle speeds. A 40 km/h speed limit zone has already been installed in the CBD, however in some areas it should be supported by a traffic calming scheme. If designed appropriately, traffic calming can markedly reduce vehicle speeds, and substantially reduce the risk of injury to a pedestrian or cyclist, or a person in the vehicle.

Traffic calming schemes should be designed and installed to restrict vehicle travel speeds throughout the whole speed restricted area, but in particular the main retail area in Prince Street. Traffic calming schemes may require the approval of the Local Traffic Committee.

Suitable measures should include:

- Raised thresholds ('Wombat' crossings) (refer **Figure 12**) and lighting at the two existing pedestrian crossings in Prince Street between Fitzroy Street and Pound Street, and the existing crossing in Prince Street near Bacon Street, along with a proposed crossing at the Saraton Theatre. Where possible, pedestrian crossings should be installed in association with kerb extensions.

Figure 12: Example of 'Wombat' Crossing

- Raised pavements and varied road surface colours/textures at select intersections and mid-block areas. Suggested locations are at major intersections, and at gateways to the CBD, as a means of 'arrival' and demarcating the threshold into the precinct.
- Footpath and kerb extensions – reduces road lane width with a corresponding reduction in travel speeds (refer 'Grafton Precinct Plan' for more detail)
- Centre island median treatment in Pound Street between Villiers and Prince Streets

Particular attention should be given to upgrading the existing treatments (signs and painted pavement markings) at gateways to the 40 km/h speed limit zones. The existing gateway treatments require some modification and improvement to bring them up to a suitable standard (more detail provided in Section 7.21).

When designing a traffic calming scheme, care must be taken to ensure that buses and other service vehicles have full access.

It is essential that traffic calming treatments do not disadvantage pedestrians or cyclists. In areas that service a high number of pedestrians who are aged or disabled, extra measures may need to be considered, such as tactile strips and lipless transitions from footway to carriageway.

Traffic calming treatment details are set out in Austroads *'Guide to Traffic Management Part 8: Local Area Traffic Management'*, 2016.

7.6 Review Parking Restrictions

The availability of safe, convenient, and accessible parking for shoppers and visitors to Grafton is an important consideration when reviewing the operation of parking restrictions. Parking restrictions are

one mechanism that can be utilised to achieve a better use of existing car parking supply. Restrictions should give priority to short-term parking in front of businesses, while discouraging long-term parking within the core CBD areas.

As the parking audit surveys demonstrate, there is sufficient parking in the study area as a whole to meet the peak parking demands of the CBD. However, parking restrictions in some areas are not conducive to the most efficient use of the space available. 2hr parking restrictions are common in some of the highest demand areas (for example King Street) and are limiting opportunities for increased turnover. Very short-term parking (15 minutes) makes up just 1.6% (23 spaces) of parking in the study area; parking of 30 minutes makes up just 2.4% (35 spaces).

The findings of the on-line survey through 'Clarence Conversations' indicated that the most common stay was 1-2hrs (41%). Stays of 3-6hrs accounted for 24% and of 8+ hrs 12.5%. Stays of 1hr or less accounted for 22.5%.

In order to achieve improved utilisation of the existing car parking supply, it is recommended that existing car parking restrictions be reviewed, following these general guidelines:

- Short-term parking (15min to 1hr) adjacent to high activity areas – increase turnover
- 2hr parking a little further from the retail core
- 4hr and unrestricted parking closer to the periphery of the CBD.
- Increase time limits where demand is low and adjoining uses warrant it
- Remove any long-term on-street parking from outside retail premises.

Recommended changes are summarised as follows:

- Bacon Street, between Queen and Prince Streets – change part of southern side from 2hr to unrestricted
- Pound Street, between Queen and Prince Streets – change southern side from 30min and 1hr to all 2hr
- Pound Street, between Duke and Villiers Streets – change unrestricted section on southern side to 2hr
- Fitzroy Street, between Duke and Villiers Streets – undertake review of bus zone locations as this area is underutilised – relocate or shorten bus zones – convert to 2hr parking; change 1hr parking to 2hr parking
- Victoria Street, between Queen and Hockey Streets – change part of southern side from 2hr to unrestricted
- Victoria Street, between Prince and Duke Streets – leave as short-term parking 8:30am to 12:00pm, but change to longer term (say 2hr) between 12:00pm and 5:30pm
- Chataway Street – clarify parking restrictions. Parking is heavily utilised in this street despite numerous property accesses and 'No Stopping' and 'No Parking' signage
- Prince Street, between Oliver and Bacon Streets – change centre-of-road parking from 2hr to 4hr; change part of eastern side from 2hr to unrestricted

- Queen Street, between Pound and Fitzroy Streets – change center of road parking from 2hr to 4hr.
- Consider providing an unbroken painted yellow kerb line to indicate no stopping areas.
- Council should also widely promote the Library carpark to encourage greater use by workers. The section against the railway line should be changed to all-day parking, with the remainder being restricted to a 2-4hr limit.
- Queen Street behind Food Emporium – convert current long vehicle parking zone to 2hr parking, with a short section of 15min parking for parcel pickup
- Duke Street between Pound Street and the railway bridge – convert 2hr parking zone to area suitable for parking of vehicles >6m in length (caravans and RV's). The unrestricted section opposite could also be converted to long vehicle parking
- Taxi zone in Pound Street, at Market Square – could be shortened, with the remainder converted to 2hr parking. Length of taxi zone to be determined taking into account usage rates and accessibility.

Should these recommendations be pursued further, community and stakeholder engagement would form an important part of this process.

The existing and proposed parking restrictions are provided in **Attachment 4**.

7.7 Improve Parking Enforcement

It is recommended that Council continue to enforce parking restrictions within the Grafton CBD area. Benefits include:

- Increased turnover of parking spaces
- Discourages longer term parking from using time restricted spaces
- Encourages more efficient use of parking provided, reducing the number of spaces needed to meet the peak demands.

New parking detection technologies are also available to improve the efficiency and effectiveness of parking enforcement. Electronic devices installed underneath a parking bay detect and record the time a car arrives and departs from a parking bay. When a vehicle overstays the time limit, these devices send a signal to the nearest parking officer patrolling in the area. The parking officer can then issue a parking infringement notice if an offence has occurred.

However, it is considered that the introduction of these new technologies is not warranted at this time.

7.8 Paid Parking

A review of the parking audit data indicates that the highest demand for public on-street parking existed from around 10:00am to 12:00 noon on Thursday with a peak utilisation of approx. 65.6% across the study area. This level of parking demand is significantly below an 85% occupancy level. Beyond 85% occupancy level, motorists may start to become frustrated at finding a parking space.

A review of the most sought-after areas indicates that the peak parking demands in these areas exceeded 85% at certain times of the day. Accordingly, the introduction of paid parking in these areas could be a practical alternative to managing the parking demand. A paid parking scheme may encourage modal shift that can ultimately reduce peak parking demands. A paid parking scheme in select areas can also divert drivers to free parking in other, currently less used, areas.

However, there are other strategies that can be considered prior to introducing paid parking. The existing car parking supply could be better utilised by:

- adjusting car parking restrictions to use existing parking spaces more efficiently (refer Section 7.5)
- improving enforcement of existing parking restrictions (refer Section 7.9)
- introducing or encouraging flexible work arrangements (staggered hours, work from home, etc.)

As such, it is considered that the introduction of paid parking is not justified at this time.

7.9 New Parking Technology

The introduction of new parking technologies to the Grafton CBD is not warranted at this point in time:

- High capital cost and on-going maintenance costs
- It may be confusing to Grafton's older demographic
- Opposition to introduction of paid parking (see Section 7.8).

7.10 Improvements to Signage

7.10.1 Parking Restrictions

Some parking restriction signs are missing (noted with an arrow → on the maps). The affected zones have a restriction sign at one end, but not at the other end to close the zone. This could make it difficult to enforce restrictions.

Most time restrictions on weekdays are between 8:30am and 5:30pm. However, there are some signs that indicate that the end time is 6:00pm. This could make it difficult to enforce restrictions.

A full audit of parking restriction signs shall be undertaken. Missing signs should be identified and installed; incorrect time limits on signs should be identified and replaced; signage for accessible spaces should be updated and improved.

7.10.2 Wayfinding Signage

There is a lack of signage directing drivers and riders to local landmarks, destinations, and parking areas (including private off-street facilities) in and around the CBD. This is particularly relevant for visitors to the city.

A new wayfinding signage system should be installed to include easily identifiable signs for visitors providing a logical progression from the major approaches (Fitzroy Street and Pound Street from the bridges, and Prince Street from the north) to and through the CBD, and onto the main side streets and car parking areas (at the two major shopping centres and the public carpark at the Library).

Wayfinding signage should be provided to direct tourists with caravans and RV's to the proposed new dedicated parking area in Duke Street, behind Market Square.

It is recommended that wayfinding signage be installed initially on the three main routes into the CBD. Static signage is recommended – the introduction of dynamic signage not warranted given that most of the parking is on-street.

Additionally, signage could promote walking times to nearby destinations such as the Grafton Regional Gallery, the Library, or Market Square.

7.11 Resident Parking Permit Scheme

There are some streets in the study area where there is almost constant parking in front of residential premises. Bacon, Queen, Victoria, and Kemp Streets are examples. One strategy to combat this is to introduce resident parking permits for people living in these streets.

These permit schemes give on-street parking priority to eligible residents who cannot park on their own property. The scheme allows eligible residents to obtain a resident parking permit to park without time limits in a particular area. Residents can purchase permits from Council which identify the vehicle and the street in which it may park, and the times it may park. The permit is displayed in the vehicle.

Resident parking schemes can also be used to support 'shop-top housing' in CBD areas.

7.12 Accessible Parking

Accessible on-street parking is regulated by AS 2890.5:2020 'Parking facilities Part 5: On-street parking'. For retail/commercial areas, the recommended minimum number of spaces is 2%. For 1801 public parking spaces, this equates to a provision of 36 accessible spaces.

The existing provision is 38 spaces (27 on-street + 11 off-street) which is compliant with AS 2890.5 requirements. It is noted that many of the spaces were unoccupied during the survey.

Accordingly, it is considered that there is currently sufficient accessible parking provided within the study area.

However, it is noted that the configuration of the existing accessible parking spaces does not comply with the current Australian Standards (AS 2890.5, and AS/NZS 2890.6:2009 'Parking facilities Part 6: Off-street parking for people with disabilities). Any new accessible parking spaces, and maintenance of existing spaces, should be provided in accordance with these standards.

From 2016 Census data, the median age of people in Grafton is 43 years (in NSW, 38 years). People aged 65 years and over make up 22.8% of the population (in NSW, 16.2%). An aging population could increase demand for accessible parking spaces. Council should monitor if demand and utilisation increases to determine if the provision of additional accessible parking spaces is necessary.

Council should engage an accessibility consultant or utilise existing in-house expertise such as the Access Committee, to undertake a full review of accessible parking to determine if existing accessible parking is provided in the best locations, or if additional accessible spaces are needed to meet future demands.

Additional accessible parking needs to be provided near access ramps to the new waterfront, including at the end of Duke Street.

7.13 Improved Public Transport Services

An improved public transport network would allow more people to use public transport as a means of getting to and from work and shopping, and more people to visit Grafton without the need to drive, thereby reducing parking demand. As such, it is considered that Council should continue to lobby for improvements in the public transport network.

Separate public transport studies are currently being conducted by TfNSW. The results of these studies is not available at the time of drafting this report – expected to be released later in 2021. Therefore, no comment is provided at this stage in relation to bus services and routes.

7.13.1 Buses

Currently Grafton has 'average' access to the public transport network with infrequent bus services provided on some routes. Grafton town services can be anywhere between 1-4hrs apart, depending on the route and time of day. Services to South Grafton can be 30mins to 2hrs apart. Bus services also have limited hours of operation – typically daylight hours, with no night services – and only limited weekend services.

Bus zones are located in Fitzroy Street (near Prince Street and near Shopping World (both sides)); in Duke Street (near the rail bridge); in Prince Street (near Aldi, opposite Market Square, and near Toast Espresso); in Pound Street near the Library; and in King Street (outside the Food Emporium). The zone in Duke Street is mainly used for long term bus parking. All zones allow the bus to stop out of the through traffic lane.

Bus shelters are located in Prince Street at Market Square and at the 'NAB' stop (near Toast Espresso); in Fitzroy Street at Shopping World (2); and in King Street near the Food Emporium.

The following is recommended:

- Bus stops within the CBD are generally spaced less than 400m apart, with the exception of Prince Street northbound. The distance between the NAB and Aldi stops is approx. 650m. An additional northbound bus stop in Prince Street near the railway viaduct could be warranted. Where practical, minimise the loss of on-street parking spaces.
- Relocate the NAB bus stop (in Prince Street, near Fitzroy Street) to around the corner in Fitzroy Street. Reconfigure the bus routes to use Fitzroy Street, then on to King Street. The NAB stop is a terminus which results in buses sitting and idling between service runs, reducing the amenity of adjacent businesses. If this relocation is not possible, then the

stop should be changed to a 'stop-and-go' to minimise bus idle time. The terminus stop should be relocated to a more suitable location.

- If any new bus stops are provided, where practical minimise the loss of on-street parking spaces.
- All bus stops in the CBD should be provided with all-weather shelters and be fully accessible.
- Council, in conjunction with the bus service providers, should review the usage of all existing bus stops in the CBD. As an example, the bus zone in Fitzroy Street (outside Shopping World) is long enough for 4 buses to stop concurrently. Any space surplus to needs should be converted to car parking where practical.

7.13.2 Taxis

Grafton appears to be well serviced for taxi services.

Taxi zones are located in Pound Street (outside the Food Emporium, and both sides at Market Square); in Kemp Street (near the Crown Hotel); and in Fitzroy Street (near Duke Street). There is also a taxi rank located in the Fitzroy Street carpark of Shopping World

The Taxi zone in Pound Street, at Market Square, could be shortened. The existing zone provides for approx. 8 parallel spaces, or 12 angle spaces, which appears to be in excess of current needs. The length of taxi zone to be determined taking into account usage rates and accessibility.

Taxi ranks across the CBD should be provided with all-weather shelters and be fully accessible (subject to funding availability).

Council, in conjunction with Grafton Taxis, should review the usage of all existing taxi ranks/zones within the CBD. Any space surplus to needs should be converted to car parking where practical.

7.14 Pedestrian Facilities

The NSW State Government initiative 'Future Transport 2056' aims to increase the use of public transport, walking, and cycling in regional NSW for all trips, improving levels of social inclusion, and bringing flow on health benefits. Their aspiration for the next 10 years is to increase walking mode share from 4% to 8% across regional NSW.

Walking improvements in and around Prince Street should include:

- Wider and more pedestrian friendly footpaths.
- Improved crossings, including raised threshold ('Wombat' crossing) – locations to be determined as part of overall Precinct Plan.
- New crossing locations – recommended in Prince Street at Saraton Theatre/Market Square; Prince Street near Toast Espresso/Commonwealth Bank; Pound Street between Wiseman Way and Prince Street (near existing crossing point); and in Victoria Street near the Post Office (to cater for increased foot traffic to the Waterfront Precinct).
- Improved permeability – for example, through shopping arcades, to provide more direct travel between shopping areas and car parking.

- Reduce or eliminate barriers to movement – in conjunction with making Prince Street more accessible and pedestrian friendly, consider the removal of the central barrier between Pound and Fitzroy Streets to improve pedestrian movements and attractiveness of Prince Street.
- Introduce pedestrian refuges across wide roads (such as Victoria Street between Duke and Queen Streets, and Fitzroy Street west of Prince Street) to allow staged pedestrian crossings. These refuges can be added or incorporated into other on-street embellishments.

Pedestrian facilities and network linkages are dealt with in more detail in the 'Grafton Precinct Plan' and the 'Land Transport Strategy'.

7.15 Cycle Facilities

The NSW State Government initiative 'Future Transport 2056' aims to increase the use of public transport, walking, and cycling in regional NSW for all trips, improving levels of social inclusion, and bringing flow on health benefits. Their aspiration for the next 10 years is to increase cycling mode share from 2% to 5% across regional NSW.

Cycling improvements in and around Prince Street should include:

- Cycle racks – one rack for 3 to 4 bikes, approx.50m apart in the main retail area, should be provided for short-term visitor/customer bicycle parking (increased density in areas of highest parking demand, e.g., Victoria and Duke Streets). They should be located within 20m of pedestrian access to a destination, with good passive surveillance and lighting.
- Provision of storage for bikes and changing/shower amenities for staff in new developments (at DA stage)
- Promote Green Travel Plans and work with existing businesses to encourage the provision of cycle facilities.

Cycle facilities and network linkages are dealt with in more detail in the 'Grafton Precinct Plan' and the 'Land Transport Strategy'.

7.16 Mobility Scooter Parking

There are currently no guidelines for the parking of mobility scooters. Generally, they are parked on the footpath with consideration to pedestrians' access around the device. They are not to be parked in accessible parking spaces. The wider footpaths proposed in the 'Grafton Precinct Plan' will provide more space for scooter parking. Council shall work with TfNSW to prepare and implement a policy on mobility scooter use in the CBD, including parking, if the issue becomes a problem for other users of the footpath.

7.17 Loading Zones

There are limited loading zones available in the CBD area. A short zone is located in Bacon Street, just west of Prince Street. Dellows Lane (off King Street and servicing the rear of some Prince Street

businesses) is almost exclusively a loading zone. Whilst not signposted as such, some loading/unloading activities are carried out in Wiseman Way (between Pound and Duke Streets).

Other than in these zones, if the delivery vehicle cannot park in a driveway or off-street, some delivery vehicles will block off parking areas with bollards/tape in order to deliver stock, or simply double-park.

Council should investigate local government grant programs implemented by the NSW Government to deal with freight access constraints and last mile issues.

Council shall undertake a review of loading zones and delivery arrangements, and where identified issues exist, assess whether loading zones can be incorporated into the parking arrangement. Council should also encourage businesses to arrange for deliveries outside of core business hours, with warnings that if issues continue, parking enforcement will be more strictly implemented.

7.18 Caravan and RV Parking

From the CMCA website (https://rvfriendly.cmca.net.au/), Grafton Showground is the only site in Grafton identified for short and long-term parking of caravans and motorhomes. Its facilities include a dump point, potable water, power, toilets, showers, etc. However, the Showground is approx. 800m (a 10-minute walk) from Market Square. Casual parking is available in streets surrounding the CBD, but generally not in specifically designated areas.

The car parking survey located 5 spaces for vehicles >6m in length in Queen Street, behind the Food Emporium (refer **Figure 9**). These spaces are only a short walk to the CBD but are not well signposted. There is no wayfinding signage for tourists to locate these spaces. They are currently being used by cars (refer **Figure 9**). The adjoining Coles supermarket administers 'Click & Collect' via a personnel door in the Queen Street frontage (adjacent to the long vehicle parking area). As a consequence, it seems that some customers may use this parking zone as a convenient pick-up location. Existing signage is shown in **Figure 13**.

The following is recommended:

- The existing long vehicle parking in Queen Street be converted to 2hr parking, with a short section of 15min parking for parcel pickup.
- Investigate a new area suitable for long vehicle parking, for vehicles >6m in length (caravans and RV's), in the vicinity of supermarkets, open space, and amenities. Space shall be created in Duke Street between Pound Street and the railway bridge (possible on both sides of Duke Street at this location). These new long vehicle parking areas should be suitably signposted for the intended use to discourage cars from using the space. Wayfinding signage should also be provided for visitors to locate these spaces. Clear signage to toilets and amenities should also be provided.

Council should investigate if other suitable locations for casual Caravan and RV parking can also be provided to encourage tourists to stay longer in town and access the visitor centre at the Regional Gallery.

Figure 13: Signage in Queen Street for vehicles >6m

7.19 Additional Electric Car Charging Points

There is an NRMA charging station at the Library (refer **Figure 14**), and a Tesla Destination Charger at the Fitzroy Motor Inn, 27 Fitzroy Street (just outside the study area).

Whilst the technology is relatively new in Australia, consideration should be given to providing additional electric car charge points in any new off-street parking facilities developed by Council, or in private developments requiring more than 20-50% off-street parking spaces.

Suitable locations to provide new points would be in the Grafton Shopping World and Food Emporium carparks. These would require the cooperation and support of the centre owners. Council should consider installing additional points under the Library building if demand continues to grow.

Figure 14: Electric car charging point in the Library carpark

7.20 Green Travel Plans

Council should require a 'Green Travel Plan' be submitted with any new development proposal in the CBD. In addition, Council should work with TfNSW to initiate some sort of incentive scheme for existing businesses to implement green travel plans and encourage staff to use active and public transport wherever this is suitable to their circumstances. Green Travel Plans could include walking, cycling, skateboarding or similar, bus, ride sharing, working from home and other alternative arrangements to take pressure off all day parking in the CBD and to support business.

7.21 Review of Speed Limits

There is an existing high pedestrian activity area (40 km/h zone) over part of the CBD, taking in:

- Prince Street between Kemp Street and Aldi
- Pound Street between Queen and Duke Streets
- Fitzroy Street between King Street and Duke Street
- Victoria Street between (just west of) Prince Street and Duke Street
- Wiseman Way between Duke Street and Pound Street
- King Street
- There is also a 40 km/h School Zone for the Anglican School in Victoria Street.

40km/h is the appropriate speed zone based on RMS guidelines. It is considered that the extent of this high pedestrian activity area is adequate for the CBD. However, Austroads '*Towards Safe System infrastructure: a compendium of current knowledge'* (AP-R560-18), specifies an aspirational operating speed of 30 km/h where there is the possibility of a collision between a vulnerable road user and a passenger vehicle. This is often referred to as the 'Safe System Speed'.

To support a safer environment for local residents to walk, cycle and commute, TfNSW is working with some Councils to implement safer reduced speed zones of 30 km/h to support the community and improve safety.

As the 40km/h zone is over a considerable area, it is considered that a full reduction to 30km/h is not warranted at this time. A partial reduction in some areas (for example, the main block of Prince Street) would be likely to cause confusion among drivers. Any future change should be subject to a 'Road Safety Audit' and/or a 'Safe System Assessment' for the proposed area.

Some of the signs/lines at the gateway and within the zones are in need of an upgrade or repair. The following is recommended:

1. In Pound Street westbound, move the pavement marking east to align with the '40 Area' sign
2. In Prince Street northbound, end the zone at Bacon Street (or add '40 Area' and 'High Pedestrian Activity' signs and pavement markings in Bacon Street both sides of Prince Street)
3. Consider installing '40 Area' and 'High Pedestrian Activity' signs and pavement markings in all side lanes within the zone
4. Assess the condition of all painted pavement markings at the gateways and within the zones, and repaint as required

5. Add relevant 'End School Zone' signage in Victoria Street westbound
6. If the high pedestrian activity area is to be extended to the river as part of the *'Grafton Waterfront Precinct'* plan, then adjust signage and pavement markings accordingly.

Refer to RMS document *'40 km/h speed limits in high volume pedestrian areas'* for additional guidance.

7.22 Providing Shaded Parking

Existing street trees often provide shade for parked vehicles. Shaded areas are important to address community concerns about hailstorms, hot cars in summer, and protection from the weather. Extra trees and/or artificial covers to provide shade can also increase attractiveness of parking and could be a strategy to increase amenity and utilisation in low use areas.

In some areas, the planting of extra street trees could reduce the number of parking spaces. However, given the good supply of parking spaces in the CBD this is not considered to be a significant concern due to the benefits of shade.

New street tree plantings should be selected to be compatible with parking. For example, no bunya pines or large seed pod varieties, or species with large surface root structures, unless an adequate root/overhang zone or buffer is provided.

7.22.1 Shaded Pathways

It is important to provide sheltered and/or shaded pedestrian friendly walking routes from car parking areas to destinations to encourage drivers to park a little further from the destination, rather than circulate to park directly outside the destination.

8. Action Plan

There are numerous key actions identified in the Parking Management Strategies which should be implemented or investigated to improve the current parking arrangements in the Grafton CBD.

Table 2: Action Plan

Recommendation/Action		Priority to commence planning, design and/or work		
		High (1-2 years)	Medium (3-6 years)	Future (7-10 years+)
1	Council shall review the parking contribution rates in the *'Planning Agreement – Car Parking Deficits'* policy to ensure the contribution rate reflects the costs and benefits to the community and costs to Council of creating additional parking.	✓		
2	Implement a package of measures to slow down traffic, make Prince Street more attractive, encourage outdoor dining and provide for permanent nose-in parking – initially in Prince Street between Fitzroy and Bacon Streets, and along Fitzroy Street between Duke Street and Prince Street. Expansion into other areas subject to community acceptance and future Council funding. Reconfigure some parking areas to suit the 'Prince Street Precinct Plan' and detailed plans developed through additional engagement. This may include such things as parking angle changes, footpath widening, provision of safer pedestrian crossings, provision of 'parklets', more centre-of-road parking, line marking, landscaping, arbors, street trees, etc.	✓		
3	Investigate the opportunities to provide additional centre-of-road parking adjacent to commercial, retail or community uses in streets within a 500m radius of the Prince Street clocktower with a view to compensating for reduction in parking opportunities due to changes to the street network associated with implementation of the Grafton CBD Plan.	✓		
4	Prepare an implementation plan to prioritise provision of centre-of-road parking and other new on-street parking opportunities at specific sites as a result of investigations for this Strategy. This should include providing additional centre-of-road parking in Prince Street (between Bacon Street and railway bridge), and investigate other changes across the CBD.	✓		
5	Convert existing parallel parking to angle parking in Prince Street (in front of Council offices – in conjunction with footpath narrowing – nose-in parking) and in Fitzroy Street (north side, between Prince and Duke Streets – in conjunction with reduction in number of lanes – nose-in parking)	✓		

Recommendation/Action		Priority to commence planning, design and/or work		
		High (1-2 years)	Medium (3-6 years)	Future (7-10 years+)
6	Remove unused deck from in front of former Post Office Hotel (in Victoria Street) and reinstate angle parking.	✓		
7	Council shall investigate suitable sites for additional off-street parking areas (only if additional on-street parking cannot be created elsewhere). These may involve lease arrangements between Council and private landowners, particularly to service busier areas towards the river end of the CBD.			✓
8	Council shall widely promote the Library carpark to encourage greater use by workers. The section against the railway line should be changed to all-day parking, with the remainder being restricted to a 2-4hr limit.	✓		
9	Construct raised thresholds ('Wombat' crossings) and lighting at the 2 pedestrian crossings in Prince Street between Fitzroy Street and Pound Street, and the existing crossing in Prince Street near Bacon Street, along with a proposed new crossing at the Saraton Theatre (subject to further engagement with affected owners and businesses). Where possible, pedestrian crossings should be installed in association with kerb extensions.	✓		
10	Construct raised pavements and varied road surface colours/textures at major intersections, and at gateways to the CBD, as a means of 'arrival' and demarcating the threshold into the precinct, welcoming people into the heart of the CBD and signalling drivers to slow down.		✓	
11	Consider a centre island median treatment in Pound Street between Villiers and Prince Streets to provide an enhanced visual entry treatment to the CBD.		✓	
12	Implement changes generally in accordance with proposed parking restrictions (time limits) as outlined in Section 7.6 and Attachment 4. All changes will be subject to further consultation with affected businesses, NSW Police and Traffic Committee and may vary from those provided in this Strategy.	✓		
13	Council to undertake a community education campaign together with the Chamber of Commerce and relevant businesses/agencies to inform business owners, government agencies and the community of the proposed changes to parking time limits, along with any other relevant findings from this study. For example, best times to come to town to get a parking space (before 10:00am, or afternoon).	✓		
14	Council to continue to enforce parking restrictions within the Grafton CBD area	✓		

Recommendation/Action		Priority to commence planning, design and/or work		
		High (1-2 years)	Medium (3-6 years)	Future (7-10 years+)
15	If future demand warrants, consider introducing paid parking in hot spots			✓
16	A full audit of Parking restriction signs shall be undertaken. Missing signs should be identified and installed; incorrect time limits on signs should be identified and replaced; signage for accessible spaces should be updated and improved.	✓		
17	A new wayfinding signage system should be installed, as outlined in Section 7.10.2. This should include easily identifiable signs for visitors providing a logical progression from the major approaches (Fitzroy Street and Pound Street from the bridges, and Prince Street from the north) to and through the CBD, and onto the main side streets and car parking areas (at the two major shopping centres and the public carpark at the Library). Signage could promote walking times to nearby destinations such as the Grafton Regional Gallery, the Library, Market Square or the waterfront. Wayfinding signage should be provided to direct tourists with caravans and RV's to the proposed new dedicated parking area in Duke Street, behind Market Square.	✓		
18	Council should consider the implementation of a 'Resident Parking Permit Scheme' in areas where there is almost constant parking in front of residential premises. Bacon, Queen, Victoria, and Kemp Streets, and to support 'shop-top housing' in the CBD.			✓
19	Council should engage an accessibility consultant or utilise existing in-house expertise such as the Access Committee, to undertake a full review of accessible parking to determine if existing accessible parking is provided in the best locations, or if additional accessible spaces are needed to meet future demands. Council should also monitor if demand and utilisation increase to determine if the provision of additional accessible spaces are necessary. Any new parking should be provided in accordance with the current Australian Standards. If existing spaces are modified, they should also be brought up to current standards. Additional accessible parking needs to be provided near access ramps to the new waterfront, including at the end of Duke Street.	✓	✓	
20	Investigate the feasibility of providing a northbound additional bus stop in the vicinity of Prince Street, near the railway viaduct, and where practical minimize the loss of on-street car parking spaces. Subject to further engagement		✓	

Recommendation/Action		Priority to commence planning, design and/or work		
		High (1-2 years)	Medium (3-6 years)	Future (7-10 years+)
	with businesses, Busways and TfNSW (the recommended maximum spacing between bus stops is exceeded in Prince Street northbound).			
21	Relocate the NAB bus stop (in Prince Street, near Fitzroy Street) to around the corner in Fitzroy Street and reconfigure the bus routes to only utilise Fitzroy Street, then on to King Street, and an upgraded bus stop in King Street to improve accessibility for public transport users. The NAB stop is a terminus which results in buses sitting and idling between service runs, reducing the amenity of adjacent businesses. If this relocation is not possible, then the stop should be changed to a 'stop-and-go' to minimise bus idle time. The terminus stop should be relocated to a more suitable location.	✓		
22	All bus stops in the CBD should be provided with all-weather shelters and be fully accessible to co-ordinate with the TfNSW improvements in Grafton and the 16 Cities Initiative.	✓		
23	Council, in conjunction with the bus service providers and TfNSW, shall review all existing bus stops in the CBD. Any space surplus to current needs should be converted to car parking wherever practical.	✓		
24	Council, in collaboration with the Taxi service providers, shall review the Taxi zone in Pound Street, at Market Square, to provide a more user-friendly space with appropriately designed and clear waiting areas with shade/shelter and to decrease the footprint of the taxi parking areas. The existing zone provides for approx. 8 parallel spaces, or 12 angle spaces, which appears to be in excess of current needs. The length of taxi zone to be determined taking into account usage rates and accessibility.	✓		
25	Taxi ranks across the CBD should be provided with an all-weather shelter and be fully accessible, with appropriate CPTED design.		✓	
26	Review all existing taxi ranks/zones within the CBD in liaison with Grafton Taxis with a view to enabling conversion of surplus taxi ranks/zones to on-street parking	✓		
27	Provide new pedestrian crossings at – Prince Street at Saraton Theatre/Market Square subject to further engagement with business; Prince Street near Toast Espresso/Commonwealth Bank; Pound Street between		✓	

Recommendation/Action		Priority to commence planning, design and/or work		
		High (1-2 years)	Medium (3-6 years)	Future (7-10 years+)
	Wiseman Way and Prince Street (near existing crossing point); and Victoria Street near Post Office (to cater for increased foot traffic to Waterfront Precinct).			
28	Consider installing pedestrian refuges in Victoria Street between Duke and Queen Streets, and Fitzroy Street west of Prince Street, to allow staged pedestrian crossings and improve safety and accessibility. These refuges can be added or incorporated into other on-street embellishments, eg. centre parking, as appropriate.		✓	
29	Remove the central barrier (fence) in Prince Street between Pound and Fitzroy Streets to improve pedestrian movements and attractiveness of Prince Street.	✓		
30	Install additional cycle racks for 3 to 4 bikes, approx.50m apart in the main retail area (increased density in areas of highest parking demand, e.g., Victoria and Duke Streets). They should be located within 20m of pedestrian access to a destination, with good passive surveillance and lighting (cycle facilities are dealt with in more detail in the 'Prince Street Precinct Plan').	✓		
31	Council shall require the provision of storage for bikes and changing/shower amenities for staff in new developments at DA stage, and work with locally based state government agencies to provide facilities to encourage cycling.		✓	
32	Council to work with TfNSW to prepare and implement a policy on mobility scooter use in the CBD, including parking, if the issue becomes a problem for other users of the footpath.			✓
33	Undertake a review of loading zones and delivery arrangements to support businesses and where identified issues exist, assess whether loading zones can be incorporated into the parking arrangement.			✓
34	Investigate a new area suitable for long vehicle parking, for vehicles >6m in length (caravans and RV's), in the vicinity of supermarkets, open space and amenities. Space shall be created in Duke Street between Pound Street and the railway bridge (possible on both sides of Duke Street at this location). These new long vehicle parking areas should be suitably signposted for the intended use to discourage cars from using the space. Wayfinding signage should also be provided for visitors to locate these spaces. Clear signage to toilets and amenities should also be provided.		✓	

Recommendation/Action		Priority to commence planning, design and/or work		
		High (1-2 years)	Medium (3-6 years)	Future (7-10 years+)
35	Council should investigate other suitable locations for casual Caravan and RV parking to encourage tourists to stay longer in town and to access the visitor centre at the Regional Gallery. (Note the Regional Gallery is outside of the study area.)	✓		
36	Consideration should be given to providing additional electric car charge points in any new off-street parking facilities developed by Council or in private developments requiring more than 20-50% off street car parking spaces. Suitable locations to provide new points would be in the Grafton Shopping World and Food Emporium carparks. These would require the cooperation and support of the centre owners. Council should consider installing additional points under the Library building if demand continues to grow.			✓
37	Council should require a 'Green Travel Plan' be submitted with any new development proposal in the CBD. In addition, Council should work with TfNSW to initiate some sort of incentive scheme for existing businesses to implement green travel plans and encourage staff to use active and public transport wherever this is suitable to their circumstances. Green Travel Plans could include walking, cycling, skateboarding or similar, bus, ride sharing, working from home and other alternative arrangements to take pressure off all day parking in the CBD and to support business.		✓	
38	Upgrade and/or repair signage and line marking at the gateway to and through the 40km/hr high pedestrian activity area, including to provide for safe motorcycle parking.	✓		
39	Review the traffic priority at all intersections within and adjacent to the Grafton CBD to encourage slower through traffic speed along and across Prince Street and enable smoother traffic flow along other streets, such as but not limited to, Queen Street. Implement changes that do not cause unreasonable impact on traffic flow and level of service. This will include investigation of 30km/hr speed limits for the core pedestrian areas of the CBD, through further consultation with TfNSW and the community	✓		
40	Increase street tree plantings for parking shade. New plantings shall be species that are compatible with vehicles and pedestrians, with regard Grafton's variable climate (drought, floods, storms etc.)	✓		
41	Review all 'No stopping' zones within the CBD with a view to enabling conversion of surplus 'No stopping' zones to on-street parking.	✓		

Recommendation/Action		Priority to commence planning, design and/or work		
		High (1-2 years)	Medium (3-6 years)	Future (7-10 years+)
42	Investigate the opportunity to convert Fitzroy Street (between Prince and Villiers Streets) as a single travel lane in each direction to increase opportunities to add street avenue plantings, additional parking, cycle access and a more pleasant entry to the Grafton CBD	✓		

9. Conclusion

The *'Grafton CBD Car Parking Audit and Strategy'* has reviewed the current parking and access arrangements within the CBD. There is currently sufficient parking supply to meet the current and immediate future parking demand of the study area. However, some areas have conflicting demands and require improved parking management. Some areas are not pedestrian or cyclist friendly, and the 'Grafton Precinct Plan', of which this report supports and informs, addresses these issues.

In order to improve the utilisation of the existing parking within the study area, and provide a more customer and pedestrian friendly CBD, a number of actions have been recommended, which are included in the 'Action Plan'. These include incentives to encourage workers and shoppers alike to switch to more active forms of transport – walking, cycling, and public transport.

These strategies and actions will assist Clarence Valley Council to achieve the expected outcomes and provide for better management of current parking, preparedness for increases in future parking demands, and make the CBD a more inviting and friendly place for locals and visitors.

10. Scope of Engagement

This report has been prepared by Ardill Payne & Partners (APP) at the request of Clarence Valley Council to support a draft Precinct Plan for Prince Street (and the main entrance from South Grafton) with a complimentary Car Parking Audit and Strategy and is not to be used for any other purpose or by any other person or corporation.

This report has been prepared from the information provided to us and from other information obtained as a result of enquiries made by us. APP accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

No part of this report may be reproduced, stored or transmitted in any form without the prior consent of APP.

APP declares that it does not have, nor expects to have, a beneficial interest in the subject project.

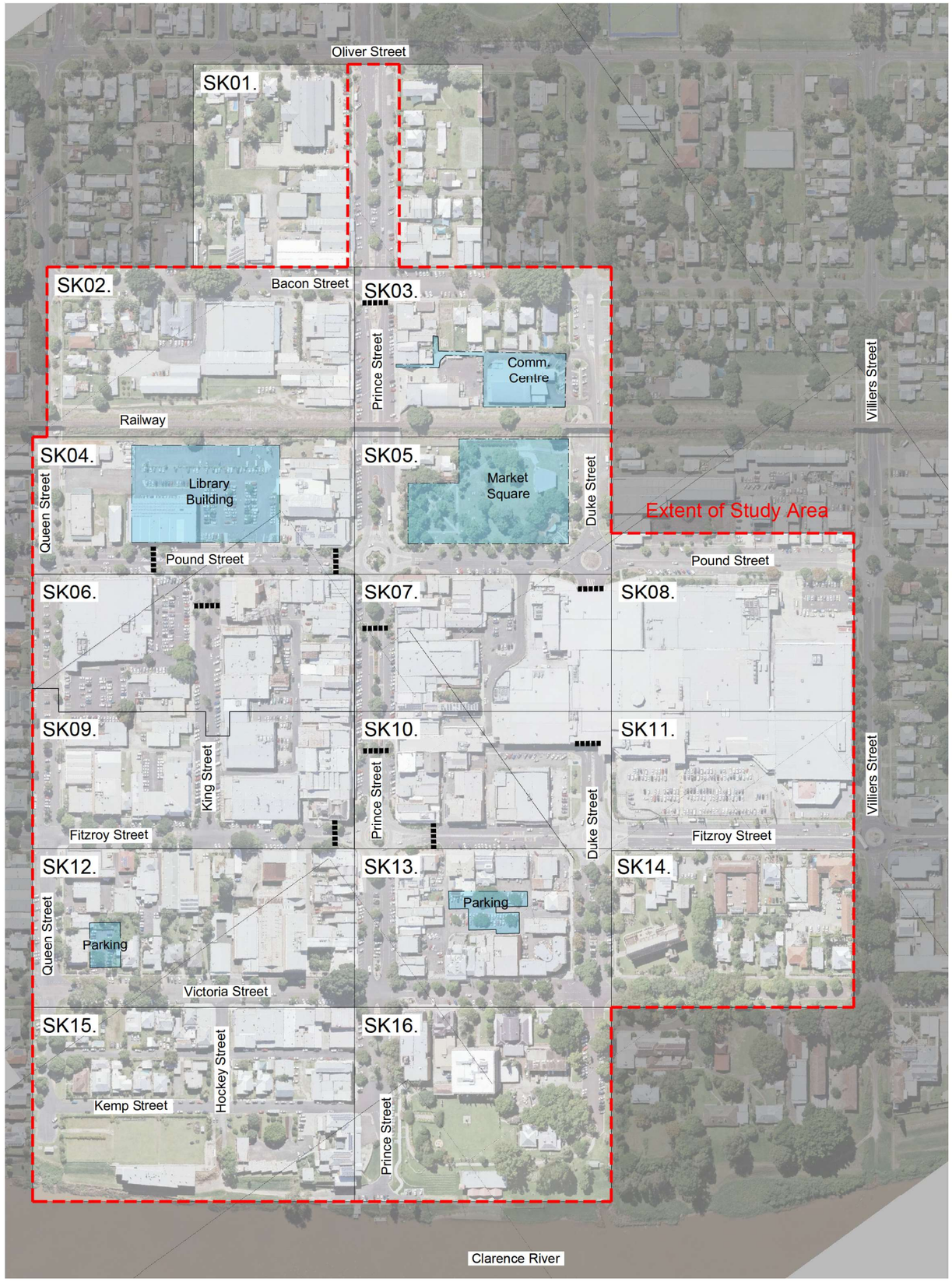
To avoid this advice being used inappropriately it is recommended that you consult with APP before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

11. Attachments

Attachment 1	Parking Availability and Restrictions
Attachment 2	Maps of Peak Utilisation Areas
Attachment 3	Origin-Destination Flow Diagrams
Attachment 4	Existing and Proposed Parking Restrictions

ATTACHMENT 1

Attachment 1: Parking Availability and Restrictions



Grafton Council Carparking Layout

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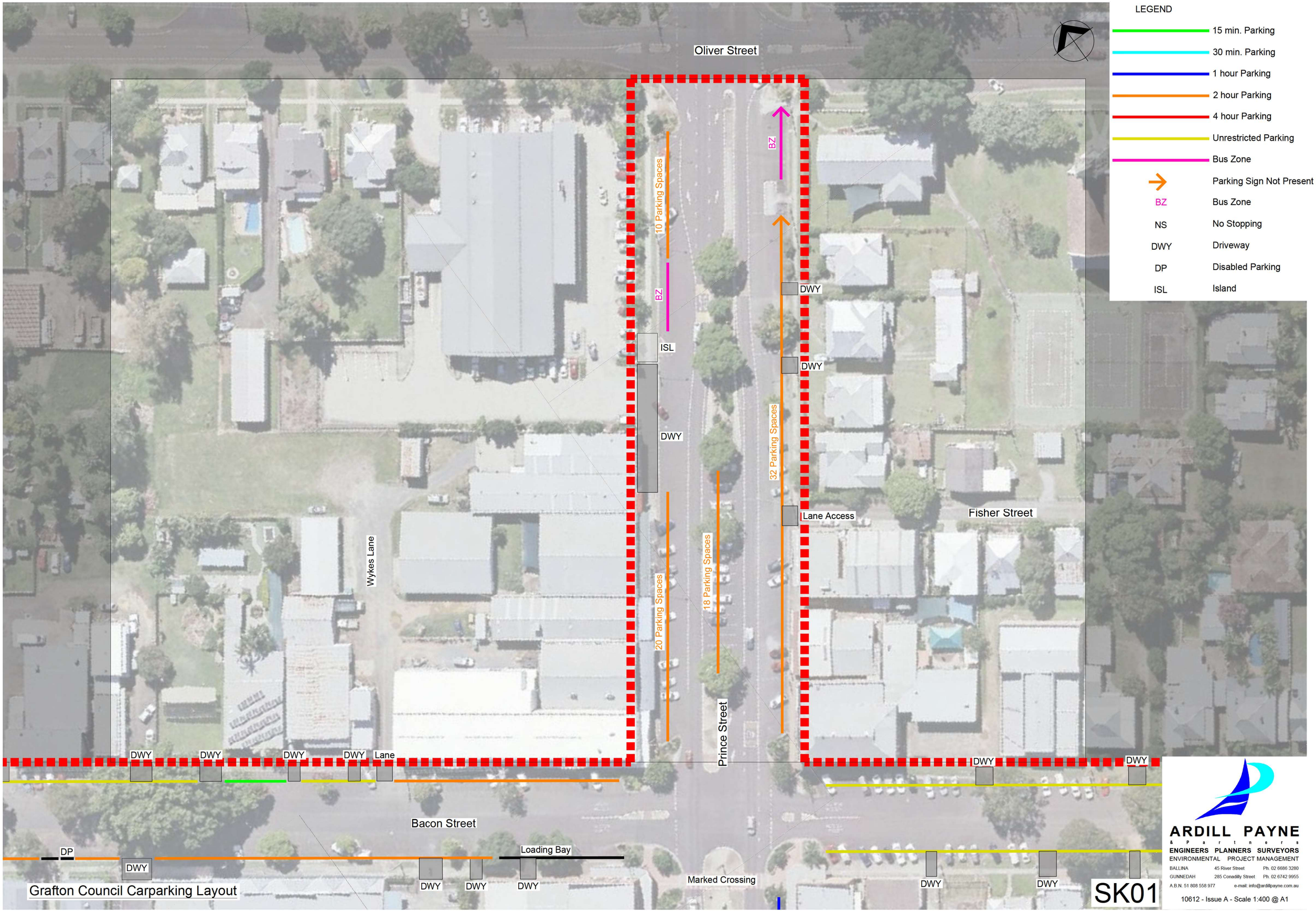

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10612 - Issue A - Scale 1:400 @ A1

LEGEND

- 15 min. Parking
- 30 min. Parking
- 1 hour Parking
- 2 hour Parking
- 4 hour Parking
- Unrestricted Parking
- Bus Zone
- Parking Sign Not Present
- BZ — Bus Zone
- NS — No Stopping
- DWY — Driveway
- DP — Disabled Parking
- ISL — Island

Little Bacon Street

DWY DWY DWY DWY DWY DWY DWY Lane

26 Parking Spaces

3 Parking Spaces

3 Parking Spaces

16 Parking Spaces

Bacon Street

18 Parking Spaces

DP

17 Parking Spaces

Loading Bay

DWY DWY DWY DWY DWY DWY DWY DWY DWY

Emergency Vehicle Parking

Carpark Access

DWY

DWY

13 Parking Spaces

DWY

Unlimited Parking

Queen Street

Marked Crossing

Prince Street

NS

DWY

DWY

NS

DP

DWY

DP

Railway

DWY DWY DWY DWY

Library

Grafton Council Carparking Layout

SK02

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10612 - Issue A - Scale 1:400 @ A1

LEGEND

- 15 min. Parking
- 30 min. Parking
- 1 hour Parking
- 2 hour Parking
- 4 hour Parking
- Unrestricted Parking
- Bus Zone
- Parking Sign Not Present
- BZ — Bus Zone
- NS — No Stopping
- DWY — Driveway
- DP — Disabled Parking
- ISL — Island

Bacon Street

25 Parking Spaces

28 Parking Spaces

Loading Bay

Marked Crossing

15 Parking Spaces

8 Parking Spaces

4 Parking Spaces

Prince Street

NS

12 Parking Spaces

Community Centre

Parking for Community Centre only

9 Parking Spaces

10 Parking Spaces

11 Parking Spaces

Railway

Market Square

Duke Street

BZ

DWY

DP

Grafton Council Carparking Layout

SK03

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10612 - Issue A - Scale 1:400 @ A1

Grafton Council Carparking Layout

SK04

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10612 - Issue A - Scale 1:400 @ A1

Grafton Council Carparking Layout

LEGEND

- 15 min. Parking
- 30 min. Parking
- 1 hour Parking
- 2 hour Parking
- 4 hour Parking
- Unrestricted Parking
- Bus Zone
- Parking Sign Not Present
- BZ — Bus Zone
- NS — No Stopping
- DWY — Driveway
- DP — Disabled Parking
- ISL — Island

Railway

Community Centre

Parking for Community Centre only

Market Square

Prince Street

Duke Street

Little Duke Street

Pound Street

Wiseman Way

Fire station parking

18 Parking Spaces

11 Parking Spaces

12 Parking Spaces

2 Parking Spaces

15 Parking Spaces

Taxi

Marked Crossing

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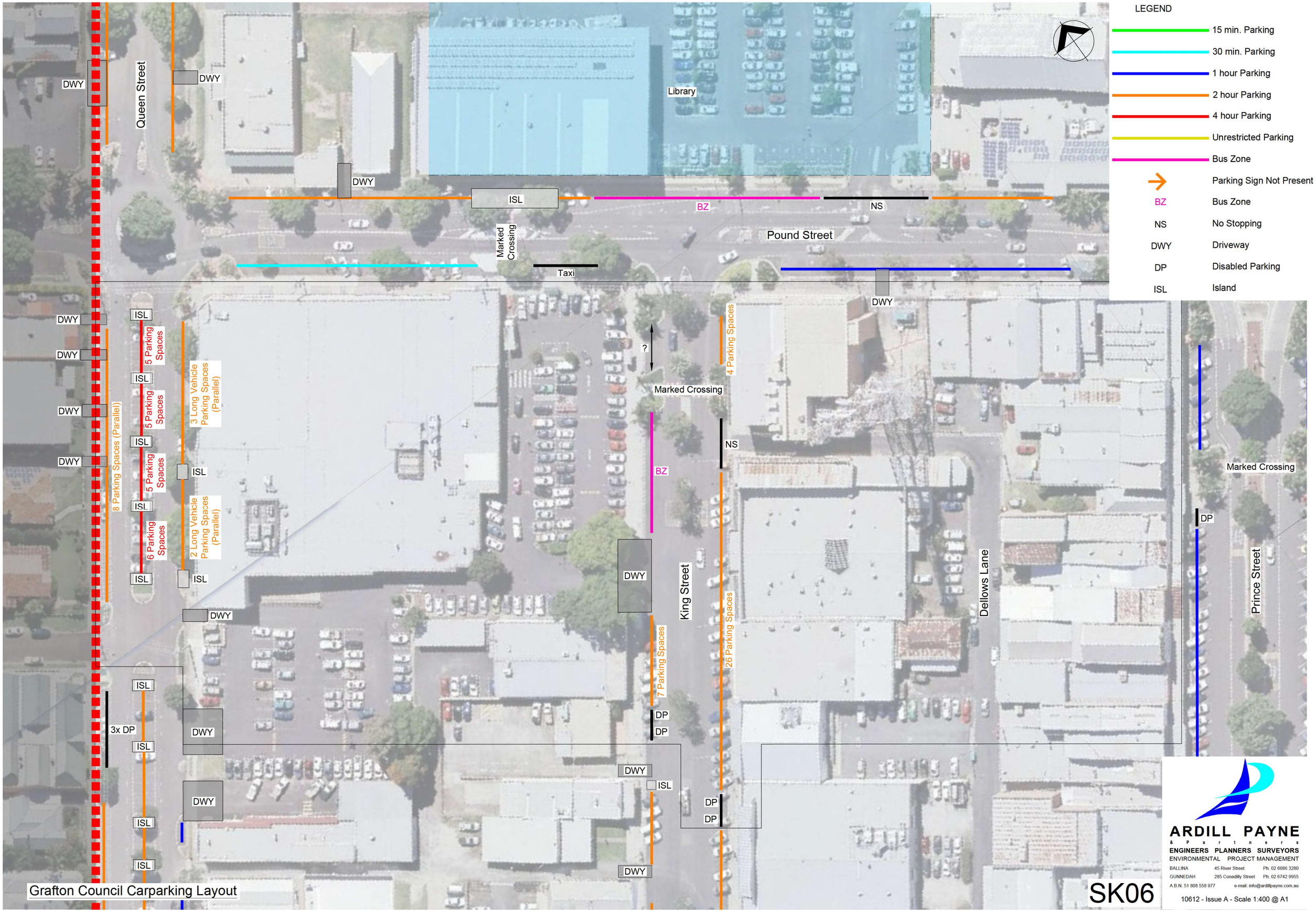
SK05

10612 - Issue A - Scale 1:400 @ A1



Grafton Council Carparking Layout

SK06

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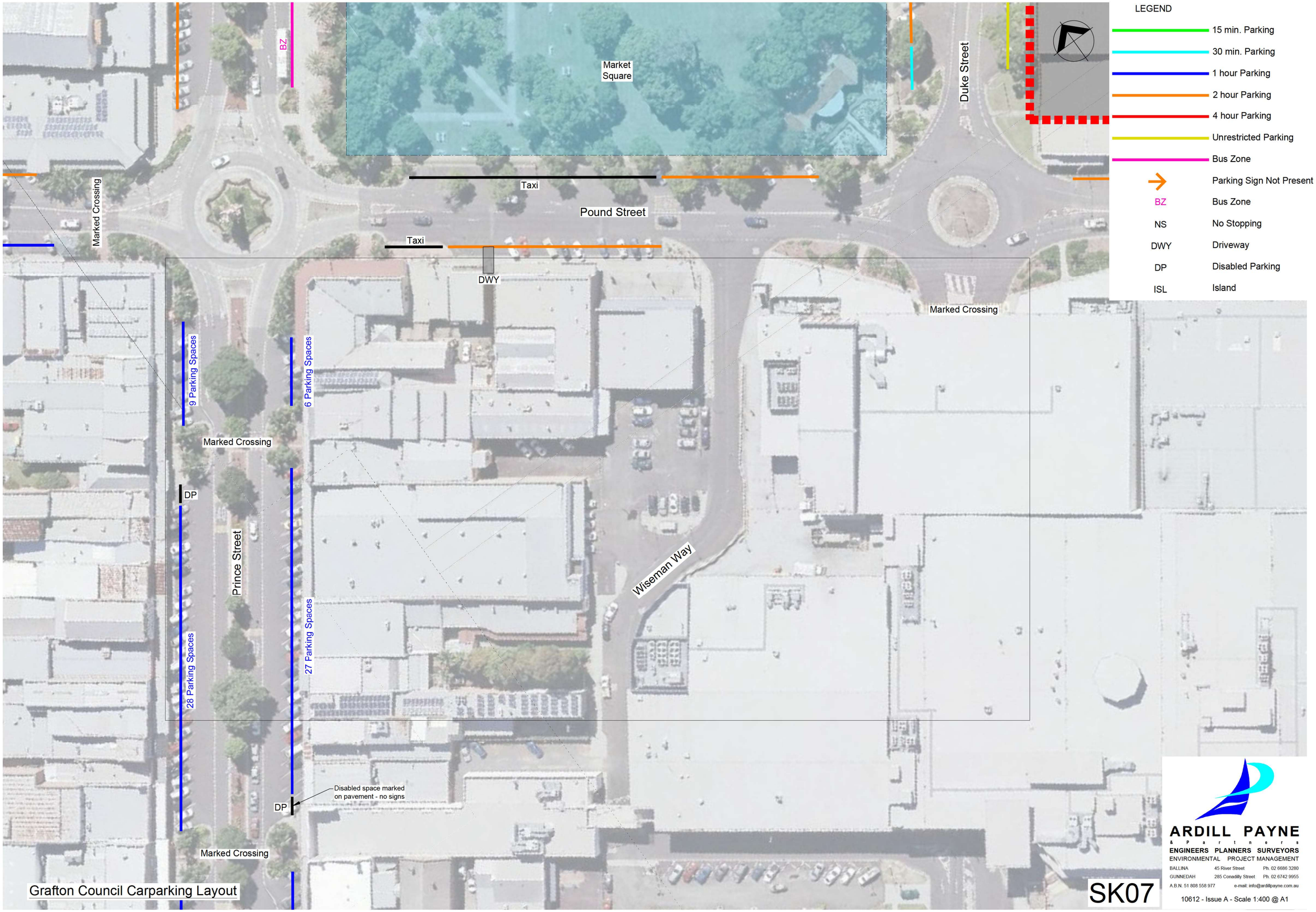
10612 - Issue A - Scale 1:400 @ A1



Grafton Council Carparking Layout

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10612 - Issue A - Scale 1:400 @ A1

SK07

Grafton Council Carparking Layout

SK08

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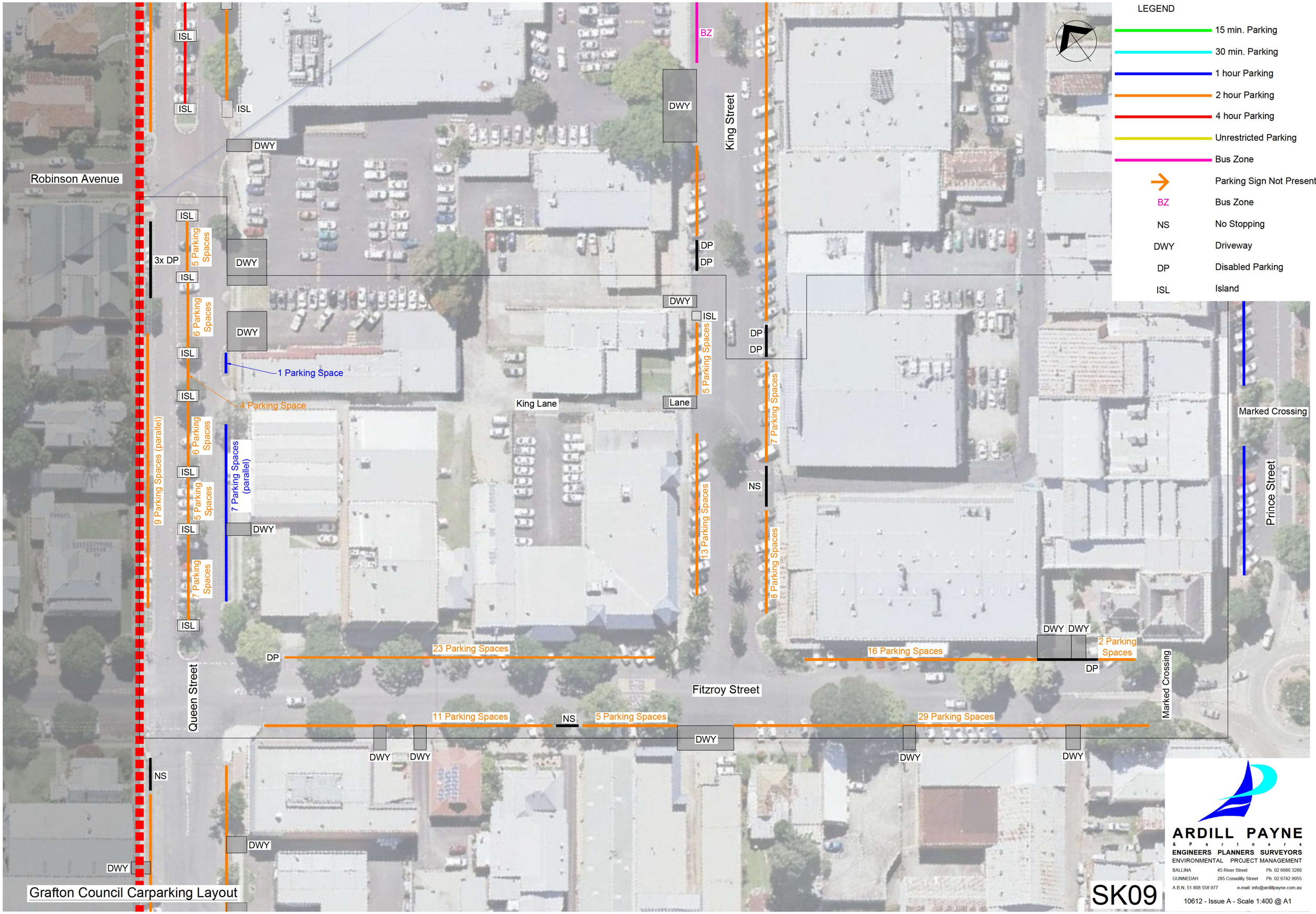
10612 - Issue A - Scale 1:400 @ A1


LEGEND
15 min. Parking
30 min. Parking
1 hour Parking
2 hour Parking
4 hour Parking
Unrestricted Parking
Bus Zone
Parking Sign Not Present
BZ Bus Zone
NS No Stopping
DWY Driveway
DP Disabled Parking
ISL Island
Robinson Avenue
King Street
Queen Street
Fitzroy Street
King Lane
Lane
Prince Street
Marked Crossing
Marked Crossing
ISL
DWY
BZ
DP
NS
3x DP
5 Parking Spaces
6 Parking Spaces
6 Parking Spaces
5 Parking Spaces
7 Parking Spaces
1 Parking Space
4 Parking Space
7 Parking Spaces (parallel)
9 Parking Spaces (parallel)
5 Parking Spaces
7 Parking Spaces
5 Parking Spaces
7 Parking Spaces
13 Parking Spaces
8 Parking Spaces
23 Parking Spaces
16 Parking Spaces
2 Parking Spaces
11 Parking Spaces
5 Parking Spaces
29 Parking Spaces
Grafton Council Carparking Layout
SK09
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10612 - Issue A - Scale 1:400 @ A1

LEGEND

- 15 min. Parking
- 30 min. Parking
- 1 hour Parking
- 2 hour Parking
- 4 hour Parking
- Unrestricted Parking
- Bus Zone
- Parking Sign Not Present
- BZ — Bus Zone
- NS — No Stopping
- DWY — Driveway
- DP — Disabled Parking
- ISL — Island

DP

DP

Disabled space marked on pavement - no signs

Wiseman Way

Marked Crossing

Non Stopping

Marked Crossing

10 Parking Spaces

Prince Street

11 Parking Spaces

Existing Lane

Not used as a Driveway

Duke Street

Existing Roller Door

BZ

9 Parking Spaces (Parallel)

Taxi

BZ

Marked Crossing

Marked Crossing

Fitzroy Street

21 Parking Spaces

BZ

BZ

ISL

Existing Lane

DWY

Unrestricted Parking

Grafton Council Carparking Layout

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SK10

10612 - Issue A - Scale 1:400 @ A1

LEGEND

- 15 min. Parking
- 30 min. Parking
- 1 hour Parking
- 2 hour Parking
- 4 hour Parking
- Unrestricted Parking
- Bus Zone
- Parking Sign Not Present
- BZ — Bus Zone
- NS — No Stopping
- DWY — Driveway
- DP — Disabled Parking
- ISL — Island

Marked Crossing

Duke Street

Villiers Street

2 Parking Spaces (parallel)

Taxi

BZ

DWY

NS

Fitzroy Street

6 Parking Spaces

BZ

NS

DWY

BZ

5 Parking Spaces

DWY

NS

DWY

DWY

DWY

Grafton Council Carparking Layout

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SK11

10612 - Issue A - Scale 1:400 @ A1

Grafton Council Carparking Layout

LEGEND

- 15 min. Parking
- 30 min. Parking
- 1 hour Parking
- 2 hour Parking
- 4 hour Parking
- Unrestricted Parking
- Bus Zone
- Parking Sign Not Present
- BZ — Bus Zone
- NS — No Stopping
- DWY — Driveway
- DP — Disabled Parking
- ISL — Island

Queen Street
King Street
Fitzroy Street
Victoria Street
Hockey Street
Prince Street
Marked Crossing
Unrestricted Council Carpark 23 Spaces
21 Parking Spaces
16 Parking Spaces
7 Parking Spaces
13 Parking Spaces
8 Parking Spaces
15 Parking Spaces

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SK12

10612 - Issue A - Scale 1:400 @ A1

Grafton Council Carparking Layout

LEGEND

- 15 min. Parking
- 30 min. Parking
- 1 hour Parking
- 2 hour Parking
- 4 hour Parking
- Unrestricted Parking
- Bus Zone
- Parking Sign Not Present
- BZ — Bus Zone
- NS — No Stopping
- DWY — Driveway
- DP — Disabled Parking
- ISL — Island

Prince Street
Existing Lane
Not used as a Driveway
Marked Crossing
Existing Roller Door
BZ
Fitzroy Street
Duke Street
NS
DWY
BZ
ISL
6 Parking Spaces
3 Parking Spaces
9 Parking Spaces
16 Parking Spaces
No Signs in Existing Lane
Unrestricted Carpark
DWY
5 Parking Spaces
8 Parking Spaces
DP
17 Parking Spaces
4 Parking Spaces
ISL
7 Parking Spaces
5 Parking Spaces
4 Parking Spaces
DWY
3 Parking Spaces
9 Parking Spaces
4 Parking Spaces
7 Parking Spaces
BZ/ Wedding/ Funerals Only
3 Parking Spaces
Disabled space marked on pavement (faded) - no signs
DP
ISL
DWY
Lane
DECK
DP
4 Parking Spaces
16 Parking Spaces
Victoria Street
NS
6 Parking Spaces
ISL
DP
DWY
11 Parking Spaces
DP
4 Parking Spaces
NS
NS
DWY

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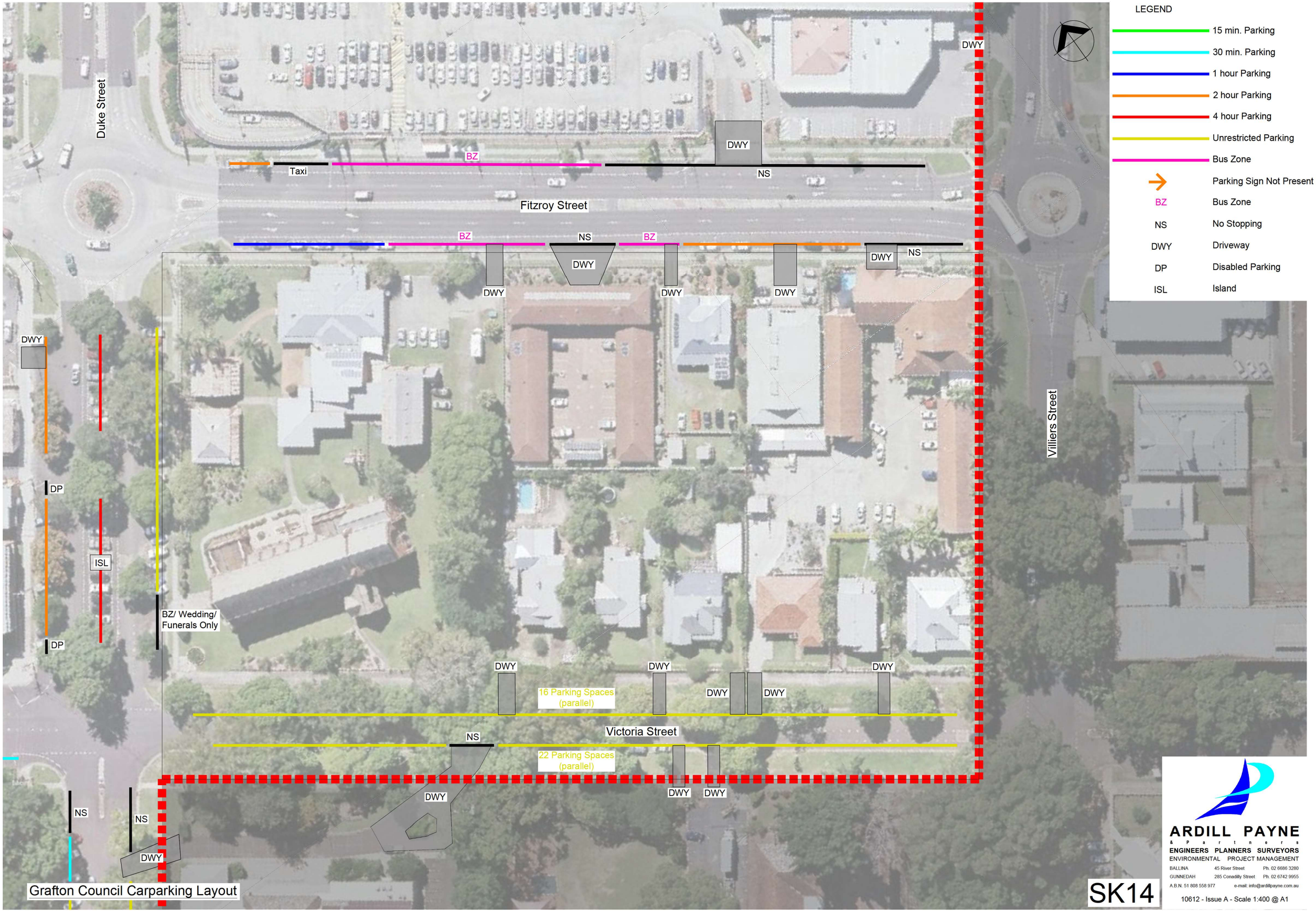
SK13

10612 - Issue A - Scale 1:400 @ A1



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SK14

10612 - Issue A - Scale 1:400 @ A1

Grafton Council Carparking Layout

SK15

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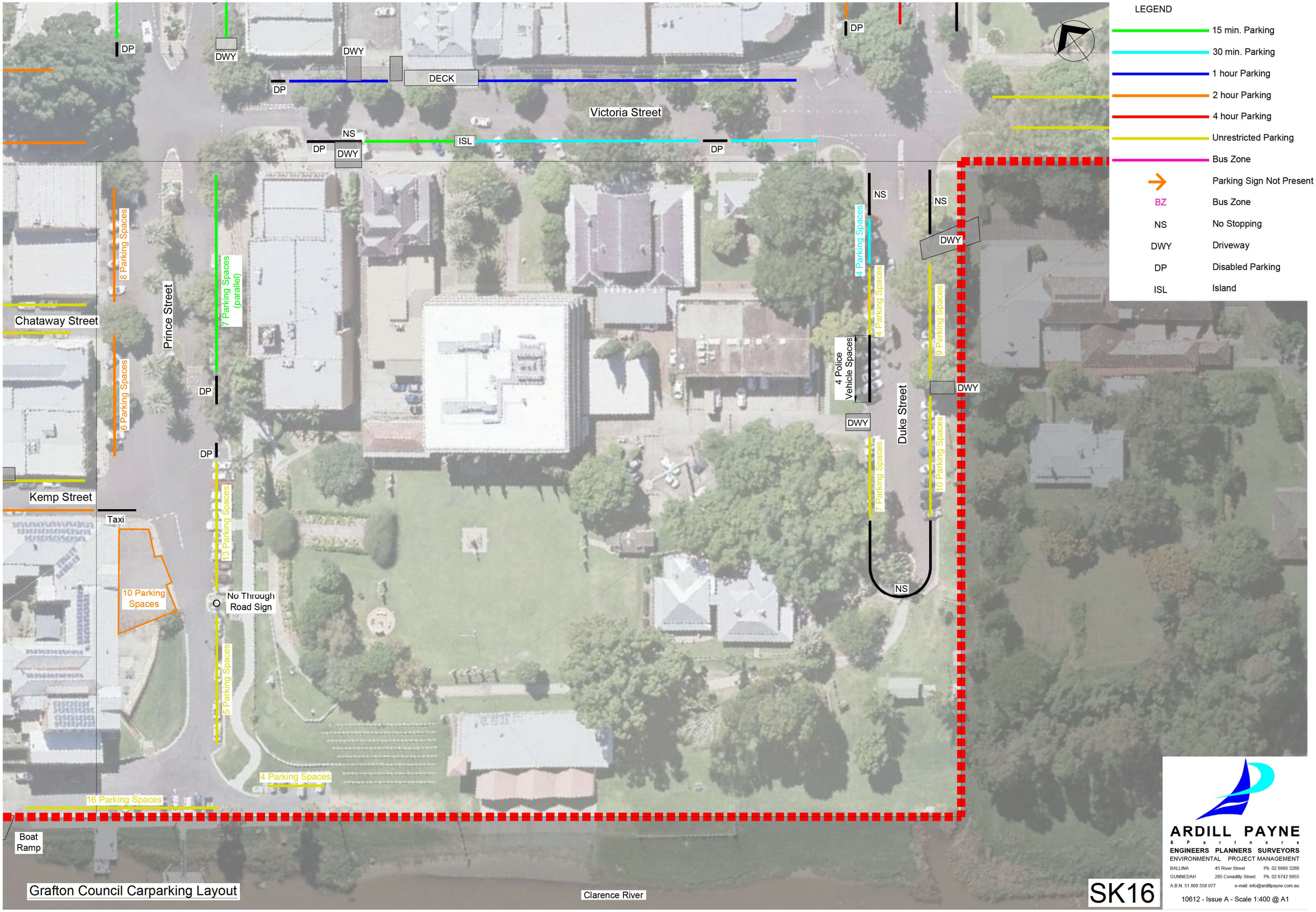
10612 - Issue A - Scale 1:400 @ A1



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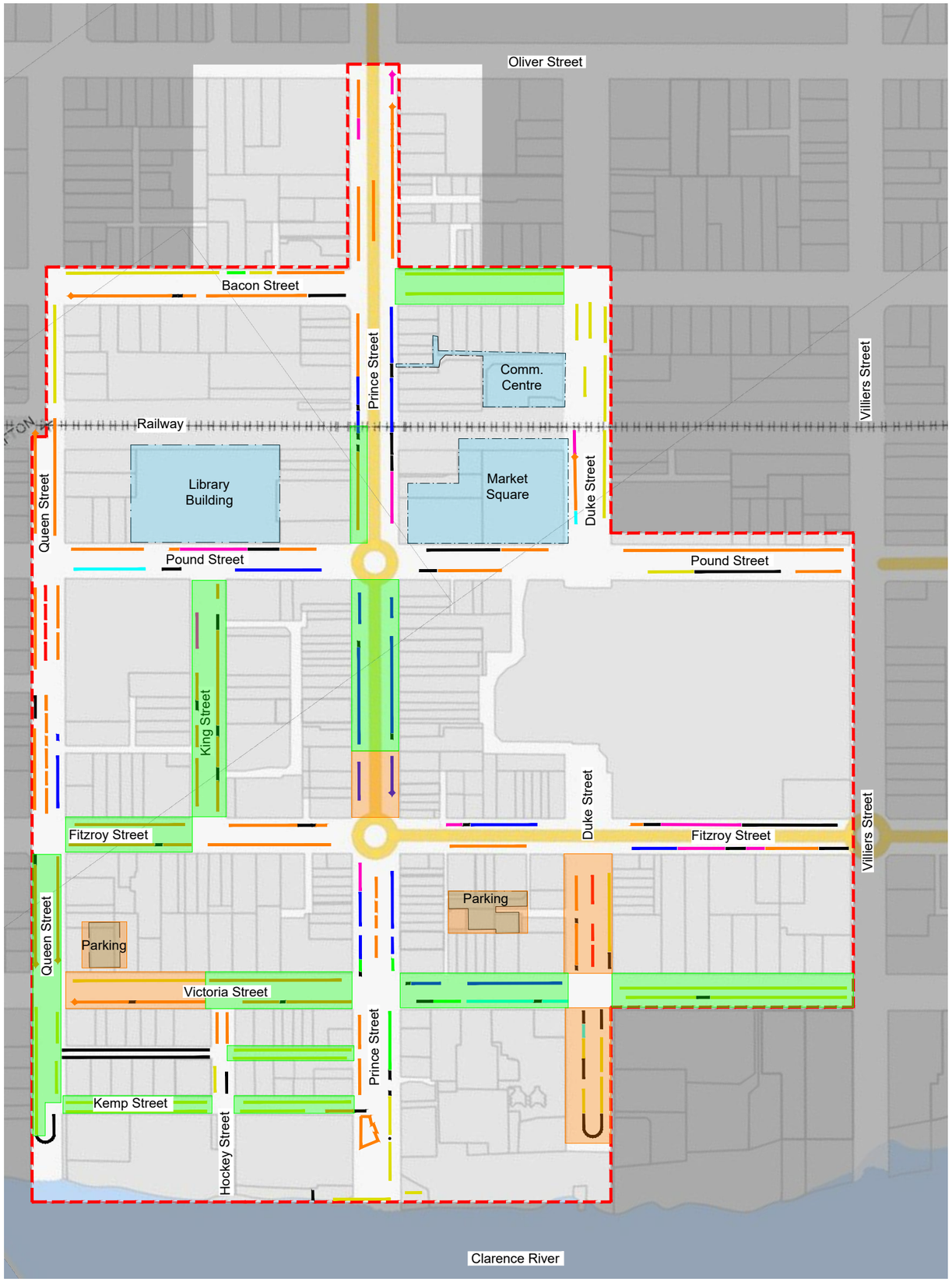
SK16

10612 - Issue A - Scale 1:400 @ A1

ATTACHMENT 2

Attachment 2: Maps of Peak Utilisation Areas



LEGEND

- 15 min. Parking
- 30 min. Parking
- 1 hour Parking
- 2 hour Parking
- 4 hour Parking
- Unrestricted Parking
- Bus Zone

HOT SPOTS (Weekdays)

- Utilisation rate regularly greater than 90%
- Regularly greater than 70%

Peak Utilisation Areas (weekdays)
Grafton Council Carparking Layout

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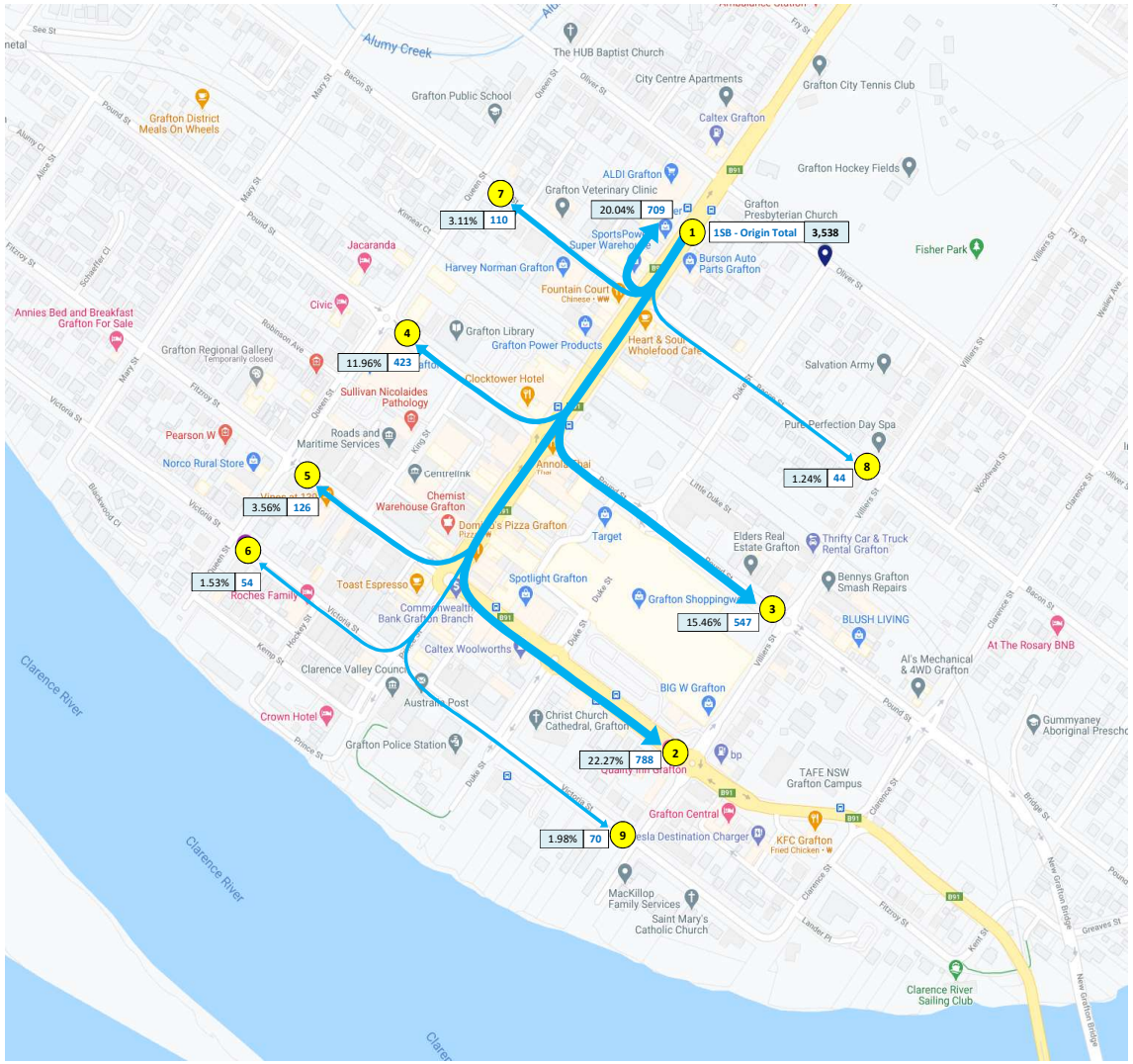
10612 - SK18 - Issue A - Scale 1:2000 @ A1

ATTACHMENT 3

Attachment 3: Origin-Destination Flow Diagrams

Job : Grafton OD Survey
Description : Origin - Destination Survey
Day/Date : Thu, 4th Feb 2021
Time Period : 6:00 - 18:00 (12hrs)

MATRIX
Traffic and Transport Data

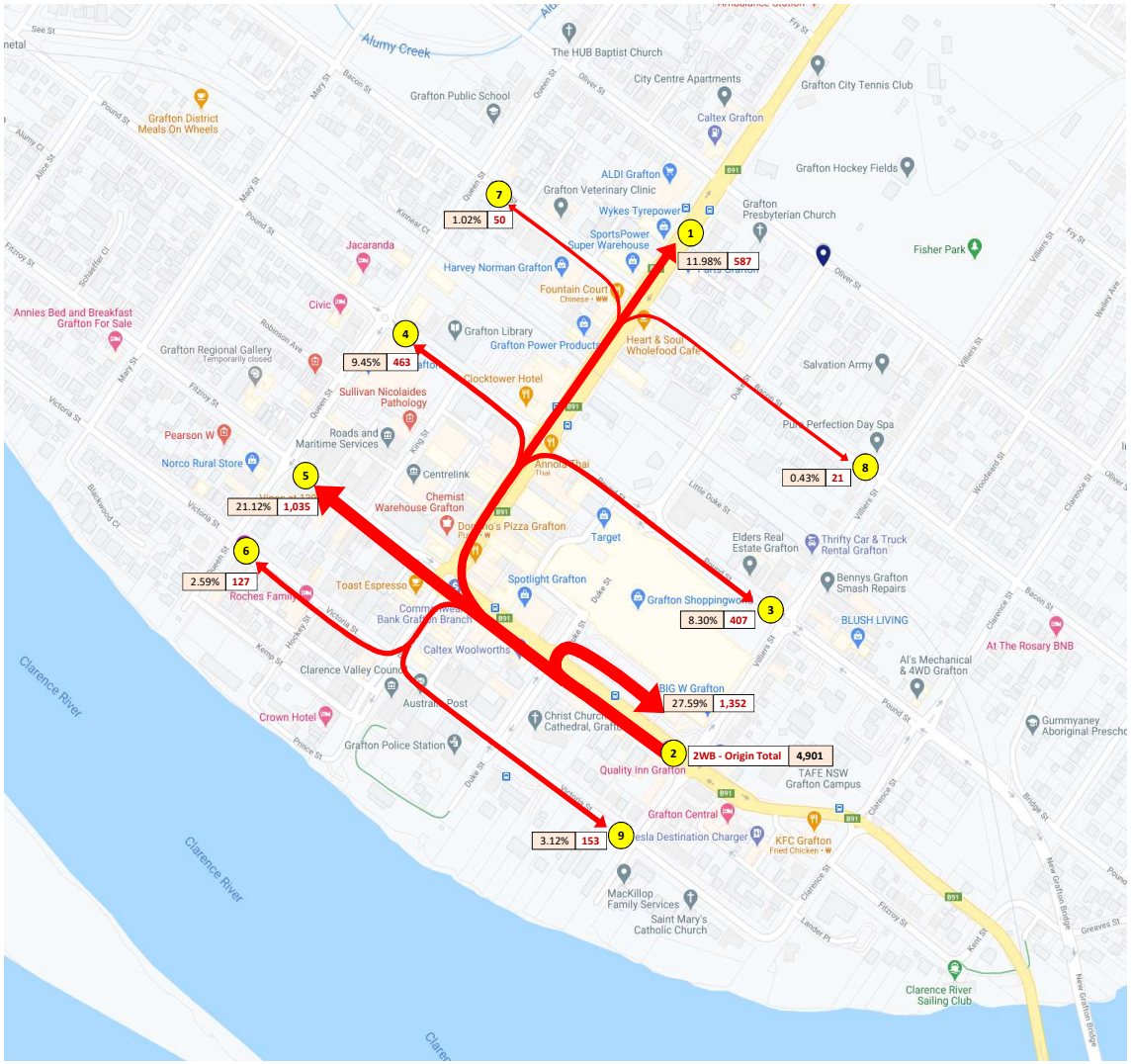


1,500 vehicles over
1,001-1,500 vehicles
501-1,000 vehicles
101-500 vehicles
1-100 vehicles

Site 1S
Site 2W
Site 3W
Site 4E
Site 5E
Site 6E
Site 7E
Site 8W
Site 9W

Job : Grafton OD Survey
Description : Origin - Destination Survey
Day/Date : Thu, 4th Feb 2021
Time Period : 6:00 - 18:00 (12hrs)

MATRIX
Traffic and Transport Data

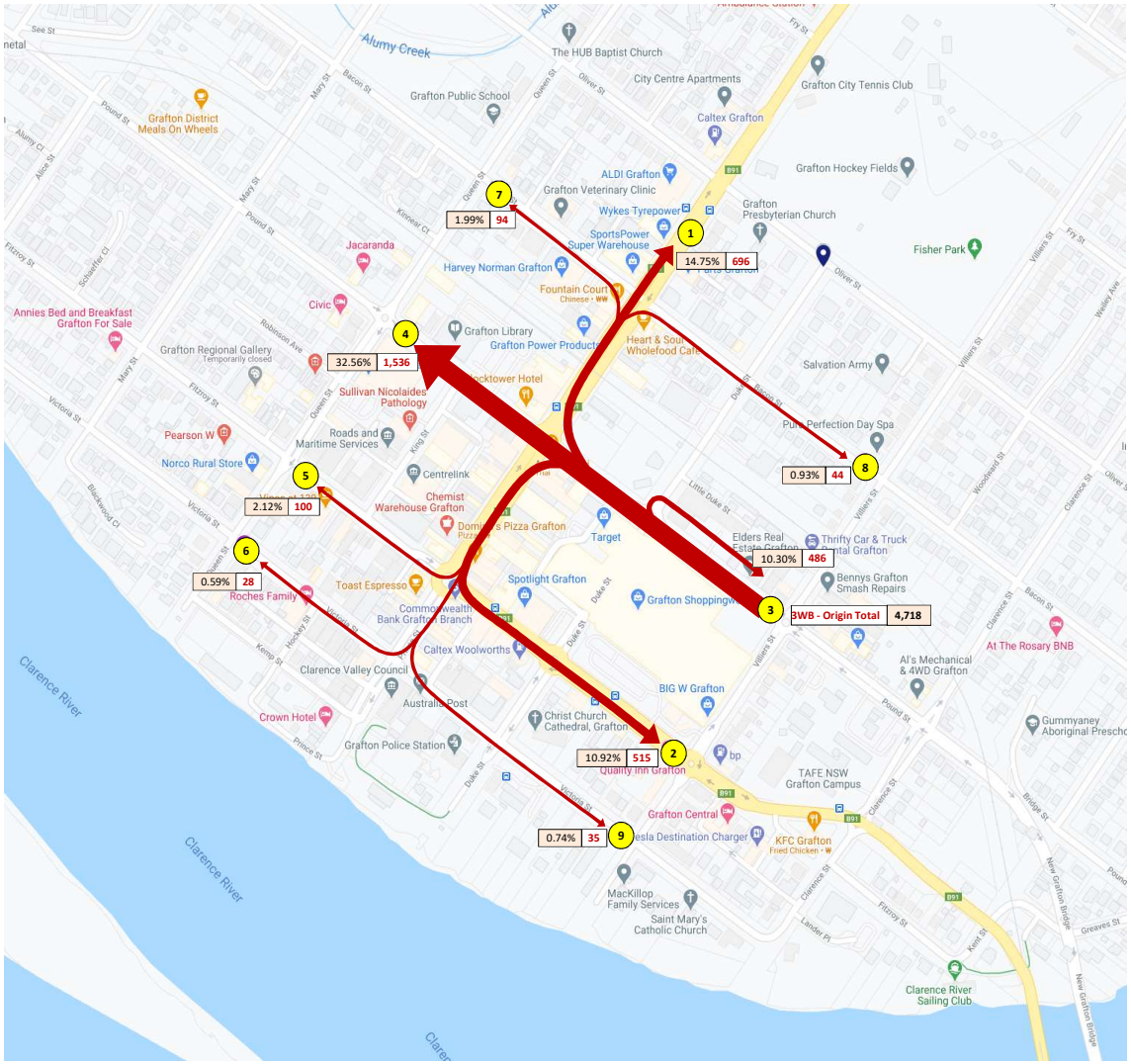


1,500 vehicles over
1,001-1,500 vehicles
501-1,000 vehicles
101-500 vehicles
1-100 vehicles

Site 1S
Site 2W
Site 3W
Site 4E
Site 5E
Site 6E
Site 7E
Site 8W
Site 9W

Job : Grafton OD Survey
Description : Origin - Destination Survey
Day/Date : Thu, 4th Feb 2021
Time Period : 6:00 - 18:00 (12hrs)

MATRIX
Traffic and Transport Data

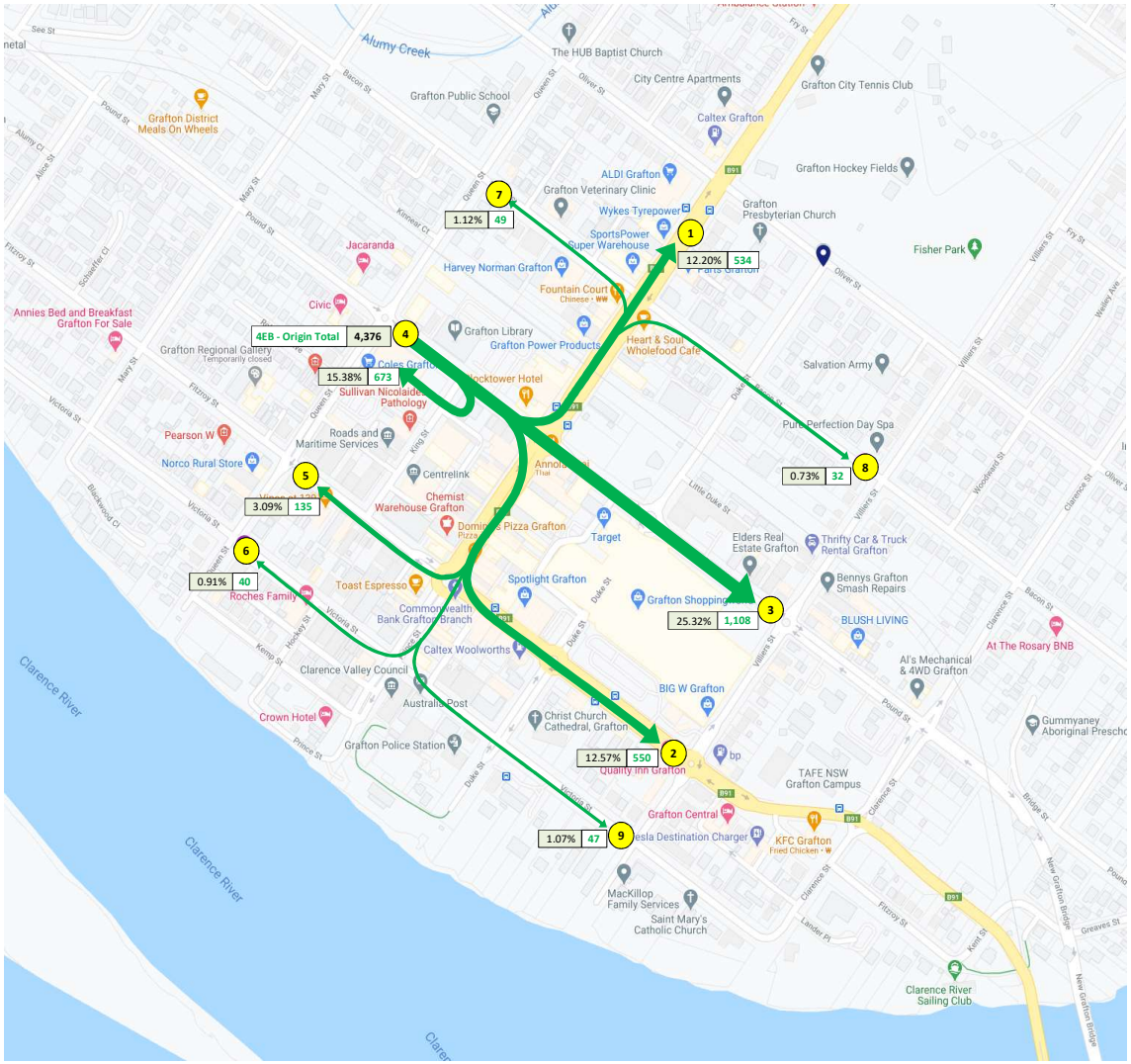


1,500 vehicles over
1,001-1,500 vehicles
501-1,000 vehicles
101-500 vehicles
1-100 vehicles

Site 1S
Site 2W
Site 3W
Site 4E
Site 5E
Site 6E
Site 7E
Site 8W
Site 9W

Job : Grafton OD Survey
Description : Origin - Destination Survey
Day/Date : Thu, 4th Feb 2021
Time Period : 6:00 - 18:00 (12hrs)

MATRIX
Traffic and Transport Data

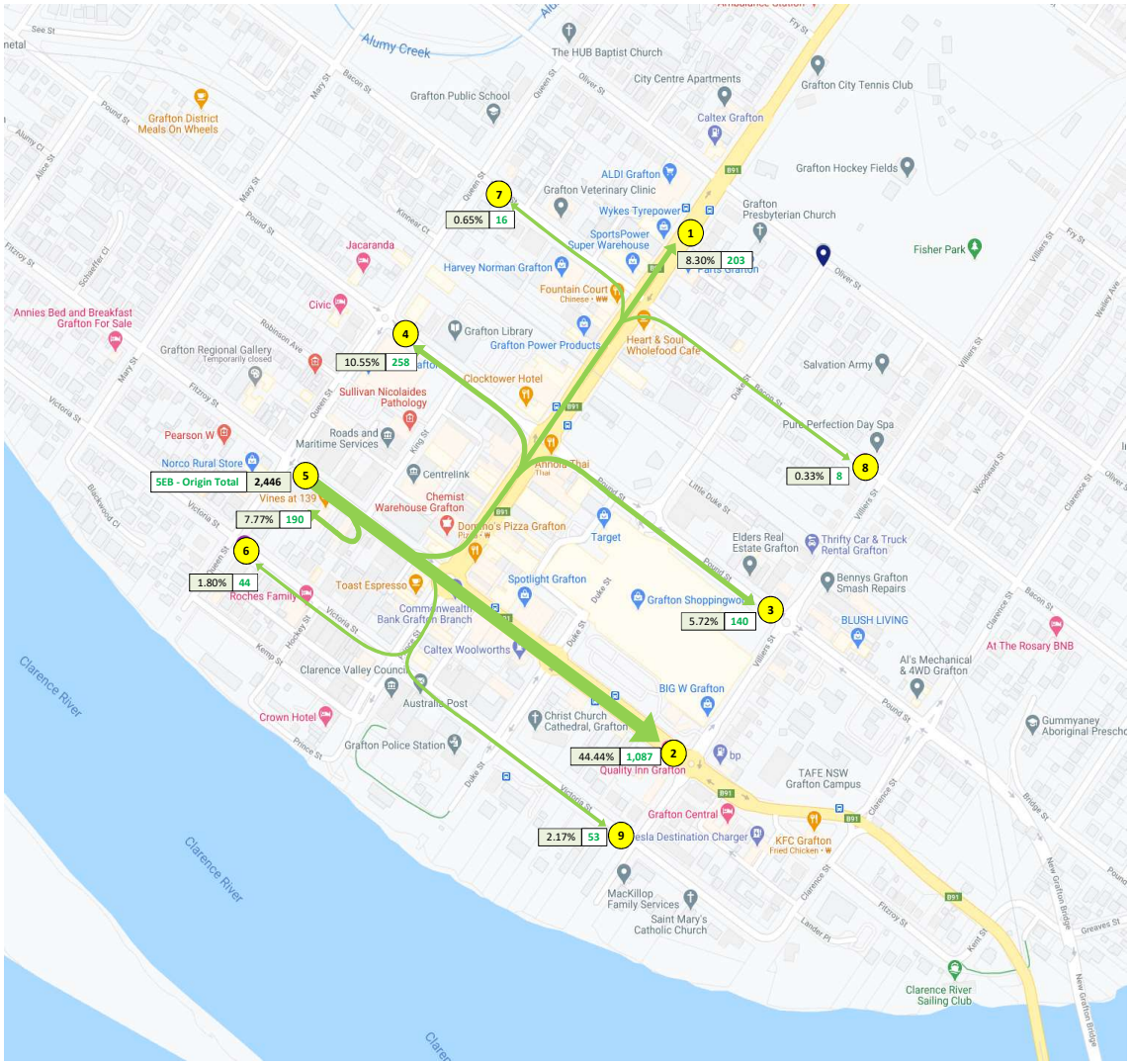


1,500 vehicles over
1,001-1,500 vehicles
501-1,000 vehicles
101-500 vehicles
1-100 vehicles

Site 1S
Site 2W
Site 3W
Site 4E
Site 5E
Site 6E
Site 7E
Site 8W
Site 9W

Job : Grafton OD Survey
Description : Origin - Destination Survey
Day/Date : Thu, 4th Feb 2021
Time Period : 6:00 - 18:00 (12hrs)

MATRIX
Traffic and Transport Data

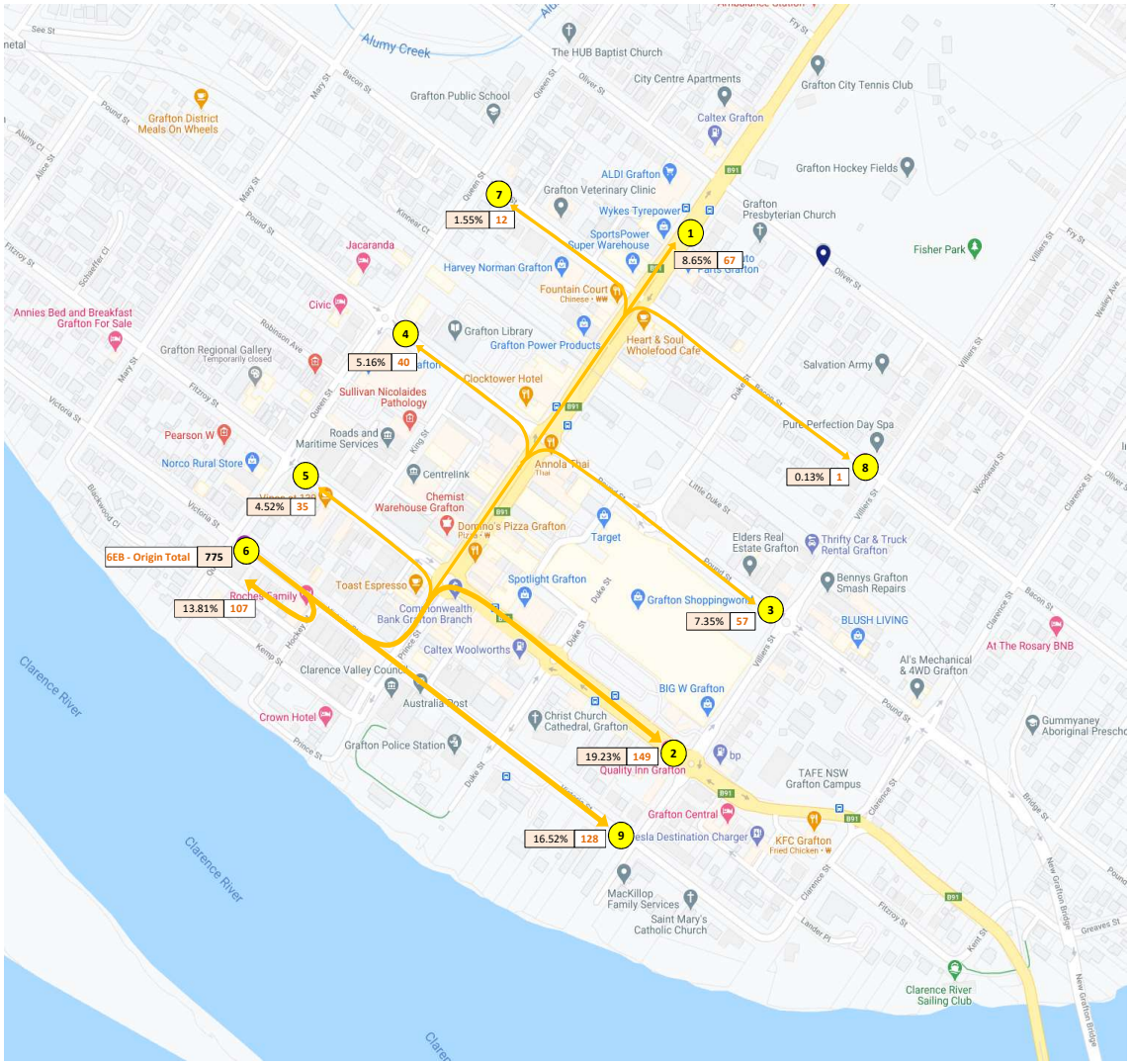


1,500 vehicles over
1,001-1,500 vehicles
501-1,000 vehicles
101-500 vehicles
1-100 vehicles

Site 1S
Site 2W
Site 3W
Site 4E
Site 5E
Site 6E
Site 7E
Site 8W
Site 9W

Job : Grafton OD Survey
Description : Origin - Destination Survey
Day/Date : Thu, 4th Feb 2021
Time Period : 6:00 - 18:00 (12hrs)

MATRIX
Traffic and Transport Data

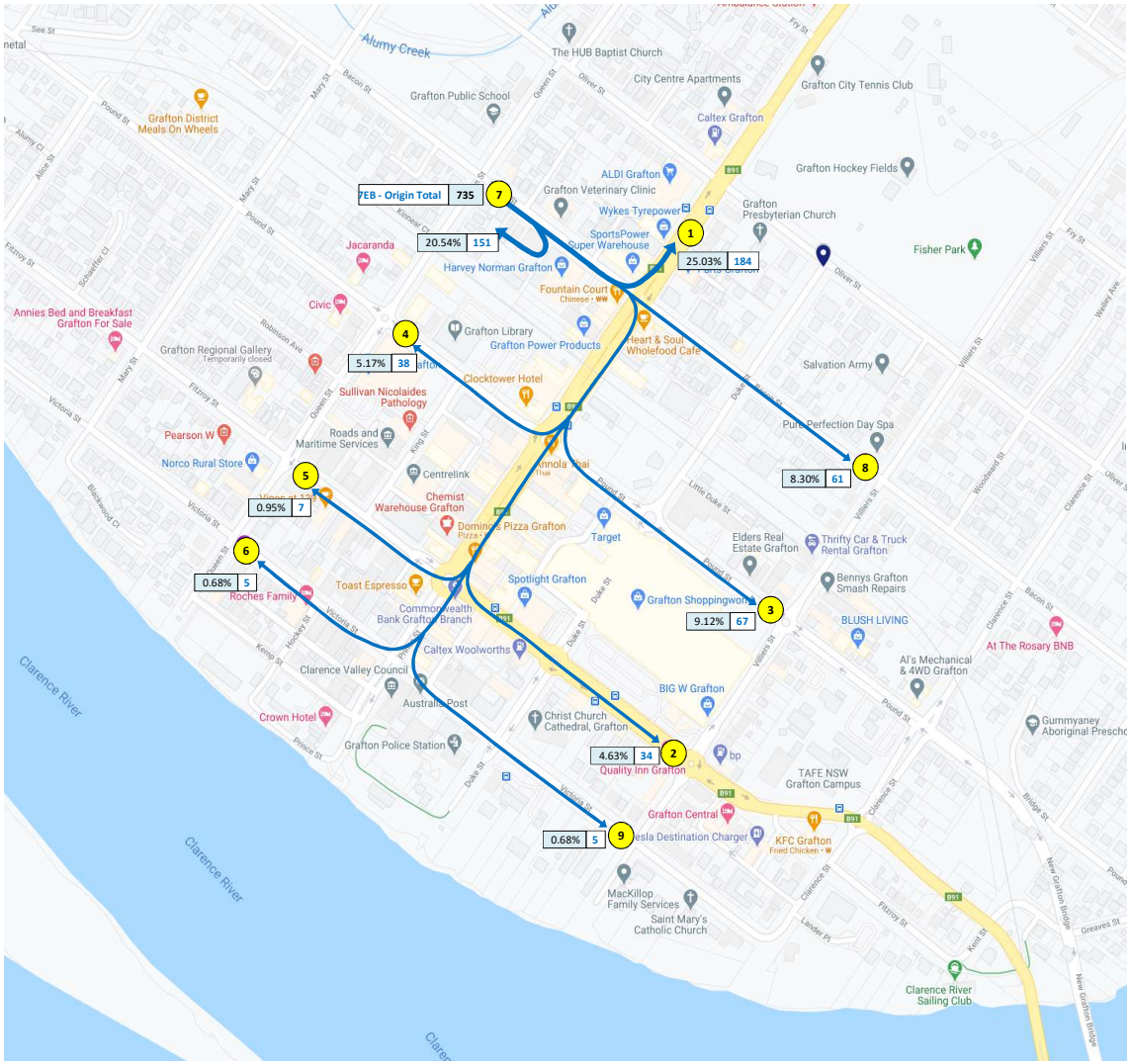


1,500 vehicles over
1,001-1,500 vehicles
501-1,000 vehicles
101-500 vehicles
1-100 vehicles

Site 1S
Site 2W
Site 3W
Site 4E
Site 5E
Site 6E
Site 7E
Site 8W
Site 9W

Job : Grafton OD Survey
Description : Origin - Destination Survey
Day/Date : Thu, 4th Feb 2021
Time Period : 6:00 - 18:00 (12hrs)

MATRIX
Traffic and Transport Data

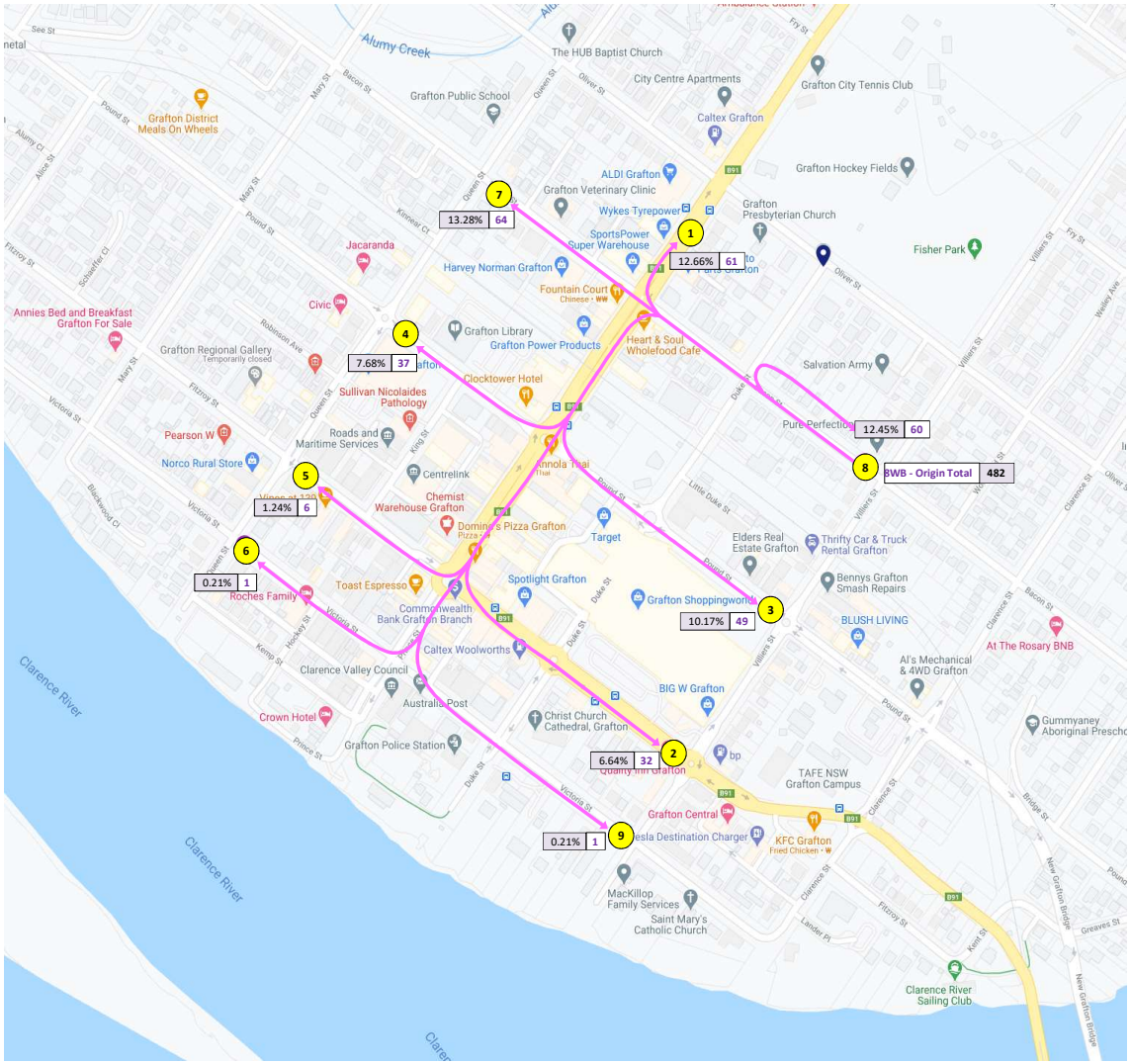


1,500 vehicles over
1,001-1,500 vehicles
501-1,000 vehicles
101-500 vehicles
1-100 vehicles

Site 1S
Site 2W
Site 3W
Site 4E
Site 5E
Site 6E
Site 7E
Site 8W
Site 9W

Job : Grafton OD Survey
Description : Origin - Destination Survey
Day/Date : Thu, 4th Feb 2021
Time Period : 6:00 - 18:00 (12hrs)

MATRIX
Traffic and Transport Data

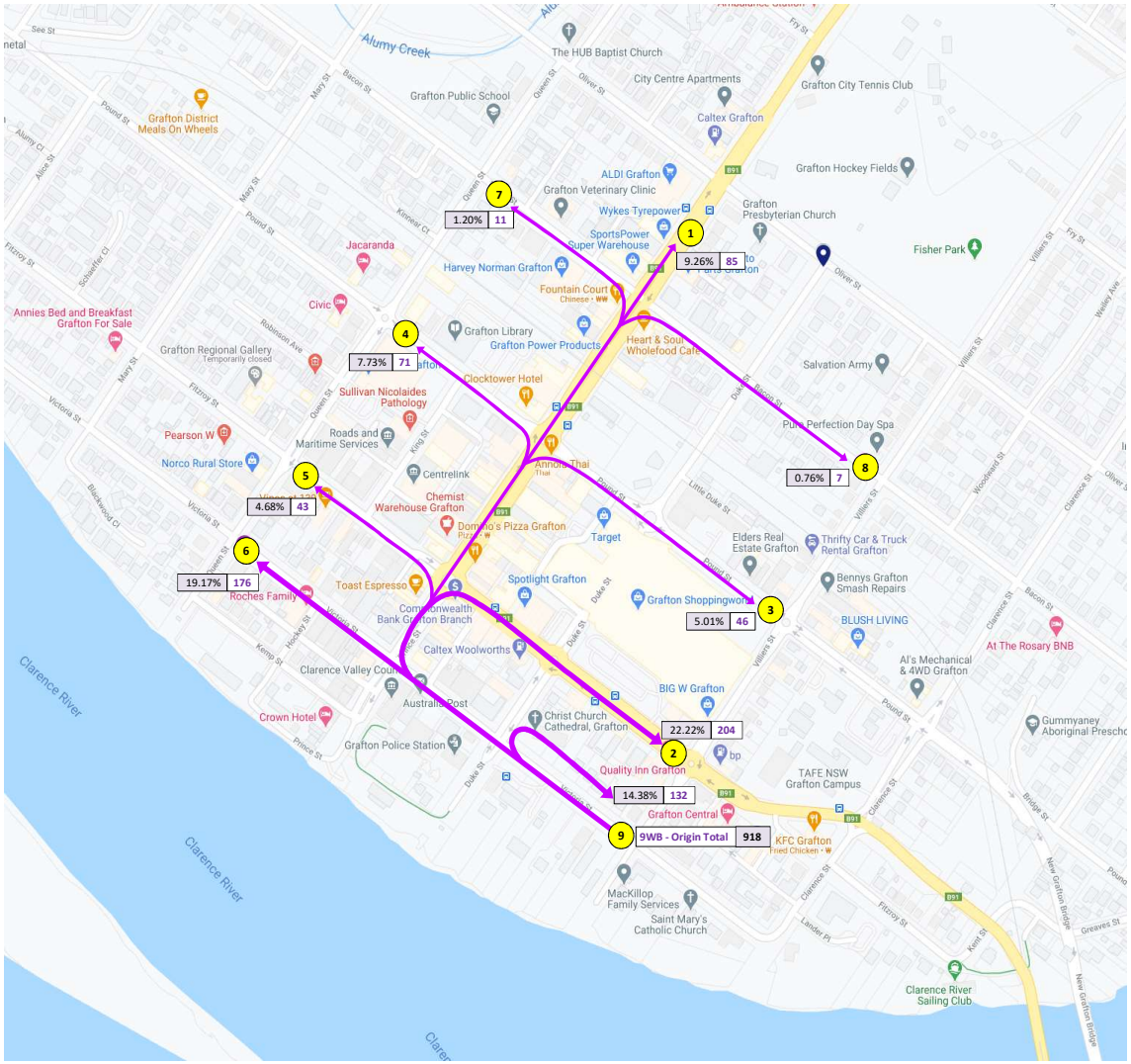


1,500 vehicles over
1,001-1,500 vehicles
501-1,000 vehicles
101-500 vehicles
1-100 vehicles

Site 1S
Site 2W
Site 3W
Site 4E
Site 5E
Site 6E
Site 7E
Site 8W
Site 9W

Job : Grafton OD Survey
Description : Origin - Destination Survey
Day/Date : Thu, 4th Feb 2021
Time Period : 6:00 - 18:00 (12hrs)

MATRIX
Traffic and Transport Data

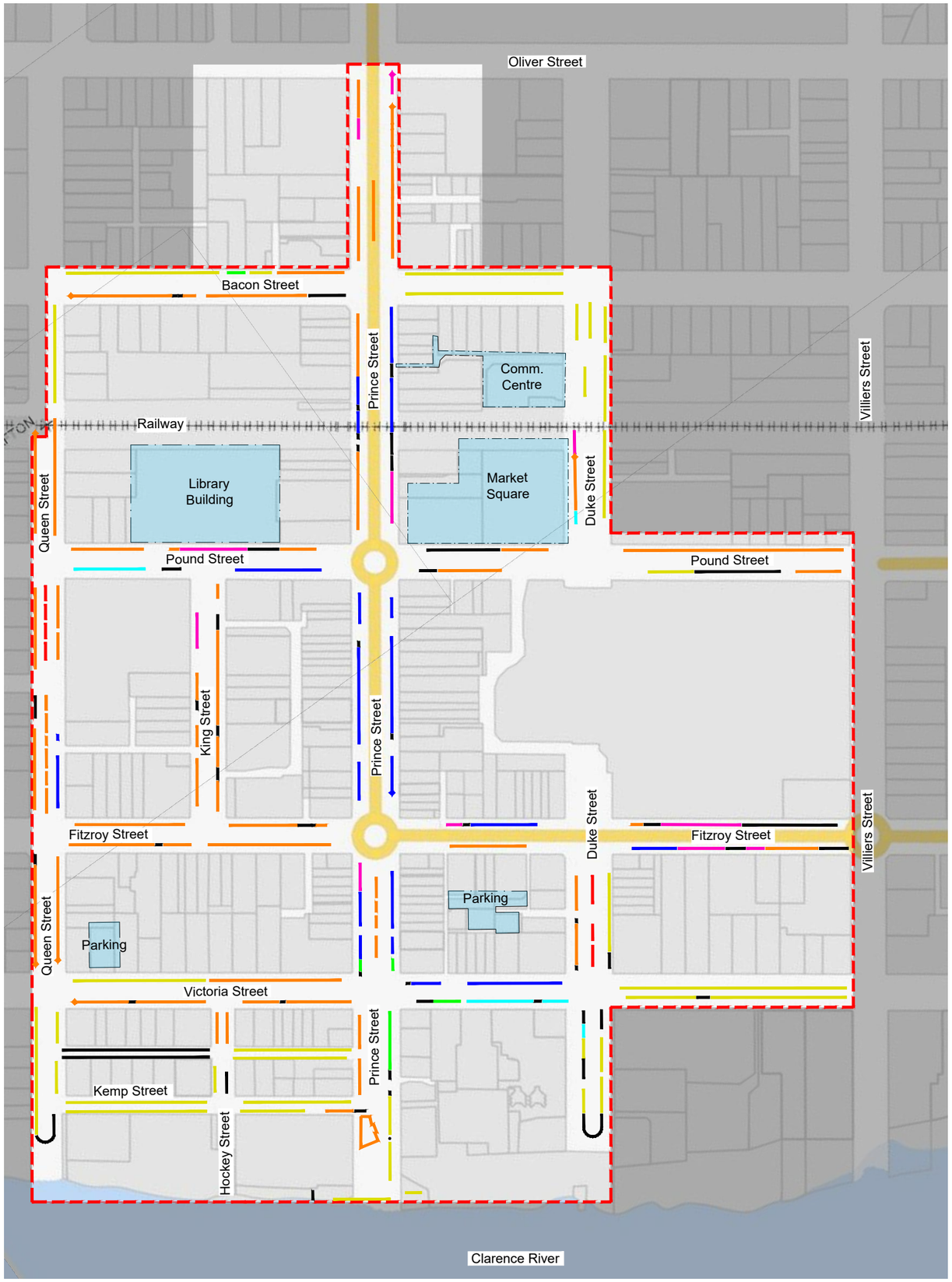


1,500 vehicles over
1,001-1,500 vehicles
501-1,000 vehicles
101-500 vehicles
1-100 vehicles

Site 1S
Site 2W
Site 3W
Site 4E
Site 5E
Site 6E
Site 7E
Site 8W
Site 9W

ATTACHMENT 4

Attachment 4: Existing and Proposed Parking Restrictions



LEGEND

- 15 min. Parking
- 30 min. Parking
- 1 hour Parking
- 2 hour Parking
- 4 hour Parking
- Unrestricted Parking
- Bus Zone

Grafton Council Carparking Layout

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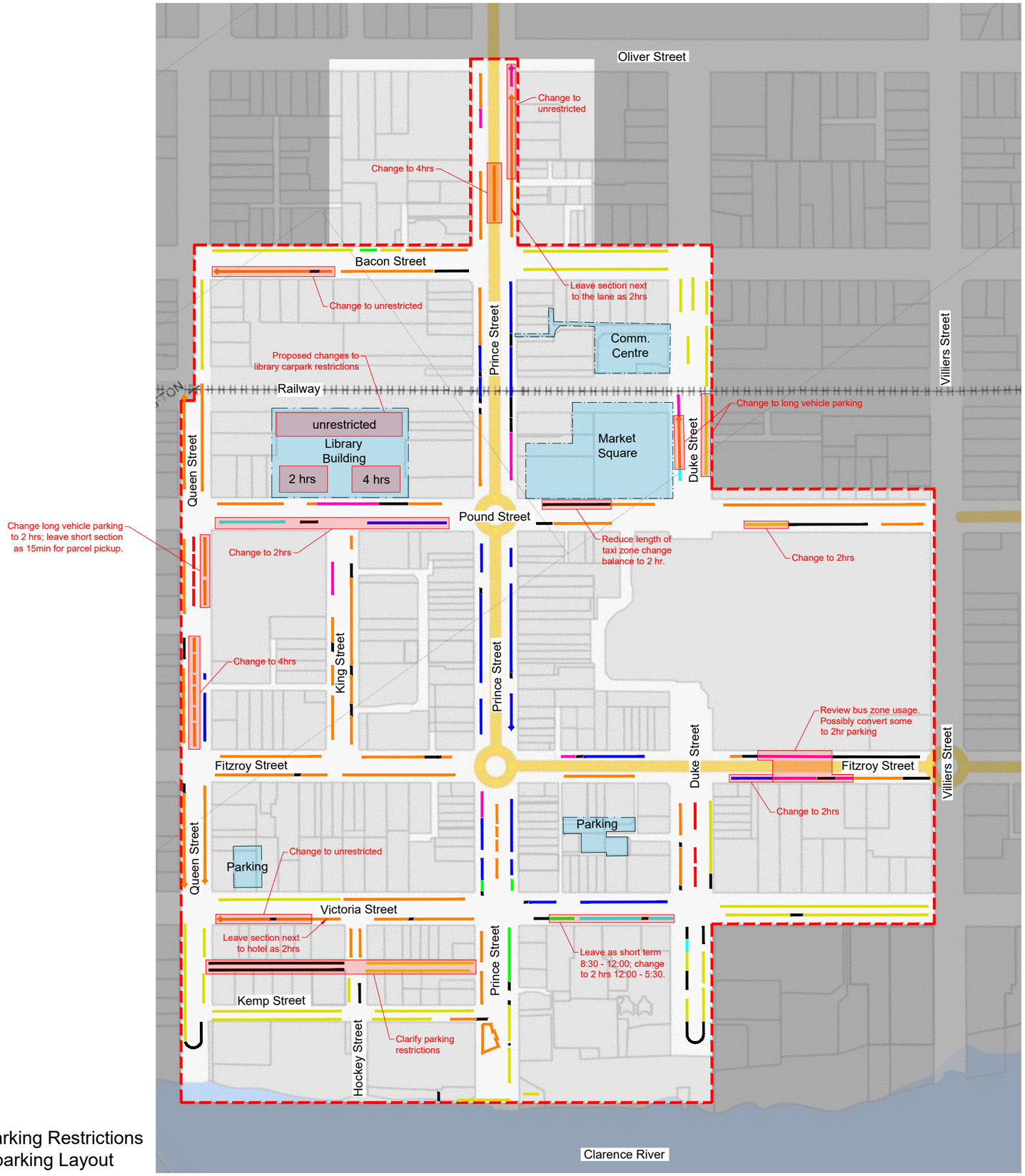
10612 - Overview - Issue A - Scale 1:2000 @ A1



LEGEND

- 15 min. Parking
- 30 min. Parking
- 1 hour Parking
- 2 hour Parking
- 4 hour Parking
- Unrestricted Parking
- Bus Zone

Proposed changes to Parking Restrictions
Grafton Council Carparking Layout

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10612 - SK17 - Issue B - Scale 1:2000 @ A1

S:\01 Jobs\10600-10699\10612 Prince Street, Grafton\05 Drawings\01 Civil\01 Current\10612 - Proposed Parking Layout.dwg, 15/09/2021 10:20:34 AM,
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