Adopted Report
of the
Transport and Infrastructure Committee Meeting
held
Thursday 29 November 2018
at
9am
City of Gold Coast Council Chambers
135 Bundall Road
Surfers Paradise
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<td>Transport And Infrastructure Action List And Forward Planning Schedule</td>
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</tbody>
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**General Business**

# Officer's Recommendation changed by Council

**KEY:**

- OCEO - Office of the Chief Executive Officer
- EPE - Economy, Planning and Environment
- LC - Lifestyle and Community
- OCOO - Office of the Chief Operating Officer
- OS - Organisational Services
- TI - Transport and Infrastructure
- WW - Water and Waste
ADOPTION BY COUNCIL 7 DECEMBER 2018

RESOLUTION  G18.1207.006  moved Cr PC Young  seconded Cr Taylor

That the Report of the Transport and Infrastructure Committee Meeting of Thursday 29 November 2018 covered by Recommendations numbered TI18.1129.001 to TI18.1129.006, be adopted with the exception of Recommendation Number TI18.1129.003 which was specifically resolved.

CARRIED UNANIMOUSLY

ATTENDANCE

Cr P C Young  (Chairperson)
Cr P Taylor
Cr D Gates
Cr W Owen-Jones
Cr C Caldwell
Cr P J Young  (arrived at meeting 9.06am)
Cr D Crichlow OAM  (left the meeting at 9.40am)
Cr G Baildon AM
Cr H Vorster
Cr D McDonald

Mr A Twine  Director Transport and Infrastructure
Mr M Hulse  Manager Infrastructure Delivery
Mr M Tilly  Manager Transport and Traffic
Mr S Hunt  Executive Coordinator Stormwater Beaches & Waterways
Mr R Mitchell  Co-ordinator Modelling, Analysis and Data

APOLOGIES / LEAVE OF ABSENCE

Nil

PRESENTATIONS

Item 3: State Of The Transport Network 2018 – Matthew Tilly, Manager Transport and Traffic
## Transport and Infrastructure Committee Meeting (all meetings)

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<tr>
<th>Item</th>
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<tr>
<td>Action List and Forward Planning Schedule</td>
<td>A Twine – Director Transport and Infrastructure</td>
<td>Standing Item.</td>
</tr>
<tr>
<td>2018-19 Local Area Works Program – Additions</td>
<td>M Hulse – Infrastructure Delivery</td>
<td>Report as required.</td>
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### (767) Transport and Infrastructure Committee Meeting – 22 January

<table>
<thead>
<tr>
<th>Item</th>
<th>Action Officer</th>
<th>Action/Previous Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Gold Coast Entry Statement (Ex G18.0430.021)</td>
<td>P Denison – Infrastructure Delivery</td>
<td>That estimates be provided for the possible modification, relocation or removal of the Northern Gold Coast Entry Statement and a report be brought back to Council.</td>
</tr>
<tr>
<td>State Government’s Principal Cycle Network Plan (Ex TI18.1115.005)</td>
<td>M Tilly – Transport and Traffic</td>
<td>That a report be brought forward canvassing options for the proposed priority routes from Broadbeach to Burleigh in the State Government’s Principal Cycle Network Plan in Round 767 scheduled to be held on 22 January 2019.</td>
</tr>
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</table>

### (768) Transport and Infrastructure Committee Meeting – 31 January 2019

<table>
<thead>
<tr>
<th>Item</th>
<th>Action Officer</th>
<th>Action/Previous Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadbeach Carousel Maintenance Review (Ex. G18.0814.008)</td>
<td>C Berg – City Assets</td>
<td>2 That an expression of interest process be undertaken in relation to the carousel, with expressions of interest to be considered by Council officers and a report be submitted to Council for consideration.</td>
</tr>
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</table>
ITEM 1 (Continued)
TRANSPORT AND INFRASTRUCTURE ACTION LIST AND FORWARD PLANNING SCHEDULE
LG115/1358/01/2018(P1)

<table>
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<tr>
<th>(770) Transport and Infrastructure Committee Meeting – February 2019</th>
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</thead>
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<tr>
<td>Ferry Services - Interim Report</td>
</tr>
<tr>
<td>(ExG18.1030.009)</td>
</tr>
<tr>
<td>M Shrimpton – Transport &amp; Traffic</td>
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<tr>
<td>That the Director bring forward a report regarding the</td>
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<tr>
<td>introduction of ferry services in the City including the</td>
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<tr>
<td>number and location of terminals, supporting facilities,</td>
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<td>connections to other public transport systems and services,</td>
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<tr>
<td>financial viability and costs of operation, approval</td>
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<tr>
<td>processes, operational issues, tendering and the</td>
</tr>
<tr>
<td>implementation of a trial of services.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(TBA) Transport and Infrastructure Committee Meeting – February 2019</th>
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<tbody>
<tr>
<td>Christmas On The Gold Coast</td>
</tr>
<tr>
<td>D McNeillage – City Assets</td>
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<tr>
<td>3. That a report be brought back to Council in February 2019 to</td>
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<tr>
<td>outline a long term approach</td>
</tr>
<tr>
<td>HOTA Project Update Report Stage 1</td>
</tr>
<tr>
<td>(Ex. G18.0731.007, Ex. G18.0227.007, Ex G18.1030.009)</td>
</tr>
<tr>
<td>T Windsor – Infrastructure Delivery</td>
</tr>
<tr>
<td>2 That the next Stage 1 update report be brought back to</td>
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<tr>
<td>Council in February 2019.</td>
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<tr>
<td>Contract No. LG314/690/18/094 – Stormwater Network Rehabilitation</td>
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<tr>
<td>Program</td>
</tr>
<tr>
<td>S Fong – City Assets</td>
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<tr>
<td>Awarding of contract to Stormwater Network Rehabilitation Program</td>
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<tr>
<td>Pipe relining contract.</td>
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<thead>
<tr>
<th>(772) Transport and Infrastructure Committee Meeting – April 2019</th>
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</thead>
<tbody>
<tr>
<td>Parking Asset Strategic Plan (PASP)</td>
</tr>
<tr>
<td>M Shrimpton – Transport &amp; Traffic</td>
</tr>
<tr>
<td>To report on sustainable management of on and off street car</td>
</tr>
<tr>
<td>parking within the City.</td>
</tr>
</tbody>
</table>
ITEM 1 (Continued)
TRANSPORT AND INFRASTRUCTURE ACTION LIST AND FORWARD PLANNING SCHEDULE
LG115/1358/01/2018(P1)

| Robina Central Planning Agreement (RCPA) (EX G18.0621.038) | M Shrimpton – Transport & Traffic | That Council recognise the Transport Infrastructure deficit in the area covered by the Robina Central Planning Agreement (RCPA) and bring forward a report detailing the following prior to further progressing negotiations with developers (and landowners) to amend the prevailing State planning instruments: 1 The historic context and State legislation preventing Council from levying transport infrastructure fees in the RCPA area; 2 A comparison of the anticipated, present and projected traffic volumes in the RCPA area, particularly on major roads, around Robina Town Centre and from the Pacific Motorway; 3 An assessment of intersection performance and congestion against Council’s adopted standards in the Local Government Infrastructure Plan (LGIP); 4 Subject to the above, estimated costs and preferred design outcomes for intersection, road upgrades and new road connections to address congestion, safety risks, and pedestrian access now and to 2031; 5 Further estimated costs and preferred transport outcomes connected with the 2050 vision articulated by the Robina Business Alliance, whose members include local developers QIC and Robina Group; 6 Advice to Economy, Planning and Environment on an equitable, sustainable and just infrastructure arrangement to protect the lifestyle and prosperity of the RCPA area and the communities it services. |
ITEM 1 (Continued)
TRANSPORT AND INFRASTRUCTURE ACTION LIST AND FORWARD PLANNING SCHEDULE
LG115/1358/01/2018(P1)

RECOMMENDATION

It is recommended that Council resolves as follows:

That the Transport and Infrastructure Directorate Action List and Forward Planning Schedule for the Transport and Infrastructure Committee be noted.

Authorised by:
Alton Twine
Director Transport and Infrastructure

iSPOT#59605622

COMMITTEE RECOMMENDATION TI18.1129.001 moved Cr Crichlow seconded Cr Owen-Jones

That the Transport and Infrastructure Directorate Action List and Forward Planning Schedule for the Transport and Infrastructure Committee be noted.

CARRIED UNANIMOUSLY
ITEM 2 TRANSPORT AND TRAFFIC
CHRISTINE AVENUE - OPERATIONAL OPPORTUNITIES ANALYSIS
CS105/2018/16/02(P1)
Refer 1 page attachment

1 BASIS FOR CONFIDENTIALITY
Not Applicable.

2 EXECUTIVE SUMMARY
Not Applicable.

3 PURPOSE OF REPORT
To provide Council with the outcomes from investigations conducted to improve traffic flows, travel times and reduce congestion for motorists travelling on Christine Avenue through the Bermuda Street intersection towards the Whistler Drive intersection.

4 PREVIOUS RESOLUTIONS
Ex. Council Minute G18.0430.021
Committee Recommendation TI18.0426.007

Given the documented signalisation issues, operational inefficiencies safety concerns at the intersection of Bermuda Street and Christine Avenue, city officers work with Department of Transport and Main Roads to bring forward a report to address these issues, including consideration of:-

a Signal time changes
b Investigation of a second vehicular lane east bound on Christine Avenue to Whistler Drive (including impact on parking)
c Improvements for pedestrians including pedestrian crossing and countdown timers; and
d Any other measures which may ease congestion and improve safety.

5 DISCUSSION

5.1 Background

Christine Avenue is a major east-west link connecting the Gold Coast Highway with Bermuda Street and through to Robina. The section representing the focus of this study is on Christine Avenue between Bermuda Street and Whistler Drive which has predominant westbound morning flows and eastbound in the afternoon peak. The intersection of Bermuda Street and Christine Avenue is under the jurisdiction of Transport and Main Roads (TMR). The nearby Christine Avenue and Whistler Drive signalised intersection accommodates residential movements, as well as increased movements associated with the neighbouring Caningeraba State School.

Whilst there are significant traffic movements in both directions on Christine Avenue, this study focused on the eastbound traffic congestion issue from the Christine Avenue and Whistler Drive signalised intersection where queueing extends 400 metres back into the Bermuda Street intersection during peak periods. This impacts the operation and performance of the network with an average delay of over 37 seconds compared to the free-flow conditions for eastbound traffic on Christine Avenue.
The delays and queuing were observed on-site and monitored with Closed Circuit TeleVision (CCTV). The impacts were verified via traffic modelling of the intersection. The identified cause of congestion is the limited vehicle capacity at the Christine Avenue and Whistler Drive intersection. This issue is exacerbated on school days and specifically during the afternoon school peak.

The impacted road network is displayed below (Figure 1), with traffic data demonstrating the average daily vehicle volumes.

Figure 1: Christine Avenue (Mattocks Road to Whistler Drive)
Department of Transport and Main Roads (TMR) traffic volumes for Christine and Bermuda Street (May 2016) and City of Gold Coast (City) traffic volumes counts for Whistler Drive (September 2018) and Cassowary Drive (July 2018).

5.2 Analysis

An analysis was undertaken to address the documented signalisation issues, operational inefficiencies and safety concerns on Christine Avenue from Bermuda Street to Whistler Drive. The investigation considered a number of options to identify treatments and develop solutions to improve congestion and pedestrian safety in this area. The traffic modelling software, SIDRA was used to model the various initiatives whilst identifying the network impacts and assessing the benefits of each initiative.

The investigation was focused on improving traffic flows through phasing of the traffic signals, enhanced co-ordination and increased capacity whilst improving pedestrian safety measures. The following modifications/treatments were considered in detail as part of this analysis.

Signal phasing
Traffic signal analysis of the intersections of Christine Avenue with Bermuda Street and Whistler Drive with a review of signal phasing and signal timings including the possibility of changing phase times and/or restricting movements to increase the east-west capacity.
ITEM 2 (Continued)
CHRISTINE AVENUE - OPERATIONAL OPPORTUNITIES ANALYSIS
CS105/2018/16/02(P1)

Signal co-ordination
Operational signal analysis to improve co-ordination of eastbound movements on Christine Avenue between the Bermuda Street/Christine Avenue and the Christine Avenue/Whistler Drive intersection.

Additional capacity on Christine Avenue
Increasing the capacity of Christine Avenue via re-purposing the eastbound parking lane for use as a through travel lane taking into account associated impacts.

Intersection pedestrian amenity and safety
Examining pedestrian amenities to improve safety including consideration towards the protection of pedestrian phases and the implementation of Pedestrian Countdown Timers (PCTs). Pedestrian safety was considered as part of the signal phasing analysis.

All modifications/treatments considered are explained in detail in the subsequent sections of this report.

5.3 Investigation outcomes to date

5.3.1 Signal phasing including intersection pedestrian amenity and safety
Technical Officers from the City of Gold Coast (City) and TMR conducted an analysis of the traffic signals at Bermuda Street/Christine Avenue (Figure 2) and Christine Avenue/Whistler Drive (Figure 3). The intent of this investigation was to reduce queuing and travel times whilst enhancing pedestrian safety, through possible signal phasing changes and timings at these intersections. The analysis is described in the following sections.

Figure 2: Layout of Bermuda Street and Christine Avenue
5.3.1.1 Bermuda Street and Christine Avenue signal phasing
The Bermuda Street and Christine Avenue intersection is a critical part of the road network operated by TMR. This intersection facilitates the predominant north-south traffic movements. No opportunity was identified by TMR to increase the green time given to the east-west traffic flows without having a detrimental impact on the operation and performance of the broader transport network. Therefore, no options were identified to increase the green time for the east-west traffic at this intersection.

All four legs of the Bermuda Street and Christine Avenue intersection have signalised pedestrian crossings which provide a safe crossing location for pedestrians. The potential installation of Pedestrian Countdown Timers (PCTs) at this intersection is not proposed by TMR as currently they are not supportive of the implementation of PCTs at state intersections. Accordingly no direct phasing changes were able to be proposed at this intersection as part of this study.

5.3.1.2 Whistler Drive and Christine Avenue signal phasing
The intersection of Christine Avenue and Whistler Drive provides access into a residential area and Caningeraba School which is located off Whistler Drive. It is a T-intersection with three traffic signal phases and operates under the jurisdiction of the City with phasing as explained below:

Phase A
This phase caters for the predominant movement of the east-west through traffic on Christine Avenue.
ITEM 2 (Continued)
CHRISTINE AVENUE - OPERATIONAL OPPORTUNITIES ANALYSIS
CS105/2018/16/02(P1)

Phase B
This phase operates for all traffic turning out of Whistler Avenue, noting the western pedestrian crossing of Christine Avenue operates during this phase.

Phase C
This phase operates with the eastbound through traffic and the right turn from Christine Avenue into Whistler Drive.

Phase C1
This is a variable phase which is implemented when the pedestrian call on the eastern crossing of Christine Avenue occurs. In this instance, eastbound traffic is stopped and the right turn from Christine Avenue into Whistler Drive operates in conjunction with the eastern pedestrian crossing of Christine Avenue.

A number of considerations were taken into account to maximise performance at the Christine Avenue and Whistler Street intersection. The changes considered include a provision for increased green time to the predominant east-west movement on Christine Avenue. The intersection normally operates in “isolated” mode with the key considerations for phases B and C1 being impacted by the walk time for pedestrians to cross Christine Avenue. To increase the green time for east-west movements on Christine Avenue, the reduction of the phase times for phase B and/or phase C1 were considered.

Pedestrian counts were undertaken at the intersection of Christine Ave and Whistler Drive on the 17 July 2018 and the results are shown below in Table 1.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Eastern pedestrian crossing of Christine Avenue</th>
<th>Western pedestrian crossing of Christine Avenue</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM peak 8am – 9am</td>
<td>91 pedestrians</td>
<td>5 pedestrians</td>
<td>Approximately 95 percent of pedestrians use the eastern crossing during school peaks</td>
</tr>
<tr>
<td>PM school peak 2:30pm – 3:30pm</td>
<td>118 pedestrians</td>
<td>5 pedestrians</td>
<td></td>
</tr>
<tr>
<td>12 Hour total 6am – 6pm</td>
<td>229 pedestrians</td>
<td>37 pedestrians</td>
<td>The school peaks account for 82 percent of the total pedestrians crossing Christine Avenue</td>
</tr>
</tbody>
</table>

Table 1: Summary of Pedestrian Counts at Christine Avenue/Whistler Drive (Pedestrian count undertaken 17 July 2018)

Traffic modelling was undertaken to consider the impacts of removing either the eastern or western pedestrian crossing of Christine Avenue. Results indicated that the removal of the western pedestrian crossing would have minimal benefit to the traffic flow at this intersection due to the lower pedestrian flows. However, the modelling showed that if the eastern pedestrian crossing was removed, Phase C1 could be deleted and this would result in a queue reduction from 400 metres (baseline queue length prior to any modifications) to just over 300 metres and resulting in an average delay saving of 10 seconds for eastbound traffic on Christine Avenue during the school peak periods.
ITEM 2 (Continued)
CHRISTINE AVENUE - OPERATIONAL OPPORTUNITIES ANALYSIS
CS105/2018/16/02(P1)

Due to the volume and nature of pedestrian movements resulting from the neighbouring Caningeraba School, this saving would need to be assessed against the reduced pedestrian amenity. As the eastern pedestrian crossing provides a more direct route to the school, the removal of the eastern crossing may result in pedestrians crossing illegally and as a result, reduce pedestrian safety in this area. Accordingly it is not proposed to remove this pedestrian crossing at this intersection.

The above analysis resulted in no major modifications proposed to the signal phasing for the intersection of Christine Avenue and Whistler Drive. To further enhance pedestrian safety other measures were considered at this intersection. Due to the proximity to Caningeraba School, Pedestrian Countdown Timers (PCTs) are not recommended at this intersection. According to the criteria in the Australian Standards, PCTs are not recommended in locations used predominantly by primary school aged children. This is driven by the potential for errors in judgement in determining how many seconds it will take to completely cross the road.

The phasing review did identify some improvements to enhance pedestrian safety by providing a red light for left turning vehicles from Whistler Drive for 6 seconds whilst the green walk signal is displayed for the western pedestrian crossing. The improvements are proposed to be incorporated as part of the intersection maintenance upgrade at Christine Avenue/Whistler Drive. This minor phasing modification is consistent with the latest policies for protecting pedestrians to commence the crossing prior to the vehicles being allowed to proceed. This signal modification is planned to be delivered in this financial year as part of CI3460C005 – Traffic Systems Infrastructure (Cost Centre 1005243). The proposed improvements will enhance the general safety of the Christine Avenue and Whistler Drive intersection.

5.3.2 Signal co-ordination
The traffic signal analysis described above demonstrated limited opportunities to modify the signal timing for these intersections without giving consideration to co-ordinating the signals at Bermuda Street/Christine Avenue with Christine Avenue/Whistler Drive. Whilst the priority in this area is given to the north-south traffic flows on the state controlled Southport–Burleigh Road corridor, a solution to provide concurrent co-ordination for eastbound flows on Christine Avenue was developed.

The co-ordination of the intersections of Bermuda Street/Christine Avenue and Christine Avenue/Whistler Drive is complex due to the different quantum of traffic volumes and signal phase sequences required to operate each intersection. To effectively demonstrate the extent of this phasing a comparison has been provided below in Table 2.

<table>
<thead>
<tr>
<th>Influencing Factors</th>
<th>Bermuda Street and Christine Avenue</th>
<th>Christine Avenue and Whistler Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily traffic movements</td>
<td>72,000 vehicles per day use this intersection</td>
<td>27,300 vehicles per day use this intersection</td>
</tr>
<tr>
<td>Number of phases</td>
<td>7 phases (including various alternatives depending on the demand)</td>
<td>3 phases (including one alternate phase)</td>
</tr>
<tr>
<td>Typical cycle times</td>
<td>120 to 160 seconds depending on time of day</td>
<td>60 to 80 seconds depending on time of day</td>
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</table>

Table 2: Comparison in operation of Bermuda/Christine and Christine/Whistler intersections.
The co-ordination of Christine Avenue and Whistler Drive with Bermuda Street can achieve eastbound progression by “double cycling” the intersection of Christine Avenue and Whistler Drive. The benefits of this co-ordination demonstrate an average eastbound queue reduction from 400 to 300 metres during the school afternoon peak. These changes had no adverse network impacts on north-south movements on Southport–Burleigh Road.

Due to positive benefits of the co-ordinated traffic signal phasing, TMR and the City introduced this plan for the afternoon peak period on the 21 August 2018. This is continually monitored through the CCTV at this intersection for possible adoption during the morning peak if deemed necessary.

5.3.3 Outcomes from the investigations
The implemented and proposed changes as mentioned above have improved the traffic congestion for the afternoon school peak and have identified some changes that are proposed to improve pedestrian safety. The analysis of the minor signal changes and co-ordination of the traffic has reduced the average queue length from over 400 metres to approximately 300 metres which ensures that on average for the afternoon school peak, the eastbound traffic doesn’t queue back into the Bermuda Street intersection. Whilst this has improved the traffic flows in the area, additional planning was undertaken to consider further improvements on Christine Avenue.

5.4 Additional capacity on Christine Avenue
The above analysis and treatments will improve the existing congestion and safety in the investigation area. However, to further increase the capacity along Christine Avenue, an investigation was undertaken to consider an additional through lane to replicate the two lanes westbound along Christine Avenue between Whistler Drive and Bermuda Street. This may be achieved by re-purposing the eastern parking lane as a through lane along Christine Avenue to improve the capacity on the eastbound link.

The current kerb to kerb width for the eastbound section of Christine Avenue is 7.3 metres. To implement the option, with the removal of the parking lane, the traffic lane width would need to be reduced from 3.5 metres to 3.05 metres and the on-road bicycle lane from approximately 1.3 metres to 1.2 metres (to the face of the kerb). The typical cross-section is demonstrated in Attachment 2.1. Whilst this cross-section meets the absolute minimum standards, it is not considered appropriate to implement in the immediate term, without developing a detailed design, validating road widths to ensure that safety is not comprised. The design process will incorporate any kerb alterations including any impacts to current traffic arrangements with Cassowary Drive that may be required to implement this option.

The traffic modelling found that this option provides a travel time saving of 22 seconds and the eastbound queue would reduce from 400 metres to 75 metres for eastbound traffic on Christine Avenue between Bermuda Street and Whistler Drive. Whilst this is a significant saving in travel time, this change needs to be designed to ensure that all traffic movements are safely accommodated. The following issues (as highlighted in Figure 4) need to be considered in this design process.

Reduced cycle path lane width
Christine Avenue is a key on-road cycle route for the city’s cycleway network as determined by the City’s Principal Cycle Network Plan, noting that off-road paths are also prevalent in this area.
ITEM 2 (Continued)
CHRISTINE AVENUE - OPERATIONAL OPPORTUNITIES ANALYSIS
CS105/2018/16/02(P1)

High Frequency Bus Service
Translink Bus route (765) provides 15 minute services along Christine Avenue. Currently the eastbound Bus Stop in this area is located in the parking lane in front of 179 Christine Avenue. With the proposed removal of the parking lane between Cassowary Drive and Whistler Drive, this would require the existing Bus Stop to be re-located further north of the Whistler Drive intersection (in the parking lane in front of 159 Christine Avenue) to avoid buses stopping in the through traffic lane. This would require the re-location of the J-Pole pending approval from Translink, noting that there are no line-marking changes required.

Parking
The removal of on-street parking in front of 17 residential properties would result in reduced amenity for residents, requiring residents to turn in/out of their driveways from the through traffic lane. The observed use of this parking shows a low to moderate parking demand including some of the short term parking for school drop-off along this section of Christine Avenue.

U-turn facilities
The current intersection arrangements providing U-turn facilities for vehicles entering Christine Avenue from Cassowary Drive and will require changes as a result of the additional traffic lane.

Figure 4: Issues associated with changes to eastbound traffic

The option of adding an extra lane eastbound on Christine Avenue has merit as it significantly improves the capacity through the Whistler Drive intersection. With future traffic growth it is expected that traffic volumes will increase on Christine Avenue making this a more significant issue. The available width within the existing kerbs is considered insufficient to provide a safe lane and cycleway widths so it will require some changes to medians and the turn lanes to ensure a safe two lane option is provided.
ITEM 2 (Continued)  
CHRISTINE AVENUE - OPERATIONAL OPPORTUNITIES ANALYSIS  
CS105/2018/16/02(P1)

Furthermore, this change will require some changes to the local amenity and access so it will need to be designed with significant community engagement.

6 ALIGNMENT TO THE CORPORATE PLAN, CORPORATE STRATEGIES AND OPERATIONAL PLAN

The implementation of changes to this segment of the Christine Avenue road corridor and associated intersection operations aims to provide improved road network operations while still providing for a safe and pedestrian accessible environment. These benefits relate to the Gold Coast 2022 Corporate Plan and the Gold Coast City Transport Strategy 2031.

6.1 Gold Coast 2022 Corporate Plan

The provision of works to improve congestion and travel time impacts across the Gold Coast network supports the themes and outcomes presented in the Gold Coast 2022 Corporate Plan as follows:

6.1.1 Theme
We can get around the city easily.

6.1.2 Outcome
We have a reliable and integrated city transport system.

6.2 Gold Coast City Transport Strategy 2031

The implementation of changes to this segment of the Christine Avenue road corridor addresses the challenges, objectives and themes presented in the Gold Coast City Transport Strategy 2031 as follows:

6.2.1 Roads and Freight
To develop and manage an efficient road network that meets the city’s needs for the movement of people and goods, and can be safely shared by all users.

7 FUNDING AND RESOURCING REQUIREMENTS

Budget/Funding Considerations

The cost to implement the safety enhancements including a red arrow for left turning vehicles, to improve the safety of the Christine Avenue and Whistler Drive intersection is $65,000. This is allocated in Budget Centre CI3460C005 (Traffic Systems Infrastructure), Cost Centre 1005243.

The broader transport planning and design for Christine Avenue is proposed as part of the 2019/2020 budgetary process.

8 RISK MANAGEMENT

No corporate or directorate risks have been identified as a result of this options analysis.

9 STATUTORY MATTERS

No statutory matters have been identified.
ITEM 2 (Continued)
CHRISTINE AVENUE - OPERATIONAL OPPORTUNITIES ANALYSIS
CS105/2018/16/02(P1)

10 COUNCIL POLICIES

Not Applicable.

11 DELEGATIONS

Not Applicable.

12 COORDINATION & CONSULTATION

<table>
<thead>
<tr>
<th>Name and/or Title of the Stakeholder Consulted</th>
<th>Directorate or Organisation</th>
<th>Is the Stakeholder Satisfied With Content of Report and Recommendations (Yes/No) (comment as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Coordinator Strategic Operations</td>
<td>Transport Infrastructure</td>
<td>Yes</td>
</tr>
<tr>
<td>Executive Coordinator Transport Network Management</td>
<td>Transport Infrastructure</td>
<td>Yes</td>
</tr>
<tr>
<td>Executive Coordinator Transport Policy, Planning and Program</td>
<td>Transport Infrastructure</td>
<td>Yes</td>
</tr>
<tr>
<td>Coordinator Network Intelligence &amp; Transport Systems</td>
<td>Transport Infrastructure</td>
<td>Yes</td>
</tr>
</tbody>
</table>

13 STAKEHOLDER IMPACTS

This project has been undertaken in consultation with TMR South Coast Regional technical officers.

14 TIMING

As a result of this investigation a number of changes are proposed to this area. They include:

- Phasing changes and co-ordination of the intersection of Christine Avenue and Whistler Drive with Bermuda Street were found to provide a benefit to the operation of the eastbound flows on Christine Avenue and were implemented on a trial basis on the August 2018 as part of minor operational modifications. This is being monitored and it is recommended to be retained.
- Safety enhancements including a red arrow for left turning vehicles, to improve the safety of the Christine Avenue and Whistler Drive intersection are proposed to be installed in the 2018/19 financial year.

As identified in the analysis undertaken, an extra eastbound lane on Christine Avenue will improve the eastbound flows however the other network impacts including loss of parking, reduced cycling amenity are to be considered. These issues are proposed to be assessed in detail as part of a broader transport planning and design project (including the management of the Christine Avenue and Cassowary Drive intersection) which is proposed as part of the 2019/2020 budgetary process.

15 CONCLUSION

As a result of in-depth signal phasing investigations and traffic modelling, it was revealed that some immediate improvements could be implemented at the Christine Avenue and Whistler Drive intersection to improve safety and congestion. These include
ITEM 2 (Continued)
CHRISTINE AVENUE - OPERATIONAL OPPORTUNITIES ANALYSIS
CS105/2018/16/02(P1)

Minor changes to the phase sequencing and co-ordinating this intersection with the nearby Bermuda Street signalised intersection. Based on positive traffic modelling results this was implemented on a trial basis and the impacts continues to be monitored;

Changes to the phasing to delay the start to left turn traffic out of Whistler to further protect pedestrians crossing Christine Avenue (western crossing). These changes and associated modifications to this intersection are planned for 2018/19 financial year.

The reconfiguration of Christine Avenue between Bermuda Street and Whistler Avenue with the removal of the parking lane to facilitate two lanes of traffic is beneficial for through eastbound traffic. However there are a number of other issues that arise in two laning this section including the limited cross-section width, relocation of a bus stop, removal of parking and reduced safety for cyclists along Christine Avenue. As a result of the analysis, it is recommended that the option to facilitate two lanes of traffic on Christine Avenue (between Bermuda Street and Whistler Drive) is to be considered as part of a future capital works submission including potential median widening and changes to turn lanes to provide a safe cross-section for traffic lanes and cycle lanes.

16 RECOMMENDATION

It is recommended that Council resolves as follows:

1 Council supports the safety changes to phasing at the intersection of Christine Avenue and Whistler Drive including the installation of a red arrow for left turn vehicles to protect pedestrians crossing the western side of Christine Avenue.

2 Council supports the design of an additional eastbound lane on Christine Avenue between Bermuda Street and Whistler Drive. It is recommended that this be included in the 2019/2020 budget process.

Author: Greg Smith  Authorised by: Alton Twine
Coordinator Network Operations  Director Transport and Infrastructure
1 November 2018

COMMITTEE RECOMMENDATION  TI18.1129.002
moved Cr Crichlow  seconded Cr Owen-Jones

1 Council supports the safety changes to phasing at the intersection of Christine Avenue and Whistler Drive including the installation of a red arrow for left turn vehicles to protect pedestrians crossing the western side of Christine Avenue.

2 Council supports the design of an additional eastbound lane on Christine Avenue between Bermuda Street and Whistler Drive. It is recommended that this be included in the 2019/2020 budget process.

CARRIED UNANIMOUSLY
Cross-sections on Christine Avenue eastbound  
(Bermuda Street – Whistler Drive)

Existing lane configuration on Christine Avenue eastbound  
(Between Bermuda Street and Whistler Drive)

Potential repurpose of parking lane as traffic lane  
on Christine Avenue eastbound  
(between Bermuda Street and Whistler Drive)
ITEM 3
STATE OF THE TRANSPORT NETWORK 2018
TT1017/113/24(P1)

1 BASIS FOR CONFIDENTIALITY

Not Applicable.

2 EXECUTIVE SUMMARY

Not Applicable.

3 PURPOSE OF REPORT

The purpose of the report is to present an overview of the performance of the transport network.

4 PREVIOUS RESOLUTIONS

Not Applicable.

5 DISCUSSION

Following the roads planning workshop held with Councillors on 6 September 2018 this report will present data on the state of the transport network in 2018.

5.1 State of the Transport Network 2018

The Transport and Traffic Branch has compiled, evaluated and analysed a range of transport system data. The City is reliant on data collected by external agencies including Australian Bureau of Statistics Census (collected every five years) and State Government household travel survey.

The current data environment is rapidly changing from being data poor and information hungry, to being data rich using emerging technologies. The increased availability of these new and emerging data sets requires the need for increased resourcing for data collection, analysis and development of data tools. The State Government has also recently committed to recommencing collection of useful travel data in a post Gold Coast 2018 Commonwealth Games environment.

Based on available data a snapshot of the transport network and transport assets is shown in Figure 1 and Figure 2 respectively.

A strategic review of available data has also identified eight factors shaping transport on the Gold Coast that are discussed in the following sections of this report.
Network Snapshot (2016 Census And 2018 Estimation)

- **Resident Population**: 577,000 residents (2016), 592,000 residents (Estimated Resident Population 2017)
- **Daily Trips**: 1.8 million (2016) weekday daily trips, 1.83 million (2017)
- **Average Daily Travel Time**: 64 minutes per person
- **Daily Trips per Person**: 3.1 daily trips per person on average
- **Total Daily Travel Distance**: 19.9 million km (2016), 20.4 million km (2017)
- **Average Daily Travel Distance**: 34.5 km per person

Mode Share Targets (Total Daily Trips)

### Private vehicles

- 2031 Target: 74%

### Public transport

- 2011 Baseline: 3.1%
- 2016 Observed: 4.8%
- 2017 Estimate: 5.0%

### Active transport

- 2011 Baseline: 9.0%
- 2015 Observed: 10.5%
- 2017 Estimate: 10.5%

Figure 1 – Transport network snapshot
5.1.1 We are effectively managing growth

The Gold Coast has historically experienced sustained population growth, even during periods of economic downturn, and will continue to do so.

Each new resident places additional demand on the transport network. Acknowledging and understanding this sustained growth is essential to the management and planning of the transport system.

The City and the State Government need to continue managing, planning and investing in the transport system to cater for this growth on an ongoing basis.

Figure 3 shows historic and forecast population growth for the Gold Coast. Over the next 20 years extra residents are forecast to locate in a mix of urban expansion and consolidation areas.
The northern area of the Gold Coast is the fastest and largest-growing area in Queensland, increasing in population by 3000 people or 31 per cent in 2016-17. Recent observations indicate that this rapid growth is not abating.

Coomera (and surrounding suburbs) will continue to experience strong growth into the future. Infill development along the coastal corridor, particularly along current and future light rail stages, is also expected to be strong.

There has been extensive coordination with the City Plan and corridor planning for light rail to support development intensification. This collaboration will need to continue to ensure that growth is managed in a sustainable way.

The modal plans to deliver the Gold Coast City Transport Strategy 2031 are now in place and will provide effective transport outcomes as the city grows.

5.1.2 Work travel – more people on public transport than ever before

The way in which residents travel to work has a significant bearing on the performance of the transport system as it creates peak loadings on the network. Understanding how people travel to employment is essential in tailoring local transport responses.

More people are travelling to work on public transport than ever before (as shown in Figure 4). The City has been undertaking innovative work in assisting workplaces develop travel plans to encourage the use of sustainable transport choices, as evidenced prior to and during the Gold Coast 2018 Commonwealth Games.

Encouraging people to travel to work by walking, cycling and public transport, even just a few days per week, will reduce the peak loads on the network. Less traffic in our centres makes places more comfortable for people to visit.
The City will need to continue developing tailored local transport responses for all major centres subject to allocation of sufficient funding to plan, design and deliver key projects and initiatives. In addition to initiatives contained within the Travel Behaviour Change Plan, there will need to be more infrastructure to support active travel, buses and light rail. This will improve access for more residents and increase sustainable travel to work.

Supporting workplaces to develop sustainable travel plans has been found to be a cost effective way to achieve positive change in travel to work as demonstrated in the City of Gold Coast Bundall precinct sustainable workplaces travel plan. During 2014-15, 1000 City employees were relocated from the Nerang to the Surfers Paradise administration centre which had limited on-site parking. A number of initiatives were undertaken to support staff with alternative travel modes. Surveys conducted with employees over an 18 month period showed a decrease of 42 per cent in solo car trips. This significantly exceeded the target of a six per cent reduction of solo car trips.

### 5.1.3 Public transport – light rail a star performer

Since its introduction in 2014, the Gold Coast G:link light rail has been an outstanding success. The recently implemented Stage 2 continues to build on system-wide patronage growth (as shown in Figure 5).

Current transport policies to increase public transport use are working and more stages of light rail are needed to continue this success. The City needs to continue its strong advocacy and support for light rail including the proposed Stage 3A from Broadbeach South to Burleigh Heads. Planning and delivery of new bus services in the city’s north will be needed as the city grows.

The City also provides a range of community transport options including free seniors travel to encourage the use of public transport and Council Cab service. The City’s Council Cab service provides an affordable door-to-door transport option for Gold Coast residents aged over 60 and those with a disability. Residents from 51 suburbs are able to access the nearest of 18 shopping destinations available. There were approximately 20,000 passenger trips recorded for this service in 2017-18.
The Free Seniors Travel is a fully funded initiative by the City that provides free travel on TransLink urban bus services off-peak from Monday to Friday. In the 2017-18 financial year, there were approximately one million trips recorded using this scheme.

Figure 5 - Gold Coast Light rail patronage increase (Source: TransLink)

To support growth of public transport use right across the city, the upgrade of bus services to a high frequency “turn up and go” status and additional services in emerging residential areas are required. Public transport and community transport options are a viable travel choice that is convenient, reliable and affordable and a competitive alternative to relying on the private car. Continuing to implement initiatives contained within the Public Transport Plan 2018-2028 is a priority.

5.1.4 Active travel – picking up pace

Active travel is a significant and cost effective opportunity to take pressure off the transport network, particularly for work related trips during peak times. Active travel as a percentage of all travel is performing well and trending towards the Gold Coast City Transport Strategy 2031 targets.

The City needs to continue to ensure that active travel is a viable alternative for travel to work through implementation of continued travel behaviour change programs and further investment in active transport infrastructure. The delivery of active travel infrastructure early to support the Gold Coast 2018 Commonwealth Games has made walking and cycling easier to more destinations and city centres.

This requires continued funding to deliver these high benefit moderate cost programs to support the active transport infrastructure program and other initiatives contained within the Active Transport Plan 2017-2027. The benefits of innovative schemes and technologies to encourage active travel will be monitored over time and reported in future State of the Transport Network reports.
The bike share scheme provides an alternative to owning your own bike which has seen an increase in cycling activity within the coastal corridor. The City launched the bike share scheme in February 2018 with 150 bikes available in the initial launch. Since then the number of bikes available has grown to 2000 bikes with 15,000 registered users. The bikes on average are used 2.1 times per day and the average daily bike turnover rate increases during peak tourist periods. The average bike user is identified as tourists for a three week period and travelling on average two kilometres per trip, per bike. These bikes are providing on average 4200 additional trips on the network per day. The areas of greatest use are located within the coastal core area, as illustrated in the heat-map in Figure 6.

Figure 6 - Heat map of bike share scheme usage for the month of June, 2018 (Source: Mobike)
5.1.5 Getting to school – positive change

There is a significant opportunity to better manage travel demand generated by travel to and from schools. This will not only reduce congestion around schools but also across the wider road network.

As part of the Travel Behaviour Change Plan 2017-2022, the City has an established Active School Travel program which reduces congestion at peak school times. The program has worked with parents and staff of 26 schools across the Gold Coast. Active School Travel is a tailored program which helps schools to reduce congestion at the school gate by encouraging students and their families to leave the car at home and change the way they move.

The delivery of the Active School Travel program works with participating schools by providing advice, guidance, support, resources and rewards to reduce congestion around primary school zones. In 2017, nine schools participated in the Active School Travel program, which achieved:

- A 16 per cent (average) reduction in car travel to and from school.
- An increase in walking, cycling, scootering, carpooling and public transport.

The program also provides bicycle safety training at the Ashmore Bicycle Safety Centre. In 2017-18 this was provided to over 4000 students from 47 primary schools.

To continue supporting this sustainable and healthy change to school travel, investment is also required in local pathways and cycling infrastructure for schools. The safe routes to schools audits program identifies improvements to support children getting to school by active travel options. These improvements form part of the Active Transport Infrastructure program. Continuation in these complementary approaches is essential in better managing congestion around our schools and to embed better travel choices at a younger age.

5.1.6 Road safety – a shared responsibility

The annual level of injuries and fatalities of road users is closely monitored as part of the delivery of a range of safety initiatives. Non-compliance with the road rules is a contributing factor in over 90 per cent of accidents and this will be a focus moving forward.

Road safety is everyone’s responsibility. It is important to emphasise the need for compliance with the road rules and a focused approach by police and drivers on eliminating the fatal behaviours including distraction/inattention, speeding, drink/drug driving, failure to wear a seatbelt and driving while fatigued.

A safe systems approach has been adopted for the Gold Coast Road Safety Plan 2015-2020. The City is working closely with TMR, Queensland Police Service (QPS), RACQ and other partners to deliver actions and initiatives contained within the plan. The City has partnered with QPS to undertake crash investigations of fatal and hospitalisation incidents to understand their causes and contributing factors for infrastructure improvements.

The City has been implementing the speed awareness device program to reduce the number of speeding motorists on local roads. This driver behaviour initiative has been successful, with evidence of a 15 per cent average reduction in speeding vehicles where implemented.
Complementing these initiatives saw the strategic deployment of mobile variable message signs across the City’s road network commencing in July 2018. These provide road safety messaging and information for road user awareness regarding the fatal behaviours.

The City performs an annual audit of accident data for the entire road network. This “health check” of the network identifies emerging safety issues. This information is used to identify potential blackspot projects that may receive Federal Government Black Spot funding. In the past four years the City has received funding for 21 projects totalling $11.4 million from this program.

5.1.7 Freight – moving more goods more efficiently

The industrial areas of the city require increased availability for more competitively priced transport options. This leads to increased demand for access by larger and more productive vehicles. More efficient vehicles allow businesses to reduce transport costs and be more competitive.

The introduction of the Performance Based Standard (PBS) scheme allows transport operators to match the vehicle with the task by providing for longer vehicles and more axles to distribute greater weight. Use of PBS vehicles on the freight network has led to improved safety outcomes and major productivity gains with:

- 46 per cent fewer crashes than conventional vehicles per kilometres travelled on Australian roads.
- saved more than 320 million truck kilometres travelled on Australian roads between 2014 and 2017.

The Gold Coast is following trends seen across Australia with an appetite for new technology in heavy vehicles for specific tasks. The demand for more productive vehicles in the city continues to grow particularly within industrial areas. PBS vehicles in 2017 comprise 17 per cent of all new heavy vehicles added to the fleet.

Figure 8 identifies the trend in access permits for B-doubles and A-doubles issued by the City over recent years. Of the last 200 applications requested 75 per cent have been for PBS and B-double higher performance vehicles.
5.1.8 Road network – increased investment is needed by all levels of Government

Many major roads in the city’s network experience travel speeds significantly lower than posted speed limits at peak times. The majority of these delays are experienced on State controlled roads that comprise the major corridors in and out of our centres, with the City road network providing a feeder and support role. Congestion on the State network does however propagate to City controlled roads during peak periods.

In existing urban areas of the city, optimisation and upgrade of intersection pinch points is required to get the most from existing infrastructure. Collaboration with TMR under a one network approach is critical as the majority of congestion occurs on the State network.

The City’s response

The Road Network Plan 2018-2028 provides four priority areas to create a reliable, resilient and sustainable road network:

Priority 1: Upgrading pinch points. Targeted and cost effective investment to relieve congestion bottlenecks which will reduce delay, manage congestion and improve safety.

Priority 2: Undertaking necessary major road upgrades. Significant investment in major road corridors to provide the necessary road capacity to undertake the heavy lifting on the road network.
Priority 3: Optimising the network. Building on existing partnerships and adopting the latest technologies to obtain the best possible performance from existing road network infrastructure.

Priority 4: One network approach. Collaboration with our partners under a one network approach to provide a seamless upgrade of the city’s road network.

Significant gains have been recently made on the City controlled network by targeted intersection upgrades. Each upgrade reduces the cost of congestion to business and the community considerably, however more needs to be done as congestion hotspots will continue to emerge as the city grows.

For example, the Christine Avenue and Scottsdale Drive roundabout was upgraded in 2016 to alleviate congestion at the intersection. The existing roundabout carried approximately 3200 vehicles during peak periods, experiencing congestion with queues extending more than 300 metres. The upgrade included replacement of the existing roundabout with a signalised intersection including road widening, the installation of additional turning lanes, pedestrian crossing facilities and on-road bike lanes at all approaches to improve safety for all modes of transport. The new traffic signals will save drivers an estimated 100,000 hours a year in delays.

The City continues to undertake major road upgrades that respond to pressures on the network especially in high growth areas in the north of the city. Recent updates to the capital program, such as the upgrade of Yawalpah Road (Pimpama), is an example of an agile program that responds to the variability of development growth.

Appropriate and targeted investment in intersection and major road upgrades through the City’s capital works program is essential to deliver necessary improvements on the road network. The City’s Road Infrastructure Plan identifies the projects needed on the City controlled network.
TMR planning and investment

North

TMR has recently initiated the planning phase of the M1 central project. This planning incorporates a section of the M1 from Nerang in the south to Loganholme in the north. This planning will provide an integrated strategy that will include upgrades to the M1 interchanges, construction of the Coomera Connector and upgrade to the heavy rail including infill stations.

TMR will shortly commence an upgrade to the Exit 57 (Hope Island Road) interchange and has commenced planning and design for interchanges at Exit 38 (Stanmore/Stapylton Jacobs Well Road), 41 (Computer Road/Eastern Service Road), 45 (Peacheys Road/Eggersdorf Road/Tillyroen Road/Mirambeena Drive) and 49 (Yawalpah Road/Rifle Range Road).

The Coomera Connector is being considered as part of this overall strategy. If funded, the Coomera Connector, upon completion by TMR, will relieve congestion on the M1 in the north of the city. Planning for the project has now progressed to the development of options which will be considered by TMR prior to future capital investment for the project.

The City supports construction of the Coomera Connector as the project will provide an alternative north south corridor to the M1 providing choice for northern residents. While the project has many benefits, the redistribution of traffic will have major flow on impacts to adjacent City roads, including Yawalpah Road, Foxwell Road and Helensvale Road.

Following confirmation of the design and the timing of the staged delivery of the Coomera Connector, changes to the City’s Road Infrastructure Plan will be required to ensure an integrated road network. These changes will likely take the form of additional and/or brought forward upgrades of the City’s road network.

South

TMR has commenced construction on the upgrade of the M1 from Robina to Varsity Lakes and is preparing a business case for the upgrade from Varsity Lakes to Tugun. Corridor planning is currently underway by TMR for the Gold Coast Highway between Burleigh Heads and Tugun to support Light Rail Stage 3B.

The City needs to continue its strong investment in the local road network under a one network approach to ensure that upgrades to the city’s network are timed to maximise support with TMR upgrades.

6 ALIGNMENT TO THE CORPORATE PLAN, CORPORATE STRATEGIES AND OPERATIONAL PLAN

Gold Coast 2022

Gold Coast 2022 (Corporate Plan) identifies what we need to do between now and 2022 to work towards the City Vision.
It establishes specific objectives and performance metrics for transport to achieve over time. These specific objectives and performance metrics are:

Abbreviation: TT1017/113/24(P1)

**1.4 We can get around the city easily**
- percentage of daily trips using public transport
- percentage of people who are satisfied with public transport
- percentage of daily trips taken by private motor vehicle
- average vehicle travel time along key road corridors within the city during peak hours
- improved traffic flows and reduced accident rates on key road corridors and key intersections throughout the city.

**1.6 Our modern centres create vibrant communities**
- percentage of people who live within 800 metres of public transport
- percentage of people who are satisfied with public transport.

**2.3 We have infrastructure that supports productivity and growth**

**3.6 We are an active and healthy community**
- percentage of people who make daily trips by walking
- percentage of people who make daily trips by cycling.

The State of the Transport Network 2018 provides an annual update on the key performance metrics for our transport network to assist in tracking the delivery of Gold Coast 2022.

**Gold Coast City Transport Strategy 2031**

The Transport Strategy sets the 20 year strategic outlook for developing the City’s transport network to 2031.

A requirement of the Transport Strategy is to prepare a regular State of the Transport Network report to:

- Provide factual information on the performance of the transport system.
- Measure progress towards the objectives of the Transport Strategy.
- Acknowledge areas where we are doing well.
- Identify areas where we can improve and how this may be achieved.

The State of the Transport Network report will be prepared annually and reported to the Transport and Infrastructure Committee at the end of each calendar year.

**7 FUNDING AND RESOURCING REQUIREMENTS**

The development, implementation and evaluation for the annual updates of the State of the Transport Network will be resourced by the Transport and Traffic Branch.

The City will continue to collect data on the performance and operation of the transport network while continuing to work with State and Federal Government for improvements in critical data sets and their collection.
8 RISK MANAGEMENT

The State of the Network plan is related to actions from the Gold Coast City Transport Strategy 2031, the following current corporate risk is noted:

- Risk Number: CO00507
- Risk Name: Transport Strategy is not fully funded resulting in whole of city impacts with poor transport infrastructure and transport service choices for the community.

The Directorate also seeks to mitigate the following risks:

- Expectation management around immediate/short term solutions for traffic congestion for both the general community and elected members
- Rapid advances in technology and transport technology that the City’s transport systems may not be prepared for

9 STATUTORY MATTERS

Not Applicable.

10 COUNCIL POLICIES

The state of the network in 2018 as summarised in this report aligns with Section 10 of the Gold Coast Transport Strategy 2031 and is a key tool to monitor implementation progress.

11 DELEGATIONS

Not Applicable.

12 COORDINATION & CONSULTATION

Internal and external stakeholders that have been involved/participated in the project to date as shown in the table below:

<table>
<thead>
<tr>
<th>Name and/or Title of the Stakeholder Consulted</th>
<th>Directorate or Organisation</th>
<th>Is the Stakeholder Satisfied With Content of Report and Recommendations (Yes/No) (comment as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matt Shrimpton, Executive Coordinator - Transport Policy, Planning and Program</td>
<td>Transport and Infrastructure</td>
<td>Yes</td>
</tr>
<tr>
<td>Dale Jepson, Executive Coordinator – Strategic Operations Portfolio</td>
<td>Transport and Infrastructure</td>
<td>No comments received to date.</td>
</tr>
<tr>
<td>Mark Ash, Manager City Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amanda Tzannes, Manager City Planning</td>
<td>Economy, Planning and Environment</td>
<td></td>
</tr>
</tbody>
</table>


13 STAKEHOLDER IMPACTS

The findings from this report are relevant to the overall operation of the transport network. Under a one network approach the findings will be referred to the joint TMR and City One Network Transport Working Group. This group will advise whether other State government stakeholders are to be engaged on specific matters.

14 TIMING

It is proposed to produce a report on the state of the transport network annually and present to the Transport and Infrastructure Committee towards the end of each calendar year.

15 CONCLUSION

The State of the Transport Network report presents a strategic assessment of available transport data to provide a summary of the State of the Transport Network in 2018. Review of this data identified eight dominant factors shaping transport on the Gold Coast.

16 RECOMMENDATION

It is recommended that Council resolves as follows:

That the contents of this report on the State of the Transport Network 2018 be noted.

Author: Robert Mitchell  
Authorised by: Alton Twine
Coordinator Modelling, Analysis and Data  
Director Transport and Infrastructure
15 November 2018  
iSpot: #72103626

COMMITTEE RECOMMENDATION  
TI18.1129.003
moved Cr Vorster  
seconded Cr Taylor

That the contents of this report on the State of the Transport Network 2018 be noted.

CARRIED

Committee Recommendation Changed at Council 7 December 2018

RESOLUTION  
G18.1207.005  
moved Cr Vorster  
seconded Cr PC Young

That Committee Recommendation TI18.1129.003 be adopted noting a change to Page 31 third last paragraph of the State of the Transport Network 2018 Report, with the following words added:-

‘as part of a number of other corridor options.’

CARRIED UNANIMOUSLY
ITEM 4  TRANSPORT AND TRAFFIC
PARKINCENTRE SCHEME (PICS) PILOTS 24 MONTH REVIEW
TT1017/113/21
Refer 1 page attachment

1  BASIS FOR CONFIDENTIALITY

1.1 I recommend that this report be considered in Closed Session pursuant to section 275 (1) of the Local Government Regulation 2012 for the reason that the matter involves the local government’s budget.

1.2 I recommend that the report/attachment be deemed non-confidential except for those parts deemed by the Chief Executive Officer to remain confidential in accordance with sections 171 (3) and 200 (5) of the Local Government Act 2009.

2  EXECUTIVE SUMMARY

Not Applicable.

3  PURPOSE OF REPORT

The purpose of this report is to:

β Present Council with the results of the Broadbeach and Burleigh Heads ParkInCentre Scheme (PICS) pilots 24 month review.

β Obtain Council approval to continue the current parking arrangements within Burleigh Heads.

β Obtain Council approval to implement parking changes in Broadbeach as a result of this review.

4  PREVIOUS RESOLUTIONS

Ex Minute G16.1207.007

1. That the report/attachment be deemed a confidential document in accordance with sections 171 (3) and 200 (5) of the Local Government Act 2009 and that the attachment remain confidential unless Council decides otherwise by resolution.

2. That Council approve the parking recommendations for the Burleigh Heads ParkInCentre Scheme (PICS) pilot as follows.

a) Extend on-street paid parking regulations to 7 days a week (9am to 5pm) within the core commercial centre.

b) Introduce 3P, 7 days a week (9am-5pm) parking regulations along:

i. Goodwin Terrace (Gold Coast Highway to Rudd Park entrance) – parking fee of $1.50 per hour,

ii. Justins Park Car Park,

iii. Goodwin Terrace (Rudd Park to Burleigh Headland) and

iv. The Esplanade (Gold Coast Highway to First Avenue).
c) Introduce peak/off-peak demand-responsive pricing tariffs rates:
   i. James Street - $2.00 (9am-10am), $2.50 (10am-2pm), $2.00 (2pm-5pm)
   ii. Park Avenue - $1.70 (9am-10am), $2.00 (10am-2pm), $1.70 (2pm-5pm)

d) Amend paid parking arrangements within Alex Black Car Park – 7 days per week (9am-5pm) - $1.50 per hour, capped at $5.00 per day

e) Introduce 2 hour paid parking at Gordon & Jean Duncan Car Park - 7 days per week (9am-5pm) - $1.50 per hour.

3. That Council approve the parking recommendations for the Broadbeach ParkInCentre Scheme (PICS) pilot as follows:
   a) Extend on-street paid parking regulations within the core commercial centre to 7 days a week (9am-7pm).
   b) Introduce progressive pricing along Old Burleigh Road (between Queensland Avenue and Charles Avenue) – $2.00 for the first hour and then $3.50 per hour for the remaining 2 hours, 7 days a week
   c) Introduce progressive pricing in Albert Avenue (east) and change to 4P - $2.00 for the first hour and then $3.50 per hour for the remaining 3 hours, 7 days a week
   d) Introduce peak/off-peak demand-responsive pricing tariff rates:
      i. Surf Parade - $3.00 per hour (9am-11am), $3.60 per hour (11am-2pm), $3.00 per hour (2pm-7pm)
      ii. Gold Coast Highway - $2.80 per hour (9am-11pm), $3.00 per hour (11am-2pm), $2.80 per hour (2pm-7pm)
   e) Queensland Avenue (between Surf Parade and Old Burleigh Road) – change existing time regulated 2P/3P parking to paid 3P parking - $3.10 per hour (9am-7pm)

4. That due to delayed implementation of the 2nd round of parking changes the final review of both ParkInCentre Scheme (PICS) centres will be undertaken in August 2018.

5. That Council approve changes to the Alex Black Car Park parking permit prices:
   i. Weekly parking permit rate - $25 per week
   ii. Monthly parking permit rate - $95 per month

CARRIED UNANIMOUSLY

Ex Minute G15.0901.020

That Committee Recommendation CP15.0826.007 be adopted with a change to Parts 15 and 16, such that it reads in its entirety as follows:

1. That the Broadbeach and Burleigh Heads PICS pilots commence on 1 October 2015.
2. Surf Parade (between Queensland Avenue and Victoria Avenue) – parking price to be increased by $0.20 per hour.
3. Gold Coast Highway (Old Main Place service road) – parking price to be reduced by $0.20 per hour.
4. Albert Avenue – parking price to be reduced by $0.20 per hour and convert eastern end from 1P to 2P.
5. Old Burleigh Road (eastern side) between Queensland Avenue and Margaret Avenue change to 3P, 7 days/week.
6. Queensland Avenue (existing unregulated spaces between Surf Parade and Old Burleigh Road), and Capricornia Avenue (adjoining Federation Park) change to 3P, 7 days/week.

7. Existing time limits remain unchanged and vacant kerbside space on the southern side of Elizabeth Avenue is line marked – street subject to further investigation.

8. Other kerbside changes as required (e.g. locations of loading zones, disabled parking).

9. James Street – parking price to be increased by $0.20 per hour.

10. Southern end of Connor Street between Park Avenue and Ewart Street – parking price to be reduced by $0.20 per hour and the regulation is extended 4P.

11. West Street – parking price reduces by $0.20 per hour.

12. Park Avenue – parking price to be reduced by $0.20 per hour.

13. In ground sensors installed in Alex Black Car park to monitor vehicle movements.

14. In ground sensors installed in Ewart Street to monitor vehicle movements.

15. That quarterly reviews of the PICS pilots be undertaken by Council officers with changes to pricing and regulation made as appropriate following review and assessment of the data in consultation with the Divisional Councillor and the Mayor.

16. That following consultation with the Divisional Councillor and the Mayor, Council officers be authorised to implement any changes to parking pricing and regulation including related signage and sensors resulting from the first and ongoing quarterly review process.

CARRIED UNANIMOUSLY

Ex Minute G14.1118.023

That Committee Recommendation CP14.1112.001 be adopted, with an additional Part 5, 6, 7, 8 such that it reads in its entirety as follows:

1. That the Gold Coast City Parking Plan 2015 be approved.

2. That a Broadbeach and Burleigh ParkInCentre Scheme pilot, consistent with the program outcomes of the Gold Coast City Parking Plan 2015, is approved to commence in July 2015.

3. That a report outlining how the ParkInCentre Scheme pilots will be actioned, including stakeholder engagement, be provided to Council in May 2015 for information purposes.

4. That a comprehensive review of the City Parking Plan, including the results of the Broadbeach and Burleigh PICS, be considered by Council at 12 months and 24 months after commencement of the pilot.

5. That a review of residential and visitor parking permit best practice be undertaken in 2015 (Part of Action 6 of the City Parking Plan).

6. That the City Parking Plan and the Draft City Plan 2015 be amended to address the impacts of development on the supply of on-street parking.

7. That a review of parking for Robina and Varsity Lakes be undertaken in consultation with the Divisional Councillor in 2015.

8. That the Director of Planning and Environment be authorised to make minor editorial amendments to the City Parking Plan prior to its publication.

CARRIED UNANIMOUSLY
5 DISCUSSION

5.1 Background

Council adopted the City Parking Plan 2015 (CPP2015) in November 2014 to better manage the provision and regulation of car parking throughout the City. The CPP2015 replaced the 2004 Whole of City Parking Strategy.

The CPP2015 set a new approach to parking. The progressive implementation of actions within the plan is ensuring that parking is available in the right areas, at the right price, at the right time to provide local access to city centres and beachfront areas.

The plan brings parking into line with the City’s strategic policies including the Gold Coast Transport Strategy 2031, the City Plan and the Economic Development Strategy 2013-2023, as well as other policies that seek a more integrated approach between transport and land use planning.

The CPP2015 aims to achieve efficient and equitable parking outcomes through the implementation of ParkInCentre Schemes (PICS) which seek to:

- improve vehicle turnover of parking spaces in business districts,
- open up parking spaces in areas of high demand,
- reduce congestion in local centres, and
- utilise parking revenue to fund local access improvements.

In October 2015, the City launched PICS pilots in Broadbeach and Burleigh Heads to, among other things, test the concept of Demand Responsive Pricing (DRP) and local parking revenue investment. DRP is a parking control measure where the parking meter price for each street is determined by its parking demand. If DRP is applied in the right locations, as well as normal pricing mechanisms and timed parking restrictions, it has the potential to improve parking turnover in high demand areas, improve parking convenience and increase community satisfaction with parking.

The application of parking control measures in the PICS centres was focused on achieving an occupancy range of between 60-80 per cent to ensure the availability of one or two car parks in a street at any one time. When on-street parking occupancy in centres exceeds 80 per cent, the capacity for effective management of parking during peak periods is diminished. This increases road network congestion as motorists circulate to find an available space and negatively impacts centre accessibility.

In accordance with Council resolution G15.0901.020, the first round of parking changes to the PICS centres were implemented on 15 October 2015 and included:
ITEM 4 (Continued)
PARKINCENTRE SCHEME (PICS) PILOTS 24 MONTH REVIEW
TT1017/113/21

First round parking changes

<table>
<thead>
<tr>
<th>Broadbeach</th>
<th>Burleigh Heads</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction of location based DRP</strong></td>
<td></td>
</tr>
<tr>
<td>$\beta$ Surf Parade – 0.20c price increase ($3.30 per/hr)</td>
<td>$\beta$ James Street – 0.20c price increase ($2.10 per/hr)</td>
</tr>
<tr>
<td>$\beta$ Gold Coast Highway – 0.20c price decrease ($2.90 per/hr)</td>
<td>$\beta$ Connor Street (south) – 0.20c price decrease ($1.70 per/hr)</td>
</tr>
<tr>
<td>$\beta$ Albert Avenue – 0.20c price decrease ($2.90 per/hr)</td>
<td>$\beta$ Park Avenue – 0.20c price decrease ($1.70 per/hr)</td>
</tr>
</tbody>
</table>

| Extension of paid parking limits | | |
| Burleigh Heads | | |
| $\beta$ Not applicable | $\beta$ southern portions of Connor and West Streets from 2P to 4P |

Table 1 – First round of PICS parking changes

A 12 month review of the first round of PICS parking changes was undertaken in late 2016 and a report was presented to Council in December 2016. The review found that the peak parking demands in certain areas within both centres remained above the 80 per cent threshold for parking occupancy.

To address this issue, the report to Council recommended that further changes to meter tariffs, mechanisms for pricing (peak/off-peak pricing, progressive pricing) and new paid parking be introduced in both centres.

In accordance with Council resolution G16.1207.007, a second round of parking changes was implemented in Burleigh Heads on 31 March 2017. However, the implementation of further parking changes within Broadbeach did not occur until 31 July 2017 due to major streetscape works being undertaken in Surf Parade at that time (Refer: Attachment 4.1 – maps for PICS round two parking changes). These final parking changes for 2017 included:

Second round parking changes

<table>
<thead>
<tr>
<th>Broadbeach</th>
<th>Burleigh Heads</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction of new paid and time regulated parking areas</strong></td>
<td></td>
</tr>
<tr>
<td>$\beta$ Queensland Avenue</td>
<td>$\beta$ Goodwin Terrace</td>
</tr>
<tr>
<td>$\beta$ Old Burleigh Road</td>
<td></td>
</tr>
</tbody>
</table>

| **Introduction of peak/off-peak pricing** | | |
| Burleigh Heads | | |
| $\beta$ Gold Coast Highway | $\beta$ James Street |
| $\beta$ Surf Parade | $\beta$ Park Avenue |

| **Extension of existing paid parking regulations to include additional days and/or hours of operation in some on and off-street parking areas** | | |
| Burleigh Heads | | |
| $\beta$ on-street paid parking extended within the commercial core to 7 days (7am-7pm) | $\beta$ on-street paid parking extended within the commercial core to 7 days (7am-5pm) |

| **Introduction of progressive pricing** | | |
| Broadbeach | Burleigh Heads |
| $\beta$ Old Burleigh Road | $\beta$ Not applicable |
| $\beta$ Albert Avenue (east) | | |

Table 2 – Second round of PICS parking changes
The PICS pilots were finalised on 31 March 2018 prior to the implementation of temporary kerbside changes required for the Gold Coast Commonwealth Games (GC2018).

Note: the parking turnover and occupancy data provided within this report is based on the daily average for the duration of the PICS pilot period. The average is only calculated using times when the parking restrictions apply.

5.2 Burleigh Heads – second round parking changes

5.2.1 Key findings

Key findings from implementation of the second round of PICS parking changes include:

- Parking turnover increased by 35 per cent across the whole Burleigh Heads centre for the second 12 months of the pilot (includes paid and timed parking spaces)
- Parking occupancy increased by 6 per cent across the whole Burleigh Heads centre for the second 12 months of the pilot (includes paid and timed parking spaces)
- Parking availability improvements occurred at
  - James Street – parking turnover increased by 38.2 per cent
  - Park Avenue – parking turnover increased by 33.1 per cent
  - Connor Street – parking occupancy increased by 14.8 per cent

5.2.2 Parking turnover

Table 3, below illustrates that on-street parking turnover in Burleigh Heads has significantly increased due to the second round of PICS parking changes. Feedback from local businesses is that the improvement in parking accessibility has improved business trade within the centre.

Note: there is no optimum range for on-street parking turnover. However, the more times a parking space is accessed by a vehicle, the greater the centre’s parking accessibility.

<table>
<thead>
<tr>
<th>Location</th>
<th>No. of spaces</th>
<th>Parking restrictions 2nd round</th>
<th>PICS 1st round</th>
<th>PICS 2nd round</th>
<th>Up + / down -</th>
</tr>
</thead>
<tbody>
<tr>
<td>James Street</td>
<td>81</td>
<td>1P</td>
<td>237,089</td>
<td>327,640</td>
<td>+38%</td>
</tr>
<tr>
<td>Gold Coast Highway</td>
<td>19</td>
<td>2P</td>
<td>47,049</td>
<td>56,355</td>
<td>+20%</td>
</tr>
<tr>
<td>Connor Street</td>
<td>50</td>
<td>2P &amp; 3P</td>
<td>94,073</td>
<td>147,899</td>
<td>+57%</td>
</tr>
<tr>
<td>West Street</td>
<td>82</td>
<td>2P &amp; 3P</td>
<td>110,080</td>
<td>178,396</td>
<td>+62%</td>
</tr>
<tr>
<td>Park Avenue</td>
<td>51</td>
<td>2P</td>
<td>90,904</td>
<td>121,037</td>
<td>+33%</td>
</tr>
<tr>
<td>Goodwin Terrace (between Tweed Street and Rudd Park)</td>
<td>51</td>
<td>3P</td>
<td>75,782</td>
<td>116,972</td>
<td>+54%</td>
</tr>
</tbody>
</table>

**Average increased turnover**  

+44%

*Table 3 – Burleigh Heads on-street parking turnover (number of times bay is used)*
5.2.3 Paid parking occupancy

On and off-street parking occupancy

<table>
<thead>
<tr>
<th>Location</th>
<th>No. of spaces</th>
<th>Paid parking restrictions</th>
<th>PICS 1st round (%)</th>
<th>PICS 2nd round (%)</th>
<th>Up + / down -</th>
</tr>
</thead>
<tbody>
<tr>
<td>James Street</td>
<td>81</td>
<td>1P</td>
<td>85</td>
<td>83</td>
<td>-2%</td>
</tr>
<tr>
<td>Gold Coast Highway</td>
<td>19</td>
<td>2P</td>
<td>51</td>
<td>63</td>
<td>+12%</td>
</tr>
<tr>
<td>Connor Street</td>
<td>50</td>
<td>2P</td>
<td>74</td>
<td>78</td>
<td>+4%</td>
</tr>
<tr>
<td>West Street</td>
<td>82</td>
<td>2P &amp; 3P</td>
<td>61</td>
<td>83</td>
<td>+22%</td>
</tr>
<tr>
<td>Park Avenue</td>
<td>51</td>
<td>2P</td>
<td>57</td>
<td>58</td>
<td>+1%</td>
</tr>
<tr>
<td>Goodwin Terrace (between Tweed Street and Rudd Park)</td>
<td>51</td>
<td>3P</td>
<td>83</td>
<td>82</td>
<td>-1%</td>
</tr>
<tr>
<td>Gordon and Jean Duncan Carpark</td>
<td>42</td>
<td>2P</td>
<td>80</td>
<td>58</td>
<td>-22%</td>
</tr>
<tr>
<td>Alex Black Carpark (Round one – 2P free)</td>
<td>79</td>
<td>P</td>
<td>100</td>
<td>68</td>
<td>-32%</td>
</tr>
<tr>
<td>Alex Black Carpark (Round two – 100% all day paid)</td>
<td>77</td>
<td>P</td>
<td>35</td>
<td>68</td>
<td>+33%</td>
</tr>
<tr>
<td><strong>Average Occupancy</strong></td>
<td><strong>70</strong></td>
<td></td>
<td><strong>71</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table 4 – Burleigh Heads on-street parking occupancy*

While the introduction of new metered parking initially impacted parking occupancy within the Alex Black and Gordon and Jean Duncan carparks, occupancy for both carparks has now settled between 58-68 per cent. This level of occupancy has improved parking availability throughout the day, improving accessibility for visitors to community facilities and businesses.
5.2.4 Paid parking revenue

```
<table>
<thead>
<tr>
<th>Month</th>
<th>REDACTED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```
5.3 Broadbeach – second round parking changes

5.3.1 Key findings

Key findings from implementation of the second round of PICS parking changes include:

- Parking turnover decreased by 16 per cent across the whole Broadbeach centre for the second 12 months of the pilot (includes paid and timed parking spaces)
- Parking occupancy – increased by 1.8 per cent across the whole Broadbeach centre for the second 12 months of the pilot (includes paid and timed parking spaces)

Key parking availability changes -
- Surf Parade – parking turnover increased by 51.1 per cent
- Old Burleigh Road – average parking turnover decreased by 23.0 per cent
- Gold Coast Highway – parking occupancy increased by 10.5 per cent
- Queensland Avenue (west) – parking occupancy increased by 29.3 per cent
- Queensland Avenue (east) – parking occupancy increased by 8.7 per cent
- Charles Avenue – parking occupancy increased by 4.0 per cent
- Albert Avenue (west) – parking occupancy increased by 4.3 per cent
- Albert Avenue (east) – parking occupancy increased by 10.4 per cent
5.3.2 Parking turnover

The parking turnover results for Broadbeach following commencement of the second round of parking changes for PICS were mixed depending on the specific location.

As a result of Surf Parade upgrade works and GC2018 the round two PICS pilot for Broadbeach was eight months. Therefore, we have estimated the parking turnover by multiplying the eight month parking turnover results by 1.5 so that the parking turnover for a full 12 month period could be approximated. The eight months of data represents typical conditions and is deemed statistically valid.

Note: there is no optimum range for on-street parking turnover. However, the more times a parking space is accessed by a vehicle the greater the centre’s parking accessibility.

<table>
<thead>
<tr>
<th>Location</th>
<th>No. of spaces</th>
<th>Parking Restrictions</th>
<th>PICS 1st round</th>
<th>PICS 2nd round (approximated)</th>
<th>Up + / down -</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surf Parade</td>
<td>16</td>
<td>1P</td>
<td>85,607</td>
<td>129,316</td>
<td>+51%</td>
</tr>
<tr>
<td>Gold Coast Highway</td>
<td>47</td>
<td>2P</td>
<td>236,721</td>
<td>224,310</td>
<td>-5%</td>
</tr>
<tr>
<td>Queensland Avenue (west)</td>
<td>11</td>
<td>1P</td>
<td>16,112</td>
<td>20,831</td>
<td>+29%</td>
</tr>
<tr>
<td>Queensland Avenue (east)</td>
<td>45</td>
<td>3P</td>
<td>73,039</td>
<td>79,424</td>
<td>+9%</td>
</tr>
<tr>
<td>Charles Avenue</td>
<td>36</td>
<td>2P</td>
<td>141,454</td>
<td>122,772</td>
<td>-15%</td>
</tr>
<tr>
<td>Old Burleigh Road</td>
<td>45</td>
<td>4P</td>
<td>58,755</td>
<td>49,364</td>
<td>-17%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>No. of spaces</th>
<th>Parking Restrictions</th>
<th>PICS 1st round</th>
<th>PICS 2nd round (approximated)</th>
<th>Up + / down -</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albert Avenue (west)</td>
<td>5</td>
<td>1P</td>
<td>15,472</td>
<td>14,313</td>
<td>-8%</td>
</tr>
<tr>
<td>Albert Avenue (east)</td>
<td>32</td>
<td>4P</td>
<td>44,020</td>
<td>26,921</td>
<td>-61%</td>
</tr>
</tbody>
</table>

**Table 6** – Broadbeach on-street parking turnover (number of times bay is used)

Note: the number of parking spaces in Surf Parade reduced from 16 in PICS round one to 10 in PICS round two due to centre improvement works. This is likely to have contributed to changes in parking turnover during the PICS pilot.
5.3.3 Paid parking occupancy

<table>
<thead>
<tr>
<th>Location</th>
<th>No. of spaces</th>
<th>Paid Parking Restrictions</th>
<th>PICS 1st round (%)</th>
<th>PICS 2nd round (%)</th>
<th>Up + / down -</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surf Parade</td>
<td>16</td>
<td>1P</td>
<td>63</td>
<td>62</td>
<td>-1%</td>
</tr>
<tr>
<td>Gold Coast Highway</td>
<td>47</td>
<td>2P</td>
<td>41</td>
<td>46</td>
<td>+5%</td>
</tr>
<tr>
<td>Queensland Avenue (west)</td>
<td>11</td>
<td>1P</td>
<td>40</td>
<td>44</td>
<td>+4%</td>
</tr>
<tr>
<td>Queensland Avenue (east)</td>
<td>45</td>
<td>3P</td>
<td>77</td>
<td>48</td>
<td>-29%</td>
</tr>
<tr>
<td>Charles Avenue</td>
<td>36</td>
<td>2P</td>
<td>61</td>
<td>65</td>
<td>+4%</td>
</tr>
<tr>
<td>Old Burleigh Road</td>
<td>45</td>
<td>4P</td>
<td>77</td>
<td>54</td>
<td>-23%</td>
</tr>
<tr>
<td>Albert Avenue (west)</td>
<td>5</td>
<td>1P</td>
<td>56</td>
<td>60</td>
<td>-4%</td>
</tr>
<tr>
<td>Albert Avenue (east)</td>
<td>32</td>
<td>4P</td>
<td>32</td>
<td>43</td>
<td>+10%</td>
</tr>
</tbody>
</table>

**Average Occupancy**

|                  | 56 | 53 |

*Table 7 – Broadbeach on-street parking occupancy*

The reduction in on-street parking occupancy along Queensland Avenue (east) and Old Burleigh Road following the implementation of paid parking was to be expected. It was anticipated parking occupancy would trend upwards following completion of the Gold Coast Commonwealth Games 2018. However, parking occupancy remains lower than expected.

It is proposed that the hourly parking tariff for Old Burleigh Road and Queensland Avenue (east) be reduced from $3.50 and $3.10 respectively, to $1.50 per hour. The proposed $1.50 per hour parking tariff is currently used effectively along Goodwin Terrace, Burleigh Heads where the parking characteristics are fairly similar. A review of the new parking tariff will be undertaken in mid-2019 to determine if additional changes are required.

*Note as a result of Surf Parade upgrade works the number of paid parking spaces along the street decreased from 16 spaces to 10 spaces.*
5.3.4  Paid parking revenue

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED

REDACTED
5.4 Review of paid parking control measures

5.4.1 Demand Responsive Pricing

The theory of DRP is based on increasing the parking price when parking demands are high to manage occupancy and balance demands throughout the day. In early to mid-2017, during implementation of the second round of PICS parking changes, DRP was implemented in four (4) locations:

- James Street, Burleigh Heads
- Park Avenue, Burleigh Heads
- Surf Parade, Broadbeach
- Gold Coast Highway, Broadbeach.

Peak/off-peak pricing was introduced to trial DRP as part of the second round of PICS parking changes. The parking data from the DRP trial showed that peak parking demands are balanced throughout the day with a reduction in peak midday demands. Refer to figure 2-9 below.

The reduction in paid parking spaces along Surf Parade due to the centre improvement works completed in mid-2017 is likely to have altered the outcome of the trial.
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The increased demand for car parking in James Street during peak times indicates the current hourly peak parking tariff may be too low. The parking demands along James Street will continue to be monitored, and if they remain high or exceed 90 per cent an increase in the peak hourly parking tariff may be required.

5.4.2 Progressive pricing

In July 2018 the Transport and Traffic branch implemented progressive pricing along Old Burleigh Road (beachfront) and Albert Avenue (eastern end). The parking tariff is $2.00 for the first hour, and each subsequent hour is $3.50, up to a maximum cost of $12.50 for the full restricted four (4) hour stay.
ITEM 4 (Continued)
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The results from the trial highlight as the hourly cost for parking increased customers were
influenced by tariff sensitivity. The majority of customers paid up to $5.50 for their parking
and stayed for two (2) hours or less. These results are consistent with progressive pricing
trials undertaken by other LGAs.

Figure 10 shows the results of progressive pricing on length of stay along Old Burleigh Road.

![Figure 10 – Progressive pricing results](image)

The transaction data collected during our trial highlighted that the majority of customers using
the progressive parking along Old Burleigh Road stayed for two (2) hours. Additional
observations included a reduction in vehicle overstays with a decrease from 3.2 per cent to
1.9 per cent. It is likely the introduction of a paid parking along Old Burleigh Road contributed
to increased compliance.

The results from the progressive pricing trial confirm that a tiered pricing structure can be
used effectively to manage on-street parking demands. Due to the proven effectiveness of
progressive pricing in Auckland City their on-street parking time limits in some metered
parking spaces have been removed and progressive pricing has been introduced. The
introduction of progressive pricing provides flexibility for customers who require a longer stay
and are prepared to pay a premium price for the space. In the right location progressive
pricing will be an effective parking control measure for the Gold Coast.

5.5 Future parking trials

5.5.1 30 minute free parking

In mid-2019, pay-by-plate will be implemented throughout the Gold Coast. The current
system operates predominately as pay-by-space. These changes will enable the offering of
additional benefits for customers. These benefits include the linking of vehicle registration
numbers for e-permits. The change also enables customers to be offered discounts for
parking and/or free parking.
Prior to citywide implementation of pay-by-plate it is proposed to undertake a trial for 30 minute free parking along Surf Parade in Broadbeach. The trial will enable the determination of administrative, operational and customer benefits for offering these types of parking products e.g. 30 minutes free parking.

The introduction of 30 minute free parking along Surf Parade will improve parking accessibility for customers, support an increase in parking turnover and make Surf Parade a more attractive destination for short term visitors to the centre. The implementation of pay-by-plate will enable statistical data to be collected during the trial so that Transport and Traffic branch can evaluate the daily usage for 30 minute free parking. The trial will be evaluated using statistical data, and feedback from stakeholders and customers.

6 ALIGNMENT TO THE CORPORATE PLAN, CORPORATE STRATEGIES AND OPERATIONAL PLAN

The Transport Strategy 2031 is Council’s blueprint for developing and managing the city’s transport network over the next 20 years. It includes actions relating to better local parking management and development of a city-wide parking plan. Specific actions include:

- development of a whole of city parking plan for the City (Action 5.1) with local parking plans in selected centres (Action 5.2)
- review of the price of parking in public transport precincts and tie any new parking revenues to local centre improvements (Action 5.3).

7 FUNDING AND RESOURCING REQUIREMENTS

Budget/Funding Considerations

The PICS program is funded through the Transport and Traffic Branch Operational Budget Centre CI33700001 – City Parking Operations.

8 RISK MANAGEMENT

There is no current corporate risk directly associated with the CPP2015. However, as this plan relates to actions from the Gold Coast City Transport Strategy 2031, the following risk is noted:

Risk Number: CO00507
Risk Name: Transport Strategy is not fully funded resulting in whole of City impacts with poor transport infrastructure and transport service choices for the community.

9 STATUTORY MATTERS

There are no significant statutory matters relevant to the matter. Parking fees under DRP and progressive pricing are published in accordance with statutory requirements for fees and charges.
ITEM 4 (Continued)
PARKINCENTRE SCHEME (PICS) PILOTS 24 MONTH REVIEW
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10 COUNCIL POLICIES

Not Applicable.

11 DELEGATIONS

Pricing changes made under the PICS pilots are signed off under the delegation of the Chief Executive Officer and updated parking fees are published accordingly. In accordance with resolution (G15.901.020, part 16) such changes would be made in consultation with Divisional Councillors and the Mayor.

12 COORDINATION & CONSULTATION

In October 2018, Transport and Infrastructure officers engaged with the respective Divisional Councillors on the findings of the PICS pilot 24 months review. The proposed parking changes for Broadbeach were also discussed.

All officer recommendations for parking changes in Burleigh Heads and Broadbeach were supported and have been included in this report.

<table>
<thead>
<tr>
<th>Name and/or Title of the Stakeholder Consulted</th>
<th>Directorate or Organisation</th>
<th>Is the Stakeholder Satisfied With Content of Report and Recommendations (Yes/No) (comment as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew Tilly Manager Transport &amp; Traffic</td>
<td>Transport and Infrastructure</td>
<td>Yes</td>
</tr>
<tr>
<td>Brigid Kudzius Executive Coordinator Transport</td>
<td>Transport and Infrastructure</td>
<td>Yes</td>
</tr>
<tr>
<td>Network Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chris Kinnell Coordinator City Parking</td>
<td>Lifestyle and Community</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: consultation with the Divisional Councillors was undertaken during the PICS pilot review.

13 STAKEHOLDER IMPACTS

In accordance with the External Communication Policy, Corporate Communication staff should be consulted on potential positive and negative impacts prior to this report going forward.

External community stakeholder Impacts

Burleigh Heads
It is not currently proposed to make any further changes to parking in Burleigh Heads. Therefore, it is not anticipated that there will be any community impacts.
ITEM 4 (Continued)
PARKINCENTRE SCHEME (PICS) PILOTS 24 MONTH REVIEW
TT1017/113/21

Broadbeach
The proposed 30 minute free parking trial in Surf Parade and changes to parking meter tariffs in Queensland Avenue (east) and Old Burleigh Road will have community impacts. A Communications Management Plan is being drafted for marketing and communication activities prior to the implementation of any parking changes.

Internal (Organisational) Stakeholder Impacts
No significant issues/impacts have been raised by internal stakeholders.

14 TIMING

The proposed parking changes in Broadbeach will take approximately six weeks to implement. It is anticipated that these changes will be completed in late January 2019.

15 CONCLUSION

The second round of PICS parking changes for Broadbeach and Burleigh Heads resulted in positive outcomes for the City and parking users. Key performance indicators measured parking turnover increases of up to 62 per cent in Burleigh Heads and 51 per cent in Broadbeach. Parking occupancy also increased up to 22 per cent in Burleigh Heads and 10 per cent in Broadbeach. Results from the PICS pilot highlight the benefit of using parking control measures, e.g. DRP and progressive pricing, in appropriate locations to improve parking accessibility and turnover.

An additional benefit from these parking changes was the generation of revenue for investment in future local streetscape and accessibility improvements within the centres.

Following the introduction of new paid parking in Broadbeach, Transport and Traffic branch observed a reduction in on-street parking occupancy in Old Burleigh Road and Queensland Avenue (east). And although parking occupancy has increased in these streets it is below the optimal range of 60-80 per cent. Feedback from the Divisional Councillor and the community is that the parking tariff is too high.

According to the City’s parking policy alternative options may need to be considered in locations with demand below 60 per cent. Therefore, it is proposed that the hourly parking tariff for these two streets be reduced to $1.50 per hour. The proposed change will align with community expectations, and it is anticipated the reduced hourly parking tariff will increase parking occupancy in the coming months. A review of the new parking tariff will be undertaken in mid-2019 to determine if additional changes are required.

Given the positive outcomes from PICS it is proposed that additional parking products be trialled to expand the City’s parking management tools. The proposed trial will be undertaken in Broadbeach between January and March 2019 and provide customers with 30 minute free parking in paid spaces along Surf Parade.
The trial will use pay-by-plate technology to manage the 30 minute free parking. Citywide implementation for pay-by-plate is scheduled for mid-2019, however, it can be implemented in January along Surf Parade for the trial and there will be no additional cost for the City. Undertaking the trial prior to the citywide implementation of pay-by-plate will enable the technology to be evaluated in an on-street environment. An evaluation on the trial will be undertaken and the findings presented to Council in mid-2019.

**16 RECOMMENDATION**

It is recommended that Council resolves as follows:

1. That the report/attachment be deemed non-confidential except for those parts deemed by the Chief Executive Officer to remain confidential in accordance with sections 171 (3) and 200 (5) of the *Local Government Act 2009*.

2. That Council retain the existing ParkInCentre Scheme (PICS) parking for Burleigh Heads as outlined in adopted Council resolution G16.1207.007.

3. That Council retain the existing ParkInCentre Scheme (PICS) parking for Broadbeach as outlined in adopted Council resolution G16.1207.007 with the following change.
   a. Reduce on-street hourly parking rate in the following locations to $1.50 per hour -
      i. Old Burleigh Road
      ii. Queensland Avenue (east)


5. That upon its completion, Transport & Traffic Branch Officers undertake a review of the 30 minute free parking trial and report back to Council in mid-2019.

*Author:* Tony Papa

*Authorised by:* Alton Twine

*Specialist Transport Planner* Director City Infrastructure

23 October 2018

iSPOT Doc #: 70663369 + Attach(s) # 72102045
ITEM 4 (Continued)
PARKINCENTRE SCHEME (PICS) PILOTS 24 MONTH REVIEW
TT1017/113/21

COMMITTEE RECOMMENDATION
TI18.1129.004
moved Cr Vorster seconded Cr Baildon

1. That the report/attachment be deemed non-confidential except for those parts deemed by the Chief Executive Officer to remain confidential in accordance with sections 171 (3) and 200 (5) of the Local Government Act 2009.

2. That Council retain the existing ParkInCentre Scheme (PICS) parking for Burleigh Heads as outlined in adopted Council resolution G16.1207.007.

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   a. Reduce on-street hourly parking rate in the following locations to $1.50 per hour -
      i. Old Burleigh Road
      ii. Queensland Avenue (east)


5. That upon its completion, Transport & Traffic Branch Officers undertake a review of the 30 minute free parking trial and report back to Council in mid-2019.

CARRIED UNANIMOUSLY
Broadbeach – round two parking changes

Burleigh Heads – round two parking change
ITEM 5  CITY ASSETS
SURFERS PARADISE SAND BACKPASS PIPELINE PROJECT
WFB600/46/66(P1)
Refer 44 page attachment

1 BASIS FOR CONFIDENTIALITY

1.1 I recommend that this report be considered in Closed Session pursuant to section 275 (1) of the Local Government Regulation 2012 for the reason that the matter involves other business for which a public discussion would be likely to prejudice the interests of the local government or someone else, or enable a person to gain a financial advantage.

1.2 I recommend that the report/attachment be deemed non-confidential except for those parts deemed by the Chief Executive Officer to remain confidential in accordance with sections 171 (3) and 200 (5) of the Local Government Act 2009.

2 EXECUTIVE SUMMARY

Not Applicable.

3 PURPOSE OF REPORT

The purpose of this report is to provide an update on the Surfers Paradise Sand Backpass Pipeline Project (SPSBPP) and present the Memorandum of Understanding between the City and the Gold Coast Waterways Authority (GCWA) to Council for endorsement. This report also outlines future capital and operational budget requirements associated with this infrastructure.

4 PREVIOUS RESOLUTIONS

Ex Minute No G16.1207.007

Recommendation CII6.1201.003

“1 The contents of this report be noted.
2 The City seeks approval of the Gold Coast Waterways Authority board to proceed with further planning and design of the Surfers Paradise Sand Backpassing Pipeline.
3 The City explores options to formalise a partnership with the Gold Coast Waterways Authority to fund and deliver Surfers Paradise Sand Backpassing Pipeline infrastructure, with a report to be brought back to Committee seeking endorsement of a future operational model.
4 That the consultants undertaking the feasibility of the Cruise Ship Terminal be advised of this program.”

Ex Minute No G08.1117.007

Recommendation ED08.1111.01 (in part)

“1 That Council notes the progress of the Surfers Paradise Foreshore Masterplan implementation.
ITEM 5 (Continued)
SURFERS PARADISE SAND BACKPASS PIPELINE PROJECT
WFB600/46/66(P1)

2 That Council acknowledges and accepts the sacrificial nature of existing and future works east of the A-line."

3 That further investigation into a sand backpassing facility extending from the Seaway to Surfers Paradise or Nobby Headland for the purposes of beach nourishment and erosion protection be undertaken…”

5 DISCUSSION

5.1 Project Background and Strategic Alignment

The Ocean Beaches Strategy (OBS) is a transformational strategy that supports the management of our ocean beaches and the vision “Our beaches are clean, healthy, safe and accessible now and into the future”.

The OBS articulates the importance of our beaches to the City’s image, liveability and economy. As a result, the City is committed to ensuring there are sufficient sand volumes along the coastline to support a high level of community satisfaction with beach amenity, facilities and safety.

The Gold Coast can be subjected to high energy swell events which could lead to coastal erosion. Not having sand available to maintain a sufficient sand buffer along our coastline would limit the capacity of Gold Coast beaches to withstand coastal erosion events. This could result in damage or loss of public and private infrastructure with negative impacts on the City’s reputation, tourism and economy. Figure 1 shows the scale of events at Surfers Paradise beach that support the City’s tourism, reputation and economy.

Figure 1 – Commonwealth Games athletes meet and greet event, Surfers Paradise beach
The Surfers Paradise foreshore infrastructure (SPFI) is a valuable city asset in terms of the contribution to the city’s image, identity and economy. The need to maintain the annual supply of sand to the Surfers Paradise upper beach was presented via a report to the City Infrastructure Committee meeting on 1 December 2016. The report outlined impacts of coastal erosion on the Gold Coast and the need to protect infrastructure located east of the A-line, including the SPFI. The SPFI was completed in 2011 and required various State Government approvals. The infrastructure located east of the seawall A-line was approved by the State Government as ‘sacrificial’ infrastructure (Ex Minute No G08.1117.007) – refer Figure 2.

To reduce the potential damage to the SPFI caused by coastal erosion, it is imperative that the City:

- proactively manages sand volumes at the Surfers Paradise beach in perpetuity in an efficient and economical manner,
- has the capability to maintain a sufficient volume of sand to protect the SPFI and
- provides a beach environment that supports City reputation and beach user experience

### 5.2 Project (SPSBPP) Need and Relationship with the Gold Coast Beach Nourishment Project

The City undertook the Gold Coast Beach Nourishment Project (GCBNP) between June 2017 and October 2017. The GCBNP delivered over three million cubic metres of sand along vulnerable sections of the coastline between Palm Beach and Main Beach to buffer against future storms and coastal erosion impacts. Over time, sand placed as part of the GCBNP will move to the north under wave, wind and tidal action.
ITEM 5 (Continued)
SURFERS PARADISE SAND BACKPASS PIPELINE PROJECT
WFB600/46/66(P1)

As well as ensuring that the City’s beaches were in the best possible condition for the 2018 Commonwealth Games, the GCBNP will continue to provide benefits that will help to mitigate Corporate Risk CO000502 – Coastal Erosion over the coming decades.

Even with the benefit provided by the additional sand placed offshore at Surfers Paradise as part of the GCBNP, the upper beach width and shoreline may periodically retreat in high energy swell events. This could lead to:

- loss of public infrastructure (SPFI),
- reputational damage to the City,
- short term impacts to tourism and associated economic benefits, and
- loss of beach amenity

Currently beach management practices rely on mechanical profiling of the beach following coastal erosion events. If our coastline is subject to a series of coastal erosion events, there may not be sufficient volumes of sand available above the waterline to provide protection to the SPFI which relies on a beach profile to support it structurally. Significant profiling of the beaches that would be needed to provide protection to the SPFI would significantly restrict public access to the Surfers Paradise beach for up to four months. This impact to public amenity is considered an unacceptable level of risk which is mitigated by the SPSBPP.

Figure 3 illustrates the Surfers Paradise foreshore after the effects of sustained high energy ocean swell. The SPFI was close to being undermined which would have resulted in collapse of the infrastructure.

The construction and operation of the SPSBPP will build on the success of the GCBNP to provide long term, targeted placement of up to 120,000 cubic metres per year of sand directly onto Surfers Paradise’s upper beach. The SPSBPP will extend the benefits delivered by the GCBNP by capturing a portion of this sand at the Gold Coast Seaway Sand Bypass System and recycling the sand south to Surfers Paradise. This will provide a direct benefit to the SPFI and upper beach area through improved erosion mitigation.
ITEM 5 (Continued)
SURFERS PARADISE SAND BACKPASS PIPELINE PROJECT
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The SPSBPP has been designed to provide flexibility in how sand can be delivered. The pipeline has been designed to also allow for sand placement at Narrowneck and Main Beach. This functionality is important to address any emergent beach management needs that may arise. The SPSBPP will also complement the recently renewed Narrowneck Reef. The renewal of the reef assists in the retention of sand delivered by the GCBNP, and will also help retain sand delivered by the SPSBPP to all beaches south of the reef.

The SPSBPP will redirect up to 20 per cent of the overall amount of sand transported via the Gold Coast Seaway Sand Bypass System to South Stradbroke Island (SSI). The City has engaged with industry leading coastal experts who have advised that that SPSBPP will not have an adverse impact on the SSI shoreline or nature and quality of the SSI surf break. Sand will continue to be delivered to SSI by the GCWA Sand Bypass Jetty, and through wave and currents that deposit sand offshore of SSI. The volume of sand delivered by the GCWA will not reduce below the average long term volume of 500,000m³. The City has obtained a review of the project by Professor Andrew Short of the University of New South Wales and Professor Rodger Tomlinson of Griffith University in relation to the project benefits and relationship with SSI, both Professors are supportive of the project. Further to this, the City will carry out regular shoreline monitoring at SSI during the operational phase of the SPSBPP.

5.3 Memorandum of Understanding

Council previously resolved to write to the GCWA (Ex Minute No G16.1207.007) seeking approval to proceed with further planning and design of the SPSBPP and to explore partnership options to fund and deliver the SPSBPP (refer Attachment 5.1). The GCWA responded (refer Attachment 5.2) confirming in principle support for the City to commence drafting a Memorandum of Understanding (MoU) for the SPSBPP. The design phase of the SPSBPP is now complete, and a draft MoU (refer Attachment 5.3) has been completed in partnership with the GCWA.

The 50 year term of the MoU is based on the proposed SPSBPP design life. The MoU clearly identifies the responsibilities of both parties during construction and operation of the SPSBPP. The MoU states that the City will only incur costs that exceed the GCWA’s normal operational costs during SPSBPP operations. The City will not be charged to use the GCWA infrastructure or for sand extracted by the GCWA infrastructure. The MoU does not commit the City to taking a predetermined volume of sand each year or to paying a set annual fee to the GCWA if no sand, or a reduced volume of sand, is taken. The MoU ensures the City has the flexibility to vary the amount of sand backpassed annually as required, up to a long term average of 120,000 cubic meters per year.

Legal Services have reviewed the MoU and confirmed the terms of the MoU are acceptable to the City from a legal perspective.
5.4 Alternate Beach Nourishment Options

Based on the specific outcomes sought to maintain the upper beach profile at Surfers Paradise, a number of options were considered. The various options are presented below, with a description of the delivery methodology, cost estimate, and availability and sustainability of sand reserves.

The cubic metre rates provided below are estimated whole of life costs, including capital and operational expenditure, to supply an average of 120,000 cubic metres per year over 50 years. The options considered include:

**Surfers Paradise Sand Back Passing Project (SPSBPP)**
- This option involves the construction of a sand back pass pipeline from the Gold Coast Seaway Sand Bypass System, and procurement of additional sections of temporary pipeline required for the operation of the system. The capital costs also include construction of a storage facility for the temporary pipeline when the system is not in use.
- This option also includes annual operational costs to transport the sand to Surfers Paradise.
- The sand provided for the beach nourishment is to be sourced from the Gold Coast Seaway Sand Bypass System. This provides an opportunity to recycle sand that has been added to Gold Coast beaches through the GCBNP.
- This option is estimated to cost $REDACTED per cubic metre to supply an average volume of 120,000 cubic metres per year to upper Surfers Paradise beach.
- The duration of sand delivery is estimated at three months with operations designed to minimise impacts to beach users.

**Medium to Large trailing Suction Hopper Dredge**
- This option would use vessels ranging in size from the Port of Brisbane dredge (medium) to the BalderR dredge (large) used for the GCBNP in 2017. Sand would be delivered to the upper beach via a floating pipeline through the surf zone impacting on beach users.
- The costs for this option would involve the mobilisation of a dredge to the Gold Coast, with costs dependent on market conditions at the time of dredging. Industry advice suggests that mobilisation could cost up to $REDACTED per campaign. These types of dredges typically work internationally or within the Australasian region, and may not be readily available when dredging is required.
- The existing offshore sand reserves would be accessed, similar to the GCBNP. This will deplete the reserves, limiting the ability to effectively undertake a project like the GCBNP in the future.
- The cost of this option will be dependent on market conditions each time a dredging contract is established. Cost estimates for this option range from $REDACTED to $REDACTED per cubic metre. This range depends on the dredge (medium or large) and costs to mobilise the dredge to the Gold Coast.
- Due to the high establishment costs for this option, a sand delivery strategy has been considered that would provide 600,000 cubic metres of sand once every five years. This strategy would reduce annual mobilisation costs to efficiently undertake the works. However, this option provides less flexibility compared to the SPSBPP.
ITEM 5 (Continued)
SURFERS PARADISE SAND BACKPASS PIPELINE PROJECT
WFB600/46/66(P1)

This volume of sand would not be able to be placed wholly on the upper beach given the scale of the nourishment campaign. Placement of 600,000 cubic metres of sand would need to be placed along adjacent sections of beachfront to the SPFI and within the surf zone.

Small Trailing Suction Hopper Dredge
This option would use a vessel similar to the Port Frederick dredge that has been used to dredge the Nerang and Tweed River entrances. These dredges are more likely to be available on the east coast of Australia, and mobilisation costs can be minimised with a proactive procurement strategy.

The smaller dredges are not able to supply sand to the upper beach through a floating pipeline. Sand would need to be delivered through a technique of bottom dumping in depths of water greater than 4 metres.

The sand reserves for this option are at the Gold Coast Seaway entrance and from the shallow sections of the offshore sand reserves.

It is estimated that delivery of 120,000 cubic metres of sand offshore of Surfers Paradise may take 8 months or more and is dependent on weather conditions which will be likely to cause significant delays.

Dredging from Broadwater, stockpiling sand and trucking sand to the beach
This option involves trucking sand to Surfers Paradise beach with earthmoving equipment undertaking re-profiling of the beach as occurred in 2013.

The main sand source for this option would be the stockpile reserve adjacent to the Gold Coast Seaway Sand Bypass System, which is approved to hold up to 55,000 cubic metres of sand. Other smaller stockpiles of sand at Surfers Paradise and Broadbeach may also be used.

There are insufficient volumes of sand within the existing stockpile reserve to deliver the required volume of sand to Surfers Paradise within the first year of operation.

The stockpile reserve contains sand dredged from the Broadwater navigation channels. This option would require the stockpile reserve to be regularly replenished with sand from dredging of navigation channels or other sand reserves within the Broadwater. The volume of sand that can be obtained from the Broadwater is limited.

Due to the transport costs this option is estimated at $REDACTED per cubic metre. This is significantly higher than other options.

The delivery of sand by this option is slow, with an estimated duration of four months. In certain circumstances the delivery and profiling of sand at the SPFI may only be possible at low tide. Careful management of pedestrian and beach user safety in relation to haul routes is needed, and there is a requirement for closure of sections of beachfront while trucks unload sand, and earthmoving equipment profiles the sand on the beach as required.

The SPSBPP option gains significant financial efficiencies by utilising the existing State Government owned and operated Gold Coast Seaway Sand Bypass System. The Sand Bypass System captures the sand with the City only paying to transport this sand south to Surfers Paradise. The Gold Coast Seaway Sand Bypass System is located at The Spit and includes the jetty, associated pipework, pumps and equipment.
Compared to alternate options, the SPSBPP provides value for money due to the relatively low whole of life cost, low beach user impacts, the ability to place sand exactly where it is needed and operational flexibility.

5.5 Future Operation Model

The SPSBPP will be operated as an annual proactive sand nourishment campaign. The future operational model for backpassing will involve a contract for the supply and installation of temporary booster pumps and potentially include the management of the delivery of sand to the beach. During backpassing operations, control of the Gold Coast Seaway Sand Bypass System will remain with the GCWA.

The annual nourishment campaign is proposed to commence in the winter months with operations planned to minimise beach user impact by avoiding peak use periods. Based on historical sand extraction rates at the Gold Coast Seaway Sand Bypass System, the annual nourishment campaign will have a duration of up to three months. Sand placement operations will not require the full closure of the beach. Operations will ensure only small sections of the beachfront are closed for access at any time.

The SPSBPP includes sections of temporary pipe located at Main Beach (approximately 635 metres) and at Surfers Paradise (approximately 865 metres) as well as four temporary booster pumps along the length of the pipeline. Figure 4 illustrates the locations and extent of the permanent pipe, temporary pipe and temporary booster pumps. The booster pumps and operations will comply with acoustic requirements to mitigate noise impacts as required by approval conditions.
Figure 4 – SPSBPP locality plan
ITEM 5 (Continued)
SURFERS PARADISE SAND BACKPASS PIPELINE PROJECT
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The temporary pipe and temporary booster pumps will be installed and removed for each nourishment campaign. The permanent and temporary pipe will be 450mm diameter high density polyethylene.

The SPSBPP will have an upfront capital cost of $REDACTED over three years with Stage 1 planned to commence in February 2019 (refer section 7 for capital and operational funding requirements). Capital investment for the SPSBPP includes the installation of the permanent pipeline, procurement of the temporary pipeline and a storage facility to house the temporary pipeline lengths when not in use. Following the capital construction in 2018-19, 2019-20 and 2020-21, there will be an annual cost to operate the pipeline including supply of booster pumps. Quantity surveyors with experience in this type of plant and operations have provided the City with estimated annual operating costs at $REDACTED p.a. to deliver 120,000 cubic metres of sand. This amount is an upper limit and may be less depending on the quantity of sand delivered each year.

5.6 Sand Placement

To allow for targeted placement of sand along the Surfers Paradise beach, multiple sand discharge points will be required along the nourishment area. For the safety of beach users, the active nourishment area will be cordoned off. Sections of the temporary pipe associated with the SPSBPP will be buried, particularly at beach entrances, to reduce beach user impact (refer Figure 5).

Figure 5 – Temporary buried sand nourishment pipeline at Palm Beach, as part of the Currumbin Creek dredging campaign, to allow for safe vehicle and pedestrian access

The SPSBPP will nourish the beach with sand from the Gold Coast Seaway Sand Bypass System. The quality and characteristics of the sand from the Gold Coast Seaway Sand Bypass System will be identical in colour and grain size to the existing beach sand at Surfers Paradise.
6  ALIGNMENT TO THE CORPORATE PLAN AND CORPORATE STRATEGIES

Gold Coast 2022 Corporate Plan
The project aligns with Theme 1 “The best place to live, visit and stay” of the Gold Coast 2022 Corporate Plan, specifically:

- Outcome 1.7 - Everyone can enjoy a beach experience – our beaches are open and accessible to everyone.
- Key program of work;
  - Implement the Gold Coast Shoreline Management Plan, supporting best practice coastal management.

Ocean Beaches Strategy 2013 – 2023
The SPSBPP will provide benefits that deliver on all four strategic outcomes of the OBS:

- Everyone can enjoy a beach experience
- Our beaches are healthy and clean
- Our infrastructure is protected from coastal hazards
- There is joint stewardship of the ocean beaches

7  FUNDING AND RESOURCING REQUIREMENTS

7.1  Capital Funding Requirements

Funding is available in 2018-19 from Budget Centre CI2510C004 (Beaches and Waterways) to complete the construction of the first stage of the SPSBPP. This stage is located at Narrowneck with 650m of pipeline proposed for construction to align with the Narrowneck South Oceanway Project and the Higman Street Seawall Project.

The draft four year Capital Works Program includes construction allocations for Stages 2 and 3 of the SPSBPP in 2019-20 and 2020-21, totalling $REDACTED. Table 1 shows the proposed SPSBPP capital and operational costs for consideration in future budget deliberations.

Table 1 – SPSBPP Proposed Capital and Operational Costs

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Project Phase</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018-19</td>
<td>Construction – Stage 1 (early enabling works)</td>
<td>$REDACTED (CAPEX approved budget)</td>
</tr>
<tr>
<td>2019-20</td>
<td>Construction - Stage 2</td>
<td>$REDACTED (CAPEX)</td>
</tr>
<tr>
<td>2020-21</td>
<td>Construction – Stage 3</td>
<td>$REDACTED (CAPEX)</td>
</tr>
<tr>
<td>2021-22 (ongoing)</td>
<td>Operational costs</td>
<td>Up to $REDACTED p.a. (OPEX)</td>
</tr>
</tbody>
</table>
ITEM 5 (Continued)
SURFERS PARADISE SAND BACKPASS PIPELINE PROJECT
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7.2 Operational Funding Requirements

It is proposed that funds in the REDACTED (Reserve) is used to fund SPSBPP operations after the completion of Stage 3 works (i.e. from the 2021-22 financial year onwards).

The purpose of the Reserve is for REDACTED. SPSBPP operations are an appropriate use of this Reserve as the proposed nourishment area is within the Gold Coast’s northern beaches zone and the project is defined as a dredging project as it extracts sand from the ocean floor.

This Reserve receives annual funding which is indexed annually (REDACTED in the 2018-19 financial year). The Reserve currently has a nil balance and pursuant to the funding plan approved in June 2016 for the Commonwealth Games Brought Forward projects the 2019-20 funding allocation is required to repay the Investment Fund Reserve which was used to manage timing differences in the Games Program. The Reserve will recommence accumulating funds in 2020-21. At commencement of the SPSBPP nourishment operations, it is anticipated the Reserve will receive sufficient funds to cover the operational costs based on indexation and adjustment of nourishment volumes to available funds. Currently no other projects use the Northern Beaches Sand Nourishment Reserve as a source of funding.

An estimated upper limit of REDACTED per annum has been calculated as an ongoing operational cost. This amount will vary depending on the quantity of sand delivered each year.

8 RISK MANAGEMENT

Corporate Risk #CO000502 (Ocean Beaches Strategy, including the Palm Beach Shoreline Management Plan is not fully funded, resulting in coastal erosion, impacting the environment, economy, infrastructure and City image). A mitigation measure for this risk is ensuring appropriate funding for Beaches and Waterways capital works is available.

9 STATUTORY MATTERS

All relevant approvals under the Planning Act 2016 have been received.

10 COUNCIL POLICIES

Not Applicable.

11 DELEGATIONS

In order to complete construction and to carry out the ongoing operation of the SPSBPP, it is proposed that Council endorse the MoU and delegate to the CEO the power to take all action necessary to execute the MoU on terms not materially dissimilar to those contained in the attached draft.
12 COORDINATION & CONSULTATION

<table>
<thead>
<tr>
<th>Name and/or Title of the Stakeholder Consulted</th>
<th>Directorate or Organisation</th>
<th>Is the Stakeholder Satisfied With Content of Report and Recommendations (Yes/No) (comment as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shannon Hunt, Executive Coordinator Stormwater Beaches &amp; Waterways</td>
<td>Transport and Infrastructure</td>
<td>Yes</td>
</tr>
<tr>
<td>Hamish Kiddle, Senior Lawyer</td>
<td>Office of the Chief Operating Officer</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The GCWA has been consulted as a key stakeholder throughout both the SPSBPP planning and design phase as well as the development of the MoU. The City and the GCWA will be joint signatories of the MoU. The City has been advised that Hal Morris, Chief Executive Officer would be the signatory on behalf of the GCWA and he has been briefed on the project.

The SPSBPP has a detailed ‘Communication Management Plan’ that identifies key stakeholders and the processes used to effectively engage with these stakeholders. New engagement programs for these stakeholders (including recreational surfers who are members of board rider clubs) are proposed to be delivered following consideration of this report by Council.

13 STAKEHOLDER IMPACTS

The project Communication Management Plan has been endorsed by the Manager City Assets. This plan identifies an extensive list of internal and external stakeholders. This plan will be implemented throughout the construction and operation phases of the SPSBPP to fully inform all stakeholders of the project, its benefits and costs.

14 TIMING

Key milestones for the SPSBPP are outlined below:

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction – Stage 1 (early enabling works)</td>
<td>Commencing February 2019</td>
</tr>
<tr>
<td>Construction - Stage 2</td>
<td>2019-20 financial year</td>
</tr>
<tr>
<td>Construction - Stage 3</td>
<td>2020-21 financial year</td>
</tr>
<tr>
<td>Operational phase commences</td>
<td>2021-22 financial year</td>
</tr>
</tbody>
</table>
15 CONCLUSION

The Gold Coast Beach Nourishment Project concluded in October 2017 and provided large scale beach nourishment to Gold Coast beaches. The proposed Surfers Paradise Sand Backpass Pipeline Project (SPSBPP) will complement this mass nourishment by recycling a portion of the sand collected by the Gold Coast Seaway Sand Bypass System and pumping it back to the Surfers Paradise upper beach, where it is needed most. Expert review has advised that the SPSBPP operations will not negatively impact on South Stradbroke Island.

The SPSBPP will allow the sand buffer in front of the Surfers Paradise foreshore infrastructure (SPFI) to be ‘topped up’ on an annual basis. This will help secure an increased level of protection and amenity to the Surfers Paradise beach and foreshore infrastructure into the future.

The SPFI is a valuable piece of City infrastructure in terms of its contribution to the City’s image, identity and economy. The need for annual sand supply to the Surfers Paradise upper beach is required to improve resilience of the SPFI against coastal erosion and to maintain beach amenity.

In partnership with the Gold Coast Waterways Authority (GCWA) the City has developed a MoU to use GCWA infrastructure to feed sand into the proposed SPSBPP system. This will allow sand to be delivered to the Surfers Paradise upper beach at a very efficient cost.

The SPSBPP has a capital budget requirement across three years commencing in the current (2018-19) financial year. Following construction of the SPSBPP, ongoing operational funds will be required (refer section 7). It is proposed that funds in the Northern Beaches Sand Nourishment Reserve are made available to fund SPSBPP operations.
16 RECOMMENDATION

It is recommended that:

1 That the report/attachment be deemed non-confidential except for those parts deemed by the Chief Executive Officer to remain confidential in accordance with sections 171 (3) and 200 (5) of the Local Government Act 2009.

2 That Council notes the capital funding proposed for construction of the Surfers Paradise Sand Backpass Pipeline Project commencing in February 2019 with subsequent funding in the 2019-20 and 2020-21 financial years to be considered in annual budget deliberations.

3 That funding in the Northern Beaches Sand Nourishment Reserve be made available annually to fund the operation of the Surfers Paradise Sand Backpass Pipeline Project.

4 That Council notes the operational funding requirements for the Surfers Paradise Sand Backpass Pipeline Project. Council delegates to the Chief Executive Officer the power to execute the Memorandum of Understanding with the Gold Coast Waterways Authority (GCWA) on terms not materially dissimilar to those contained in the attached draft. This will enable GCWA infrastructure to provide sand for the operation of the Surfers Paradise Sand Backpass Pipeline Project.

Author: Joshua Taylor
Senior Project Manager
14 November 2018

Authorised by: Alton Twine
Director Transport and Infrastructure

COMMITTEE RECOMMENDATION

moved Cr Crichlow
seconded Cr Owen-Jones

1 That the report/attachment be deemed non-confidential except for those parts deemed by the Chief Executive Officer to remain confidential in accordance with sections 171 (3) and 200 (5) of the Local Government Act 2009.

2 That Council notes the capital funding proposed for construction of the Surfers Paradise Sand Backpass Pipeline Project commencing in February 2019 with subsequent funding in the 2019-20 and 2020-21 financial years to be considered in annual budget deliberations.

3 That funding in the Northern Beaches Sand Nourishment Reserve be made available annually to fund the operation of the Surfers Paradise Sand Backpass Pipeline Project.

4 That Council notes the operational funding requirements for the Surfers Paradise Sand Backpass Pipeline Project. Council delegates to the Chief Executive Officer the power to execute the Memorandum of Understanding with the Gold Coast Waterways Authority (GCWA) on terms not materially dissimilar to those contained in the attached draft. This will enable GCWA infrastructure to provide sand for the operation of the Surfers Paradise Sand Backpass Pipeline Project.

CARRIED UNANIMOUSLY
Dear Mr Morris

SURFERS PARADISE SAND BACKPASSING PIPELINE PROJECT

Further to our recent discussions, the City wishes to progress with the Surfers Paradise Sand Backpassing Pipeline Project. The project will allow targeted sand placement that specifically nourishes the upper beach profile at Surfers Paradise on an annual basis. The ability to undertake sand placement in the upper beach on a recurrent basis is particularly important for beaches that have high recreational use and require different management approaches to protect beachfront infrastructure.

I am pleased to advise that Council at its meeting of 7 December 2018, resolved to endorse the following recommendations (in part);

- The City seeks approval of the Gold Coast Waterways Authority board to proceed with further planning and design of the Surfers Paradise Sand Backpassing Pipeline.
- The City explores options to formalise a partnership with the Gold Coast Waterways Authority to fund and deliver Surfers Paradise Sand Backpassing Pipeline infrastructure, with a report to be brought back to Committee seeking endorsement of a future operational model.

It would be greatly appreciated if you could assist in presenting this matter to the next GCVYA board meeting. Please advise how I can assist you in the task through the provision of information and / or attendance at the board meeting.

Yours faithfully,

Mark Ash
Manager City Assets
For the Chief Executive Officer
Council of the City of Gold Coast
21 December 2016

Mark Ash
Manager City Assets
City of Gold Coast
PO Box 5042
GCMC Qld 9729

Dear Mark

Surfers Paradise Sand Backpassing Pipeline Project

Thank you for your letter of 9 Dec 2016 regarding the Surfers Paradise Sand Packpassing Pipeline Project and Council's subsequent resolutions from their meeting of 7 December 2016 seeking GCWA Board approval to proceed with further planning and design for this project and to explore options to formalise a partnership.

I am pleased to advise that the GCWA Board at its 19 December Board Meeting resolved the following:

- In principle support is provided to continue to work with Council on the proposed Sand Backpassing Pipeline Project and that Council commence drafting a Memorandum of Understanding (MoU) to be agreed by both parties.
- Support is on the proviso that the efficiency and operations of the Sand Bypass System is not compromised and that it is assured that the project will have no impact on Stradbroke Island
- Confirmed that no funding will be provided by the GCWA.

Given these resolutions please continue to coordinate with our liaison officer – John Bendel with regards to the preparation of a Draft MoU for GCWA Board Approval. Should you have any queries, please do not hesitate to contact me on 0419 734 134 or telephone 07 5539 7350 or by email at hal.morris@gcwa.qld.gov.au

Yours sincerely

[Signature]

Hal Morris
CEO
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ABN: 31 675 224 044
This attachment (pages 73 – 114) has been redacted due to confidential content.
ITEM 6  
SPEED AWARENESS DEVICES  
TT1017/113/06/03(P1) 

COMMITTEE RECOMMENDATION  
TI18.1129.006  
moved Cr Vorster  seconded Cr Owen-Jones  

That Council investigate the use of seasonal emojis to heighten the effectiveness of its speed awareness device fleet during road safety campaigns.  

CARRIED  

There being no further business the meeting closed at 10.03am.
These Pages
Numbered 1 to 116
Constitute The Adopted Report Of The Meeting
Of The Transport and Infrastructure Committee
Held Thursday 29 November 2018