Our Reference: CIV1557-TIA Submission

18 July 2017

Sunshine Coast Council
C/O KPMG Advisory
GPO Box 223
Brisbane QLD 4000

Attention: Chad Gardiner

Dear Chad,

RE: SUNSHINE COAST STADIUM FEASIBILITY STUDY – TRANSPORT IMPACT ASSESSMENT

1.0 BACKGROUND

Contour Consulting Engineers (Contour) were engaged by Sunshine Coast Council (Council) as part of a consortium led by KPMG, to provide assistance in undertaking a feasibility study for the development of a national standard stadium on the Sunshine Coast. Contour's supporting role has been to provide general engineering advice, with a focus on investigating and reporting on transport, traffic and parking impacts.

The first stage of the Feasibility Study engagement was awarded by Council in October 2016, and involved undertaking location and site analysis for four (4) sites identified by Council as possible stadium locations. This first stage was completed and presented to Council in January 2017. Following on from the first stage of the engagement, Council nominated two (2) preferred sites, identified as follows:

- **Location 1:** Sunshine Coast Stadium – Sportsmans Parade, Bokarina; and
- **Location 2:** 60 Honey Farm Road, Meridan Plains.

A project meeting was hosted by Council on 8 March 2017, attended by KPMG, Populous and Contour representatives. Council requested further analysis of the preferred sites which was subsequently summarised in the Variation Letter prepared by KPMG. The Variation Letter divides the location analysis works into four (4) specific stages, outlined as follows:

- Stage 1: Transport Impact Analysis;
- Stage 2: Regional Sporting Facility Analysis;
- Stage 3: Scenario Analysis; and
- Stage 4: Stadium Location Analysis.

Contour's involvement has been focussed predominately on the Transport Impact Analysis (Stage 1), which feeds into the overall Stadium Location Analysis (Stage 4). As part of Contour's services, we have worked alongside Bitzios Consulting (Bitzios) who specialize in high level transport forecasting and modelling and have a strong record of transport and traffic analysis for large developments across numerous urban locations in Australia.

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2.0 TRANSPORT IMPACT ASSESSMENT

Contour and Bitzios have worked together to investigate and document the transport infrastructure and potential traffic impacts for both sites, generally in accordance with the Scope of Works outlined in Contour's Fee Proposal (Ref: 1557-FP-01 Revision A, Dated 20 March, 2017). The key deliverable is the attached report 'Sunshine Coast Stadium Pre-Feasibility Transport Impact Assessment', Version 004, dated 17 July 2017, presented in Attachment A (TIA). The intent of the TIA is to assess and document potential stadium impacts to enable the project team to work towards making an informed recommendation on a single preferred site.

The TIA includes a range of supporting sketches which are presented in the Appendices.

Contour and Bitzios have maintained dialogue with Council's traffic engineers throughout the analysis and reporting process.

It is noted that there have been some scope changes implemented during the course of undertaking the work. These scope changes are outlined in Sections 2.1 and 2.2 below.

2.1 ADOPTED DESIGN SCENARIOS

The Project Brief outlined the requirement to investigate the following two design scenarios:

- **Scenario 1**: Peak of the Network (Thursday 4:00pm to 5:00pm); and
- **Scenario 2**: Peak of the Use (Full capacity, either midweek or Saturday night starting at 7:30pm).

It was determined that **Scenario 1** should not be adopted, as large scale events will typically take place outside of the identified network peaks. Full capacity event use scenarios would typically commence after 7pm on a Thursday and Saturday night, when traffic volumes on the adjacent road network are relatively low. It is recommended that no large scale event be scheduled to commence prior to 7:00pm on a weekday.

It was also determined that there would be little benefit in investigating **Scenario 2** as it does not represent a 'typical' event and would operate under full traffic management. Additionally, and in accordance with the guiding principles set out in Section 1.3 of the TIA, it is generally accepted that 'there will be a degree of transport congestion during major events'.

Based on the above, **Scenarios 1 and 2** are not considered to be typical and as such, it is not reasonable to upgrade the transport network based on these events.

Within the TIA, Bitzios have identified three (3) alternative 'traffic impact design scenarios' as listed below:

- **Scenario A:** 5,000 spectators at an event starting at 5pm on a Thursday evening;
- **Scenario B:** 10,000 spectators at an event starting at 6pm on a Thursday evening; and
- **Scenario C:** 15,000 spectators at an event starting at 7pm on a Thursday evening.

The project brief also outlined a requirement to investigate impacts during incremental five (5) future year design scenarios, including 2021, 2027, 2031, 2037 and 2041. This was considered excessive for a feasibility study based on the following:

- There is a high level of uncertainty around the rate of development that may occur within the master planned communities adjacent to Locations 1 and 2; and
- There is a high level of uncertainty around the timing and funding availability for planned road infrastructure upgrades and possible public transport infrastructure upgrades.

Based on the above, the following three (3) alternative design horizons were adopted to 'broadly assess potential Stadium impacts on the adjacent road network':

- **Design Horizon 1:** 2017 (existing conditions);
- **Design Horizon 2:** 2021 (assumed year of opening of the Stadium); and
- **Design Horizon 3:** 2031 (10 year post opening of the Stadium).

Section 4.3 of the TIA outlines the adopted design scenarios and provides detailed commentary and justification for their selection.

2.2 TRAFFIC MODELLING

It is noted that the initial scope of works specified that Council's VISIM model would be reviewed, used and updated to forecast future traffic demands at key links and intersections. Following discussions with Council engineers, it was agreed that the VISIM model would not be used and that baseline traffic volumes at key intersections would be established through traffic surveys. Future design traffic volumes have been forecast by applying a nominated growth rate to the baseline traffic volumes. Operational impacts were identified by Bitzios utilizing SIDRA INTERSECTION 7.1 (SIDRA).

Section 5 of the TIA provides further detail on the process followed to assess and model the traffic impacts of the proposed Stadium development. Traffic analysis results for Locations 1 and 2 are presented in Sections 5.6 and 5.7 of the TIA respectively.

2.3 TIA RECOMMENDATIONS

Infrastructure Upgrade Requirements

Infrastructure upgrade requirements are outlined in Section 6 of the TIA. Unlike traditional commercial developments it is considered that Council will have some level of control over when and how the Stadium operates. Subsequently, it is considered that rather than undertaking comprehensive and costly road network infrastructure upgrades, the most practical approach is to exercise control over when large-scale events at the stadium will occur. Where possible, large scale events should be prohibited from occurring during road network peaks.

Notwithstanding the above, the TIA recommends a number of infrastructure upgrade options for consideration by Council. Refer Sections 6.2 and 6.3 of the TIA for further details. Plans illustrating the identified infrastructure upgrade options have been prepared and are presented in Appendix F of the TIA.

Traffic Management Strategies

High level traffic management strategies have been identified in Section 7 of the TIA. These traffic management strategies draw on the existing traffic management strategy for site 1, which has been successfully implemented during large events such as Nitro Circus, NRL trial games and music events, which have drawn attendances in excess of 10,000 people. Key traffic management strategies include the following:

- Heavily promote and advertise alternative transport modes available to patrons prior to events (i.e.'park n walk', 'park n ride', cycling, carpooling, buses, taxis, Uber, pick-up / drop-off etc.);
- Investigate the feasibility of implementing free public transport for all ticket holders;
- Liaise with bus operators to confirm fleet capacity and willingness to operate shuttle buses;
- Investigate 'park and ride' options external to the site (i.e. nearby sportsgrounds, fields, schools etc.);
- Investigate 'park n walk' options external to the site (i.e. nearby sportsgrounds, fields, schools, Sunshine Coast University Hospital etc.);
- Charge patrons to park on-site, excluding PWD, as a method to discourage private vehicle uses; and

- Investigate installing permanent Variable Message Signs (VMS) on major roads and display relevant messages to passing motorists in advance of major events (i.e. expect delays; seek alternate routes etc).

Key traffic management strategies specific to each location are outlined in Sections 7.2 and 7.3 of the TIA. Plans illustrating the identified traffic management strategies have been prepared and are presented in Appendix G of the TIA.

Suitability of Existing/Planned Transport Networks

A review of the transport networks in proximity to both locations was undertaken to consider the suitability of each site to accommodate a Stadium development. Key findings are summarized in Table 8.1 of the TIA, which has been extracted from the report and is presented below.

Table 8.1: Suitability of Transport Networks

Parameter	Location 1	Location 2	Preferred
Road Network	Highly-urbanised setting with mature road network infrastructure (i.e. multi-lane urban cross sections, signalised intersections etc.)	Rural setting with limited road network infrastructure beyond the Caloundra Road / Racecourse Road interchange. That said, there are plans for a new road connection to the north	1
Vehicular Access Routes to/from Site	Multiple (4) vehicular access routes to/from site from north and south (via Nicklin Way and Kawana Way), which should help spread traffic impacts	Currently only one (1) vehicular access route via Caloundra Road / Racecourse Road interchange, which will concentrate traffic impacts. That said, there are plans for a secondary connection to the north	1
Off-Street Parking Capacity	Whilst on-site parking capacity is currently limited (approximately 400 spaces), there is 'park n walk' capacity at the 'western fields' which is currently utilised during events	Whilst there may be more available land to accommodate on-street parking compared to Location 1, this would only encourage more private vehicle access to the Stadium development and therefore increase impacts on the surrounding road network. It would also not align with the guiding principles which aim to achieve 40-50% public transport mode share for the Stadium development	1
On-Street Parking Capacity	Significant on-street parking capacity within 1km of the site	Very limited on-street parking capacity within 1km of the site	1
Public Transport Provisions	Well connected to existing bus infrastructure and services, although there is no access to existing rail. That said, the site is strategically located to capitalise on the major public transport initiatives on the Sunshine Coast	Poorly connected to existing bus infrastructure and services. Whilst existing rail may be more viable compared to Location 1, the closest station (Landsborough) is 15km west of the site and the connecting bus service (Route 605) only stops 2km east of the subject site. Furthermore, the site is not strategically located to capitalise on the major public transport initiatives on the Sunshine Coast.	1
Active Transport Provisions	Highly-urbanised setting with mature active transport infrastructure. No significant gaps in the active transport network	Rural setting with limited active transport infrastructure. Significant gaps in the active transport network and no committed plans for improvements	1
Capacity to Host Large Events	Already hosts multiple large events throughout the year (i.e. circa 10,000 spectators), therefore it appears that the transport network has capacity to host large events. There is also an existing expectation from the community that events will occur at this location	Limited capacity to host large events (i.e. limited road connections; limited public transport access, limited active transport connections; limited on-street parking opportunities etc.)	1

1557-TIA Submission, 18 July 2017

Potential Transport Impacts

Potential transport impacts were quantified for three (3) event use scenarios (Scenarios A, B and C as identified in Section 2.1). These scenarios were tested across three (3) alternative design horizons (Design Horizons 1, 2 and 3 as identified in Section 2.1). Key findings are summarized in Table 8.2 of the TIA, which has been extracted from the report and presented below.

Table 8.2: Potential Transport Impacts

Parameter	Location 1	Location 2	Preferred Location
2017 Baseline	All intersections operate below capacity thresholds during each assessed time periods, except Intersection 1, which exceeds capacity between 4pm and 6pm.	All intersections currently operate below capacity thresholds during each assessed time periods	2
2021 Background	All intersections are likely to continue to operate below capacity thresholds during each assessed time periods, except Intersection 1. Although Intersection 2 and 5 would also be close to capacity between 4pm and 6pm.	All intersections are likely to continue to operate below capacity thresholds during each assessed time periods, except Intersection 13 (4pm to 6pm).	1
2021 Scenario A	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to Caloundra Road, which is unacceptable.	1
2021 Scenario B	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to Caloundra Road and Caloundra-Mooloolaba Road, which is unacceptable.	1
2021 Scenario C	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The the Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to the Bruce Highway and Caloundra-Mooloolaba Road, which is unacceptable.	1
2031 Background	Intersection 1, 2 and 6 are likely to fail prior to 2031, based on the adopted growth rate, with Intersection 4 and 5 approaching their theoretical capacity limits.	Intersection 12 and 13 are likely to fail prior to 2031, based on the adopted growth rate (4pm to 6pm).	1
2031 Scenario A	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to Caloundra Road, which is unacceptable.	1
2031 Scenario B	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to Caloundra Road and Caloundra-Mooloolaba Road, which is unacceptable.	1
2031 Scenario C	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to the Bruce Highway and Caloundra-Mooloolaba Road, which is unacceptable.	1

Parking Considerations

Location 1 has approximately 400 existing on-site parking spaces. In addition to this there is significant on-street parking capacity within 1km of the site. Furthermore, there is 'park n walk' capacity at the western fields and the potential for additional 'park n walk' and 'park n ride' options from other nearby facilities. It would be possible to construct an additional on-site parking facility in the field to the north of the existing stadium however, it is recommended that the merits of constructing additional on-site parking be further investigated.

Location 2 is identified as having limited on-street parking capacity. Being a greenfield site in a rural setting means there is vacant land that could accommodate the construction of expansive on-site parking facilities. This however would serve to encourage more private vehicle use, and therefore increase the impacts on the surrounding road network. The lack of existing public transport infrastructure at Location 2 and the inability for Location 2 to capitalise on future public transport initiatives would serve to further increase private vehicle use and exacerbate the parking and traffic impacts.

1557-TIA Submission, 18 July 2017

Refer to Section 4 of the TIA for information on estimated parking demands and Section 7 for traffic management strategies concerning parking.

3.0 CONCLUSION

The TIA has focused on the identification and analysis of high-level transport impacts generated by a proposed national standard stadium located on the Sunshine Coast. Analysis and comparison was undertaken for two preferred locations.

The purpose of the TIA was to provide a suitable level of detail to assist the project team to make an informed decision on a single preferred site, rather than identifying a suite of infrastructure upgrade requirements or traffic management measures that should be in place under future event scenarios.

Based on the existing/planned transport networks at each Location as presented in Table 8.1, Location 1 has been identified as the superior location from a transport planning perspective. This is particularly emphasized when taking into account the ability for site 1 to capitalize on major public transport initiatives including the Light Rail Project, 'CAMCOS' Rail Line and Kawana Town Centre Interchange. In the context of parking considerations, Location 1 has been identified in Table 8.1 as the preferred location.

Based on the potential transport impacts for each location, as presented in Table 8.2, Location 1 is again considered to be the superior location. A major issue associated with Location 2 is described in the TIA as follows:

Given the proximity of the Caloundra Road and the Bruce Highway (high speed roads), and the limited routes to/from Location 2 (concentrated impacts), there is a real potential that a Stadium development would result in vehicle queues extending back from Intersection 10 and 11 onto Caloundra Road and potentially back to the Bruce Highway / Caloundra Road interchange, effectively blocking one lane of travel in either direction on Caloundra Road. This is an unacceptable safety risk that would be difficult to mitigate either via infrastructure upgrades or traffic management strategies. It is important to note that this safety impact would be exacerbated if the target PT mode share at Location 2 was not achieved.

In summary, when considering the existing transport infrastructure, planned future infrastructure and potential development generated traffic impacts, Location 1 is considered to be superior to Location 2.

It is noted that a detailed impact assessment will need to be undertaken tailored for the preferred site as part of any future development application for a Stadium. This may include utilising both strategic and simulation transport models.

4.0 LIMITATIONS AND CLOSURE

This document and the attached Traffic Impact Assessment are to be read in conjunction, and have been tailored to investigate issues in the context of the proposal and at the two areas of interest, being;

- Location 1: Sunshine Coast Stadium – Sportsmans Parade, Bokarina; and
- Location 2: 60 Honey Farm Road, Meridan Plains.

The information contained in this report is not to be used outside of the subject areas.

We consider that this document and attachments accurately reflects the conditions in the area of interest, at the time the study was undertaken. The results of this study should be reviewed if conditions or the proposal change in the future.

This report is only to be used in full and may not be used to support objectives other than those set out herein, except where written approval is provided by Contour Consulting Engineers Pty Ltd.

Contour Consulting Engineers Pty Ltd accepts no responsibility for the accuracy of information supplied to them by second and third parties.

If additional information is required, please contact the undersigned at our office on (07) 5493 9777.

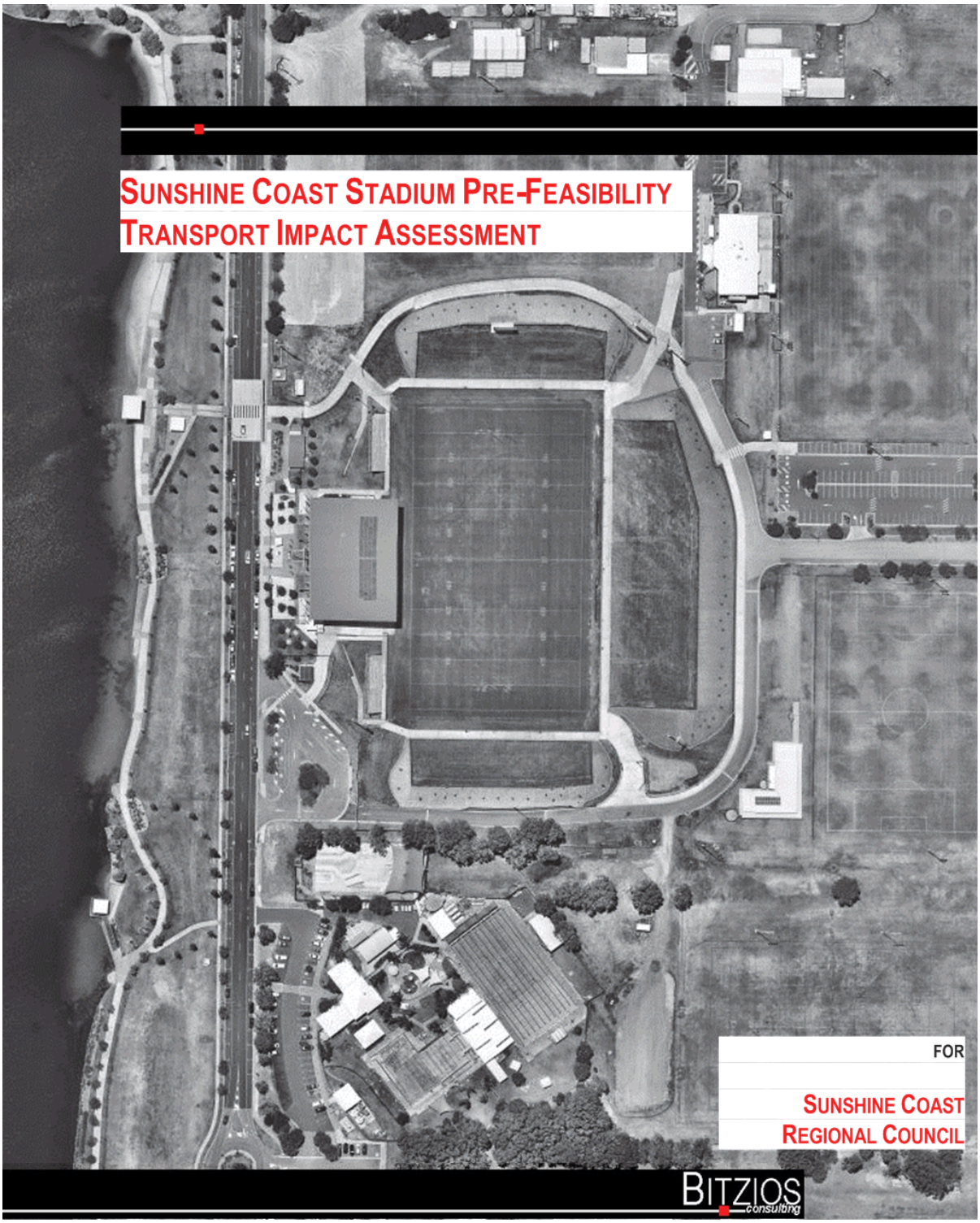
Yours Faithfully,

Chris Fulcher
Director
For and on behalf of:
CONTOUR CONSULTING ENGINEERS PTY LTD

1557-TIA Submission, 18 July 2017

Sunshine Coast Stadium Pre-Feasibility Transport Impact Assessment

1557-TIA Submission, 18 July 2017



SUNSHINE COAST STADIUM PRE-FEASIBILITY TRANSPORT IMPACT ASSESSMENT

FOR

SUNSHINE COAST REGIONAL COUNCIL

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P3101.002R Sunshine Coast Stadium Pre-Feasibility – Transport Impact Assessment	D. Scutt M. Davidson	L. Darragh S. Brooke	D. Scutt	12/07/17	Chris Fulcher (Contour Consulting) via email at: chris@contource.com.au
P3101.003R Sunshine Coast Stadium Pre-Feasibility – Transport Impact Assessment	D. Scutt M. Davidson	L. Darragh S. Brooke	D. Scutt	13/07/17	Chris Fulcher (Contour Consulting) via email at: chris@contource.com.au
P3101.004R Sunshine Coast Stadium Pre-Feasibility – Transport Impact Assessment	D. Scutt M. Davidson	L. Darragh S. Brooke	D. Scutt	17/07/17	Chris Fulcher (Contour Consulting) via email at: chris@contource.com.au

CONTENTS

Tables

Figures

Appendices

1. INTRODUCTION

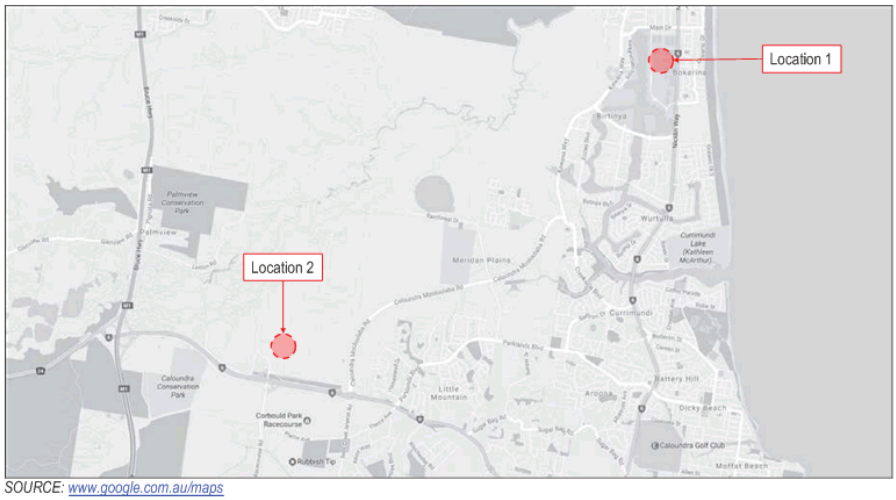
1.1 OVERVIEW

KPMG, as lead contractor for a consortium including Populous (sports architects), Contour Consulting (Contour) (civil engineers) and Aquenta (quantity surveyors), were engaged by Sunshine Coast Regional Council (Council) in October 2016 to undertake a pre-feasibility study in relation to a proposed national standard stadium to be constructed on the Sunshine Coast, with a seating capacity for 25,000 people.

The previous stage of the study included undertaking a 'location and site assessment' for four (4) potential sites. From this process, two (2) sites were nominated for further consideration, including:

- **Location 1:** 320 Nicklin Way, Bokarina (location of existing Sunshine Coast Stadium); and
- **Location 2:** 60 Honey Farm Road, Caloundra.

Figure 1.1 below indicatively illustrates the location of the two (2) nominated sites.



SOURCE: www.google.com.au/maps

Figure 1.1: Potential Stadium Locations

Council now requires a high level 'transport impact assessment' and 'regional sporting facility assessment' to further understand potential stadium impacts with the overall intent to identify a single preferred site.

Bitzios Consulting (Bitzios) has been commissioned by Contour to assist with the transport assessment.

1.2 PURPOSE OF REPORT

The purpose of this report is to:

- document baseline transport conditions in proximity to both locations;
- identify potential transport related opportunities and constraints at both locations;
- identify planned transport infrastructure upgrades in proximity to both locations;
- identify potential transport demands that may be generated by a variety of design event scenarios;
- quantify potential design event impacts on the surrounding transport networks;
- identify potential transport infrastructure requirements that may be required to adequately accommodate the estimated design scenario demands; and
- identify traffic management strategies that may be required to accommodate maximum use scenarios.

1.3 GUIDING PRINCIPLES

The following nine (9) 'guiding principles', which were identified by KPMG and approved by Council staff, have been utilised to inform the Transport Impact Assessment:

- **Spectator Experience:** provide multiple ways of getting to and from an event at the Stadium which are relatively quick, simple and trouble free and which maximise safety;
- **Transport:** transport infrastructure and modes support the demands of a major event whilst minimising the impacts for those not attending. Acknowledgment that there will be a degree of transport congestion for major events;
- **Public Transport:** public transport infrastructure and options (regular buses, event buses, park 'n' ride shuttles, and potential light rail) support the transport of as many patrons as possible (up to 40-50%) to and from the venue;

  Onsite Parking: onsite parking is limited to only support suite holders / VIP patrons, team buses (minimum of two spaces) and stadium officials. Public parking could be provided onsite through event day use of grass fields if required *(Note: reliance on use of grass fields to fulfil parking requirements should be minimal due to reliability issues associated with weather and preservation of surfaces);*
- **Offsite Parking:** utilisation of parking within the broader Kawana precinct, (particularly on weekends and after hours) will allow for a degree of park and walk capacity;
- **Media Requirements:** space for television and broadcast vehicles (approx. 500m²) should be considered, including consideration of road width and turning circles;
- **Drop Off / Pick Up:** appropriate space for drop off and pick up (e.g. taxi), with the ability to scale up for concerts, plus a dedicated People Requiring Universal Access (PRUA) area;
- **Bicycle Storage:** adequate and secure bicycle parking, together with associated storage, changing and shower facilities largely to cater for event day staff; and
- **Displacement:** Stadium footprint and associated transport infrastructure to minimise wherever possible displacement of existing users of the site to preserve location of current tenants and to encourage continued attraction of large events that require multiple fields.

1.4 LIMITATIONS

In reviewing this report, the following limitations should be noted:

- a Stadium development has the potential to generate traffic and parking impacts ranging from 'negligible' to 'significant', based on the scale, time and duration of the event. Given it is not feasible to consider the specific impacts of all potential activities and events, we have only considered a series of 'representative design events' that may occur at the Stadium;
- the estimated transport demands for the adopted representative design events have been based on a series of assumptions (i.e. mode share, vehicle occupancy, arrival / departure profiles, traffic distribution patterns, traffic growth rates etc.). Whilst sound engineering judgement has been applied, it is not feasible to precisely predict potential peak traffic and parking demands generated by a Stadium;
- traffic survey data was obtained on Thursday 1st June 2017 from 3:00pm to 9:00pm. We have assumed this period represents typical weekday traffic flows at both locations; and
- the impact assessment documented herein has been undertaken at a relatively high level only.

Whilst we are of the view that this approach is appropriate for the prefeasibility nature of the study and provides a suitable level of detail to assist Council make an informed decision on a single preferred site, it is anticipated that a more thorough transport impact assessment will need to be undertaken for the preferred site as part of any future development application for the Stadium. This may include utilising both strategic and simulation transport models.

2. REVIEW OF TRANSPORT PROVISIONS: LOCATION 1

2.1 EXISTING ROAD NETWORK

Figure 2.1 illustrates the location of key roads and intersections in proximity to Location 1.

SOURCE: www.google.com.au/maps

Figure 2.1: Location 1: Road Network

2.1.1 Key Roads

Table 2.1 provides a summary of the key roads in proximity to Location 1.

Table 2.1: Location 1: Key Roads

Road Name	Jurisdiction	Hierarchy	Typical Cross Section	Speed Limit
Nicklin Way	TMR	Arterial	4 lane median divided	60km/h
Kawana Way	TMR	Arterial	4 lane median divided	60km/h
Kawana Island Boulevard	Council	Distributor	4 lane median divided with 2 lane bridge	60km/h
Lake Kawana Boulevard	Council	Arterial	4 lane median divided	60km/h
Metier Linkway / Main Drive	Council	Controlled Distributor	2 lane undivided	50km/h
Sportsmans Parade / Meridan Street	Council	Neighbourhood Collector	2 lane undivided	40-60km/h

SOURCE: 2031 Functional Transport Hierarchy, Figure 9.4.8A of the Transport and Parking Code

2.1.2 Key Intersections

Table 2.2 provides a summary of the key intersections in proximity to Location 1.

Table 2.2: Location 1: Key Intersections

ID	Name	Jurisdiction	Control
Intersection 1	Nicklin Way / Palkana Drive / Kawana Island Boulevard	TMR	Traffic Signals
Intersection 2	Nicklin Way / Main Drive	TMR	Traffic Signals
Intersection 3	Nicklin Way / Site Access	TMR	Priority Controlled
Intersection 4	Nicklin Way / Meridian Street / Beach Street	TMR	Traffic Signals
Intersection 5	Nicklin Way / Lake Kawana Boulevard	TMR	Traffic Signals
Intersection 6	Kawana Way / Metier Linkway (Main Drive)	TMR	Roundabout
Intersection 7	Main Drive / Sportsman Parade	Council	Traffic Signals

2.2 FUTURE ROAD NETWORK PLANNING

Figure 2.2 illustrates planned Council road network upgrades adjacent to Location 1.

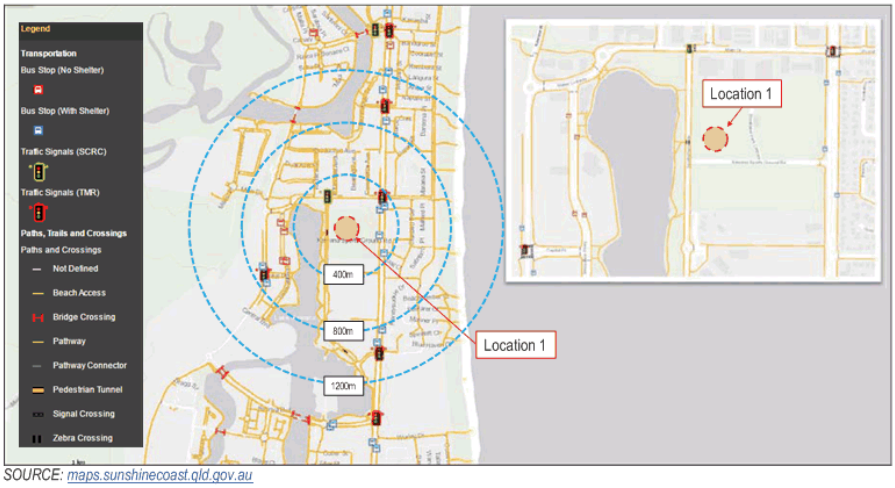
SOURCE: Sunshine Coast Regional Council PIP Map PIPM35C(i)

Figure 2.2: Location 1: PIP Map – Transport Network (Road Network)

In summary, there are no planned road upgrades in proximity to Location 1. It is noted that the Multi Modal Transport Corridor (MMTC) runs parallel to Kawana Way to the west of the subject site (red dashed line).

2.3 EXISTING ALTERNATIVE TRANSPORT NETWORK

Figure 2.3 illustrates the location of key roads and intersections in proximity to Location 1.



SOURCE: maps.sunshinecoast.qld.gov.au

Figure 2.3: Location 1: Alternative Transport Provisions

2.3.1 Existing Active Transport Network

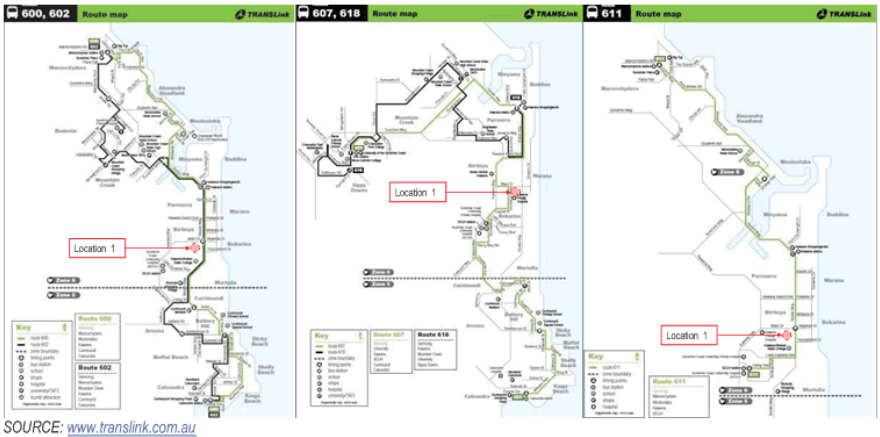
As highlighted on Figure 2.3, Location 1 is within a well-established urban network and as such, it benefits from access to an existing comprehensive active transport network. Typically, all higher order roads within 1,200m of the subject site (as the crow flies) have concrete footpaths on both verges as well as recreational paths around the perimeter of Lake Kawana. Furthermore, there are signalised pedestrian crossings at key intersections on Nicklin Way and Kawana Way, to assist pedestrians crossing the arterial roads.

Figure 2.3 includes a small 'gap' in the network on Kawana Way between Central Boulevard. However, pathways were constructed at this location during 2014 as part of the Kawana Way duplication works.

2.3.2 Existing Public Transport Network

As highlighted on Figure 2.3, there are 10 bus stops located within 800m (as the crow flies) of the proposed Stadium site at Location 1, including four (4) on Nicklin Way (within 400m), four (4) on Innovation Parkway and two (2) on Kawana Way. The stops on Nicklin Way are serviced by Routes 600, 602 and 611, whereas the stops on Innovation Parkway and Kawana Way are serviced by Route 607.

Figure 2.3 below illustrates the site location in context with the relevant TransLink route maps.



SOURCE: www.translink.com.au

Figure 2.4: Location 1: Bus Routes

Relevant route details and frequencies are summarised in Table 2.3 below.

Table 2.3: Location 1: Existing Bus Services

Route Number	Route Description	Weekday Services	Saturday Services	Sunday Services	Peak Frequency	Off-Peak Frequency
600	Caloundra to Maroochydore via Kawana and Mooloolaba	NB: 58 services (5:42am to 9:57pm) SB: 59 services (5:23am to 10:01pm)	NB: 60 services (6:42am to 2:27am) SB: 61 services (5:28am to 2:31am)	NB: 44 services (7:15am to 8:57pm) SB: 44 services (7:05am to 10:01pm)	15 minutes	15-30 minutes
602	Caloundra to Maroochydore via Mountain Creek	NB: 13 services (7:37am to 7:37pm) SB: 13 services (7:33am to 7:33pm)	NB: 11 services (8:35am to 6:35pm) SB: 11 services (8:31am to 6:31pm)	NB: 11 services (8:35am to 6:35pm) SB: 11 services (8:31am to 6:31pm)	60 minutes	60 minutes
607	Caloundra to University via SCUH and Kawana	NB: 31 services (6:49am to 9:46pm) SB: 31 services (6:46am to 9:46pm)	NB: 16 services (6:49am to 9:49pm) SB: 16 services (6:46am to 9:46pm)	NB: 16 services (6:49am to 9:49pm) SB: 16 services (6:46am to 9:46pm)	30 minutes	60 minutes
611	Maroochydore to SCUH via Mooloolaba and Kawana	NB: 29 services (7:54am to 9:54pm) SB: 29 services (6:30am to 8:30pm)	NB: 15 services (7:54am to 9:54pm) SB: 15 services (6:30am to 8:30pm)	NB: 15 services (7:54am to 9:54pm) SB: 15 services (6:30am to 8:30pm)	30 minutes	60 minutes

It is noted that the closest existing train stations are located between 15 to 20km to the west (as the crow flies), and as such, are not considered to be viable transport options for future events at Location 1.

2.4 FUTURE ALTERNATIVE TRANSPORT NETWORK PLANNING

2.4.1 Planned Active Transport Network Upgrades

Figure 2.5 illustrates planned Council active transport network upgrades adjacent to Location 1.

SOURCE: Sunshine Coast Regional Council PIP Map PIPM35C(ii)

Figure 2.5: Location 1: PIP Map – Transport Network (Council Active Transport Network)

In summary, there are no planned Council active transport network upgrades included in the priority infrastructure plan within proximity to Location 1.

2.4.2 Planned Public Transport Network Upgrades

There are three (3) key public transport proposals in proximity to Location 1, including:

- **Bus:** CoastConnect (connection between Caloundra and Maroochydore);
- **Light Rail:** Sunshine Coast Light Rail (connection between Caloundra and Maroochydore); and
- **Heavy Rail:** Caloundra and Maroochydore Corridor Option Study (CAMCOS) (heavy rail connection from Beerwah on the north coast line to Caloundra, Maroochydore and the Sunshine Coast Airport).

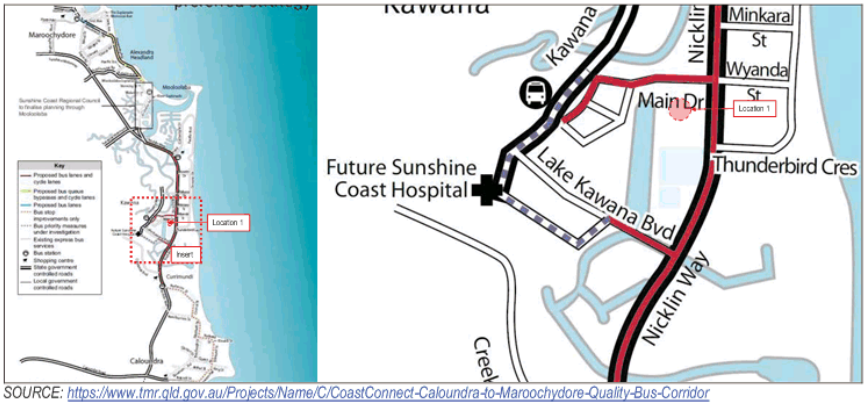
A brief overview of each project is provided below.

CoastConnect is a Queensland Government initiative to improve public transport and sustainable travel on the Sunshine Coast. It is an important part of the Queensland Government's long-term plan to meet the transport needs of the fast-growing Sunshine Coast by providing faster and more reliable public transport options. This project proposes a mixture of transport infrastructure improvements to suit different parts of the coast, including bus lanes; bus queue bypasses; dedicated on-road cycle lanes; bus stations in key activity areas; and bus stop upgrades.

Based on previous discussions with key stakeholders, the following key points are noted:

- in 2010/11, a 'Concept Design and Impact Management Plan' (CDIMP) was prepared which clearly outlined the need for and benefits of the project;
- in February 2011, the Minister of Transport announced the final route alignment of the project; and
- there has been some progression on some projects within the program.

The preferred strategy and alignment in proximity to Location 1 is illustrated on Figure 2.6 below.



SOURCE: https://www.tmr.qld.gov.au/Projects/Name/C/CoastConnect-Caloundra-to-Maroochydore-Quality-Bus-Corridor

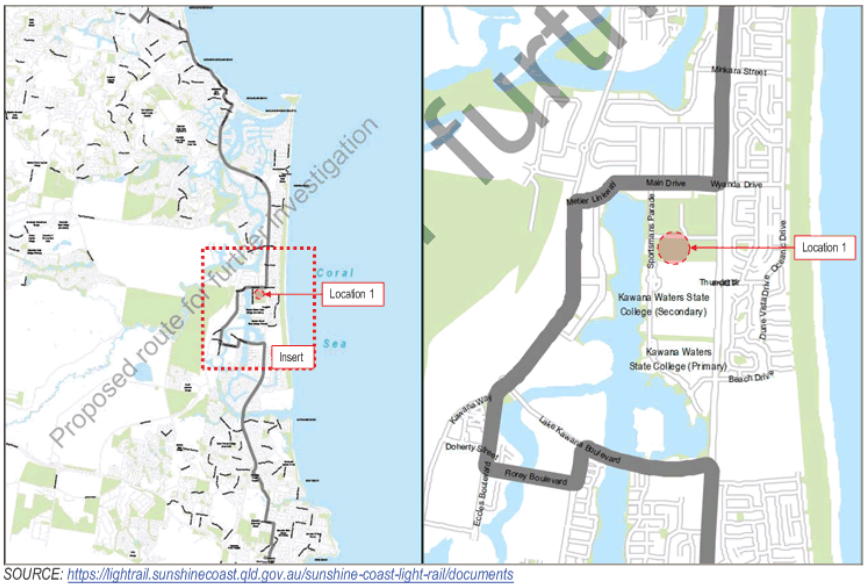
Figure 2.6: Location 1: Preferred Strategy for CoastConnect

It is noted that the CoastConnect project includes the following in proximity to Location 1:

- proposed bus lanes and cycle lanes on Nicklin Way and Main Drive / Metier Linkway;
- proposed new indented bus bays on Nicklin Way;
- proposed pedestrian overpasses / underpasses on Nicklin Way and Kawana Way respectively; and
- proposed modifications to intersection treatments along Main Drive including the realignment of Sportsmans Parade to create a four-way intersection with Tandem Avenue on Main Drive, and restricted movements at Textile Avenue, Bearing Avenue and Commercial Street to left-in/left-out.

Sunshine Coast Light Rail proposal includes the delivery of a light rail network traversing the Sunshine Coast coastal enterprise zone, which would connect Caloundra through to the Sunshine Coast Public University Hospital at Kawana and on to the Maroochydore City Centre PDA, with an eventual extension to the Sunshine Coast Airport and Beerwah. Detailed feasibility studies have been completed where it is envisaged that the first stage of this network (connecting the Maroochydore PDA to the Sunshine Coast Public University Hospital) could be delivered by 2025.

The preferred alignment in proximity to Location 1 is illustrated on Figure 2.6 below.



SOURCE: https://lightrail.sunshinecoast.qld.gov.au/sunshine-coast-light-rail/documents

Figure 2.7: Location 1: Preferred Alignment of Sunshine Coast Light Rail

It is noted that the Sunshine Coast Light Rail project includes the following in proximity to Location 1:

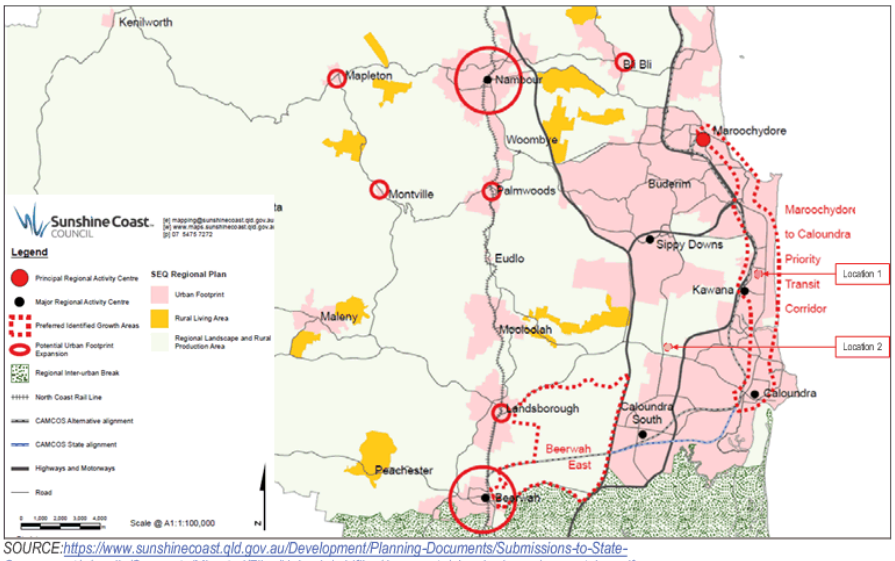
- a light rail depot north of Main Drive, between Tandem and Bearing Avenue (Kawana Depot); and
- a light rail station on Main Drive either side of the proposed realigned Sportsman Parade intersection.

It is understood further investigations are currently occurring in relation to the preferred route, with the intent on getting a better understanding of the costings and developing a planning strategy for the corridor which will feed into the feasibility and Business Case for the light rail project.

CAMCOS is a passenger rail service branching off the North Coast railway line at Beerwah and extending through Caloundra to Maroochydore. It is understood that the 'Caboolture to Maroochydore Corridor Study' was completed in 2001 and that the study investigated the feasibility, preferred development, impacts and benefits of a new public transport corridor between Beerwah and the Sunshine Coast Airport. The study was undertaken in three stages, including corridor identification; corridor evaluation; and route assessment.

The Queensland Government agreed to implement the recommendations from the study, including the need to preserve the preferred future corridor from Beerwah to Maroochydore and on to the Sunshine Coast Airport. It is understood that the government has been actively acquiring land for the corridor. Furthermore, track upgrading and duplication from Caboolture to Beerburrum was completed in 2009, as was the elimination of the open level crossing at Beerwah, ultimately providing for the branching off of the new line to Caloundra and Maroochydore.

The preferred alignment in proximity to Location 1 is illustrated on Figure 2.8 below.



SOURCE:https://www.sunshinecoast.qld.gov.au/Development/Planning-Documents/Submissions-to-State-Government/~/media/Corporate/Migrated/Files/Uploads/addfiles/documents/planning/seqrp/conceptplan.pdf

Figure 2.8: Location 1: Preferred Alignment of CAMCOS

2.5 EXISTING TRAFFIC MANAGEMENT ARRANGEMENTS

2.5.1 Overview of Existing Use / Events

The existing Sunshine Coast Stadium forms part of the 'Kawana Sports Precinct' and is run by Council. A map illustrating key features of the Kawana Sports Precinct is reproduced on Figure 2.9 below

SOURCE: www.sunshinecoaststadium.sunshinecoast.qld.gov.au/location

Figure 2.9: Location 1: Kawana Sports Precinct Map

Based on a review of the Sunshine Coast Stadium website, it is understood that:

- the Stadium hosts an array of events including international, national, state and local games;
- the Stadium has seven fields, all fully lit;
- the existing grandstand consists of 1,050 seats with 2,000 temporary seats situated on either side of it;
- the Stadium is home to Sunshine Coast Falcons and Sunshine Coast FC Fire;
- the facilities are often hired out to Brothers Junior Rugby Union, Kawana Junior and Senior Rugby League, Kawana Soccer Club, Kawana Touch Association, Sunshine Coast Churches Soccer Association, Sunshine Coast Rugby Union and Sunshine Coast Spartans Gridiron; and
- the Stadium has hosted an array of major events that range from the Colour Run to a Cold Chisel concert, the ROC Race (Ridiculous Obstacle Challenge) to the 2016 World Outrigger Sprint Championships, as well as NRL trial matches and Nitro Circus.

It is understood that recent major events have attracted in the order of 10,000 spectators.

2.5.2 Promoted Transport Options

Council (via the Stadium website and Facebook page) promotes a range of transport methods to access the venue including 'park n walk', cycling, carpooling, buses, taxis, Uber, pick-up / drop-off, and car parking.

In terms of **on-site parking**, there are three (3) formalised car parking areas with approximately 250 spaces, as well as a recently constructed gravel car park with capacity for approximately 150 spaces (i.e. 400 total). During major events, patrons are charged $10 for on-site parking.

In terms of **off-site parking**, there is kerbside parking available on Sportsmans Parade, Main Drive, and Nicklin Way, as well as within the adjacent industrial, commercial and residential precincts. Patrons are also encouraged to park at the 'western fields' or on the vacant block of land at the corner of Main Drive / Sportsmans Parade. It is understood there could be as many has 5,000 parking opportunities within 1km of the venue. This is considered to be a reasonable walking catchment for a major event (noting that patrons walk approximately 1.2km from Roma Street Train Station to Suncorp Stadium in Milton).

In terms of **'park n walk'**, the abovementioned 'western fields' are heavily utilised. At this location, there are approximately 170 formalised off-street car parking spaces as well as significant capacity for overflow parking on the four (4) sporting fields if required. Patrons are also encouraged to 'park around Lake Kawana and walk along the scenic path to the venue'.

In terms of **cycling**, bicycle racks are located at the southern end of the Stadium on Sportsmans Parade

2.5.3 Key Statistics for Existing Events

Council has provided the following overview in relation to existing events at Location 1:

Attendance Radius

- 22% of patrons for the recent NRL trial fixture were from outside the Sunshine Coast district; and
- remainder of patrons (78%) are from across the Sunshine Coast district.

Public Transport Target

- current public transport usage could be as low as 5%; and
- ideally would be aiming for 40-50% public transport usage, including regular buses, event buses, park 'n' ride shuttles, and potentially light rail.

Private Transport

- currently 50% park on-site or in adjacent residential / industrial areas;
- currently approximately 5,000 car parks within 1km of the venue;
- remaining 50% being dropped off; and
- this split is likely to remain consistent for private transport at the future venue.

Arrival Distribution (time)

- without pre-events (e.g. curtain raisers) there is currently no reason for patrons to arrive early; and
- likely arrival distribution for a major event would be from 1hr before kick-off.

Impacts of multiple events

- it is unlikely that more than one event would be held in the Bokarina precinct at a time;
- there are limited other drivers for major transport activity around the venue which might strain arrival or departure from the venue; and
- the impact of the hospital (e.g. lane availability for ambulances on Nicklin Way) should be considered.

2.6 SUMMARY

In summary:

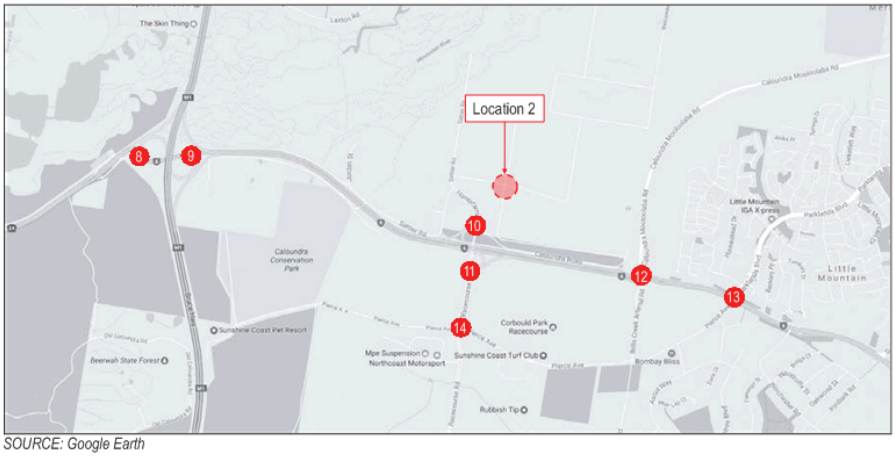
- Location 1 is located in a highly-urbanised setting with mature transport infrastructure;
- Location 1 already hosts large events (i.e. circa 10,000 spectators);
- there are multiple vehicular access routes to and from the site;
- there are multiple alternative transport options to access the site;
- there are no significant gaps in the active transport network;
- there is significant on-street parking capacity within 1km of the site; and
- the site is strategically located to capitalise on the three (3) major public transport initiatives on the Sunshine Coast (i.e. CoastConnect, Sunshine Coast Light Rail and CAMCOS (heavy rail)).

Plans illustrating existing / planned transport infrastructure close to Location 1 is included at **Appendix A**.

3. REVIEW OF TRANSPORT PROVISIONS: LOCATION 2

3.1 EXISTING ROAD NETWORK

Figure 3.1 illustrates the location of key roads and intersections in proximity to Location 2.



SOURCE: Google Earth

Figure 3.1: Location 2: Road Network

3.1.1 Key Roads

Table 3.1 provides a summary of the key roads in proximity to Location 2.

Table 3.1: Location 2: Key Roads

Road Name	Jurisdiction	Hierarchy	No. of Lanes	Speed Limit
Bruce Highway	TMR	Highway	4 lane median divided	110 km/h
Caloundra Road	TMR	Motorway	4 lane median divided	100 km/h
Racecourse Road	TMR	Arterial	4 lane median divided	60 km/h
Caloundra-Mooloolaba Road	TMR	Motorway	2 lane undivided	80 km/h
Bells Creek Arterial Road	TMR	Motorway	2 lane undivided	80 km/h
Honeyfarm Road	Council	Distributor	2 lane undivided	60 km/h
Parklands Boulevard	Council	Distributor	2 lane median divided	60 km/h
Pierce Avenue	Council	District Collector	2 lane undivided	60 km/h

SOURCE: 2031 Functional Transport Hierarchy, Figure 9.4.8A of the Transport and Parking Code

3.1.2 Key Intersections

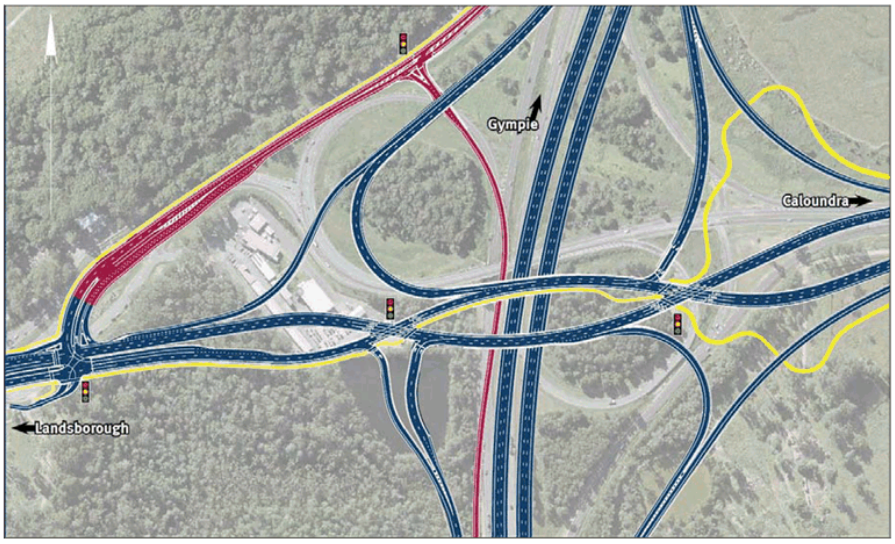
Table 3.2 provides a summary of the key intersections in proximity to Location 2.

Table 3.2: Location 2: Key Intersections

ID	Name	Jurisdiction	Control
Intersection 8	Caloundra Road / NB Off-Ramp / Steve Irwin Way	TMR	Traffic Signals
Intersection 9	Caloundra Road / SB On-Ramp / SB Off-Ramp	TMR	Priority Control
Intersection 10	Caloundra Road / Racecourse Road Interchange (N)	TMR	Traffic Signals
Intersection 11	Caloundra Road / Racecourse Road Interchange (S)	TMR	Traffic Signals
Intersection 12	Caloundra Road / Caloundra-Mooloolaba Road	TMR	Roundabout
Intersection 13	Caloundra Road / Parklands Boulevard / Pierce Avenue	TMR	Traffic Signals
Intersection 14	Racecourse Road / Pierce Avenue	Council	Priority Control

3.2 FUTURE ROAD NETWORK PLANNING

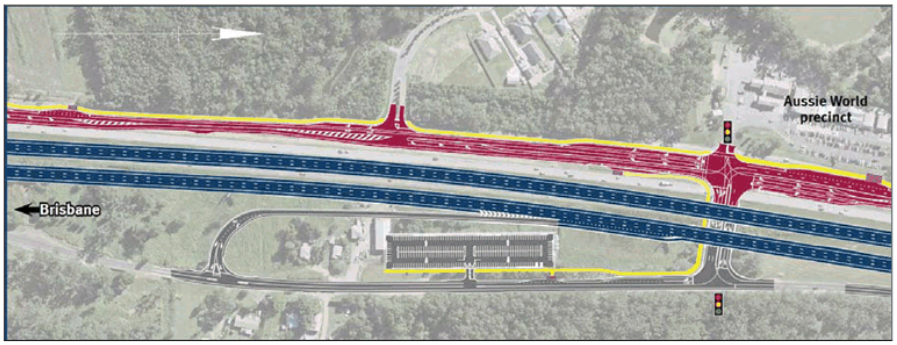
The Bruce Highway will be upgraded to six (6) lanes between Caloundra Road and the Sunshine Motorway. Figure 3.2 illustrates the planned transformation of the existing Bruce Highway / Caloundra Road interchange (i.e. Intersection 8 and 9) into a 'Diverging Diamond Interchange' as part of the highway upgrade project. Construction is expected to be completed in late 2020, and is expected to significantly increase capacity at this location.



SOURCE: www.tmr.qld.gov.au/brucehwycaloundra2sunshinemwy

Figure 3.2: Location 2: Bruce Highway / Caloundra Road Interchange Upgrade

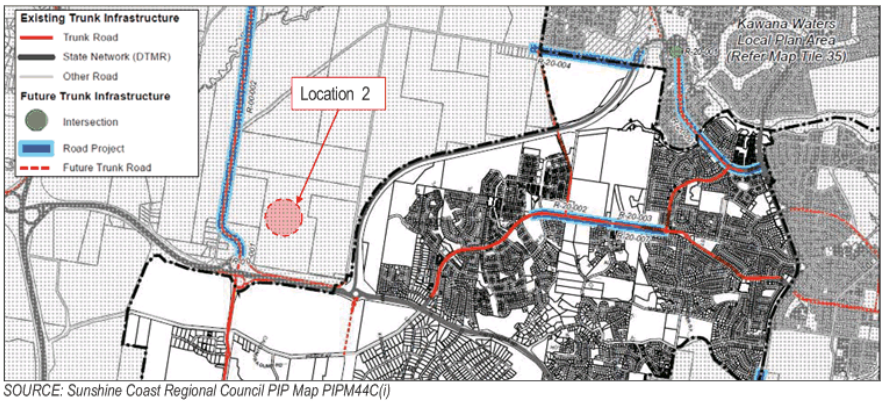
It is understood that the Bruce Highway Upgrade project will also deliver a formalised 'Car Pool Facility' near Pignata Road (opposite the Aussie World precinct), which will cater for approximately 250 vehicles, as highlighted in Figure 3.3 below. This future car parking facility will be located approximately 4.5km from Location 2, which is far exceeds the typical walking catchment for a Stadium development (i.e. 1 to 1.5km). Furthermore, it is unlikely to be a suitable 'park n ride' facility due to the relatively low capacity.



SOURCE: www.tmr.qld.gov.au/brucehwycaloundra2sunshinemwy

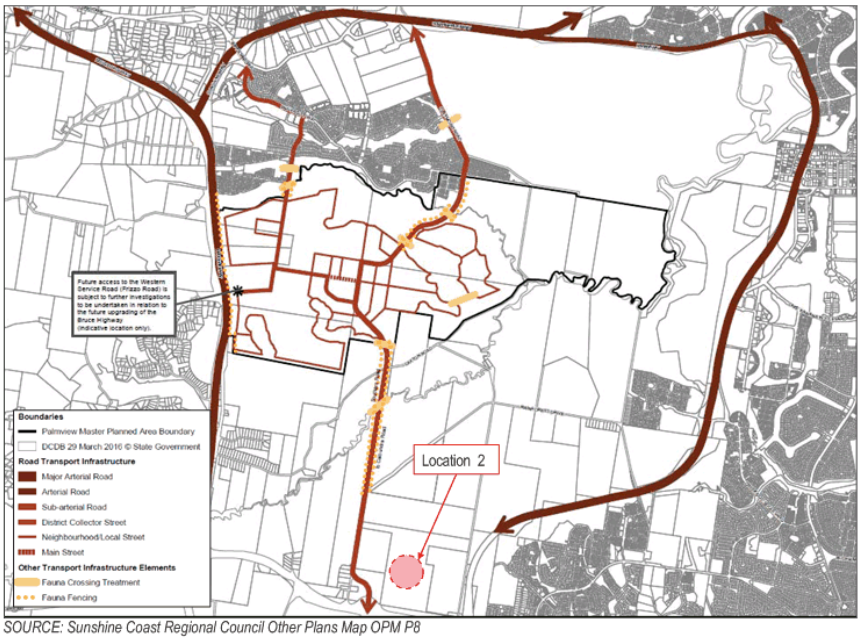
Figure 3.3: Location 2: Bruce Highway Upgrade with Car Pool Facility near Pignata Road

Figure 3.4 and Figure 3.5 illustrate planned Council road network upgrades adjacent to Location 2.



SOURCE: Sunshine Coast Regional Council PIP Map PIPM44C(i)

Figure 3.4: Location 2: PIP Map – Transport Network (Road Network)



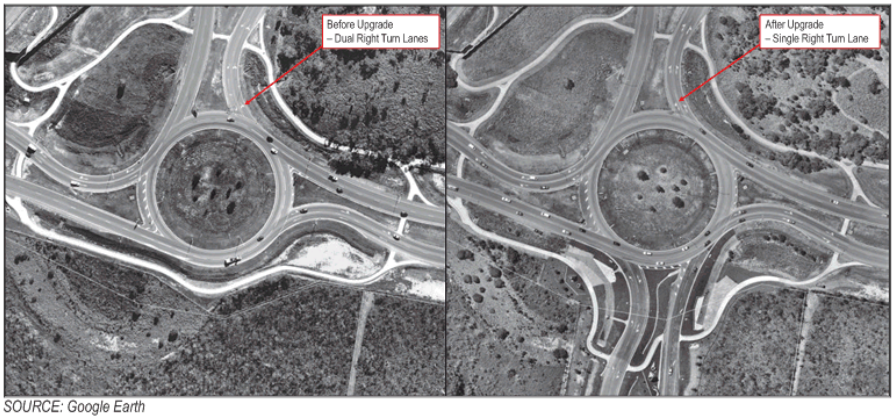
SOURCE: Sunshine Coast Regional Council Other Plans Map OPM P8

Figure 3.5: Location 2: Palmview Master Planned Area Road Transport Infrastructure Network

In summary, there are two (2) significant road upgrade planned in proximity to Location 2, including the Bruce Highway upgrade (2020) and the 'Palmview Southern Link' (2021 to 2026). Once constructed, the Palmview Southern Link will form part of a continuous north-south sub-arterial road between Caloundra Road in the south and the Sunshine Motorway in the north.

In addition to the above, it is noted that "Bells Creek Arterial Road" was constructed in 2016/17 as part of the Caloundra South development. This link created a fourth leg at the Caloundra Road / Caloundra-Mooloolaba Road roundabout. Prior to the upgrade, southbound motorists on Caloundra-Mooloolaba Road could utilise both lanes to turn right onto Caloundra Road to travel towards the Bruce Highway. However, post-upgrade, motorists can only utilise the inside lane. It is understood this has constrained capacity during peak periods resulting in significant queues on Caloundra-Mooloolaba Road.

The above is further illustrated on Figure 3.6 below.

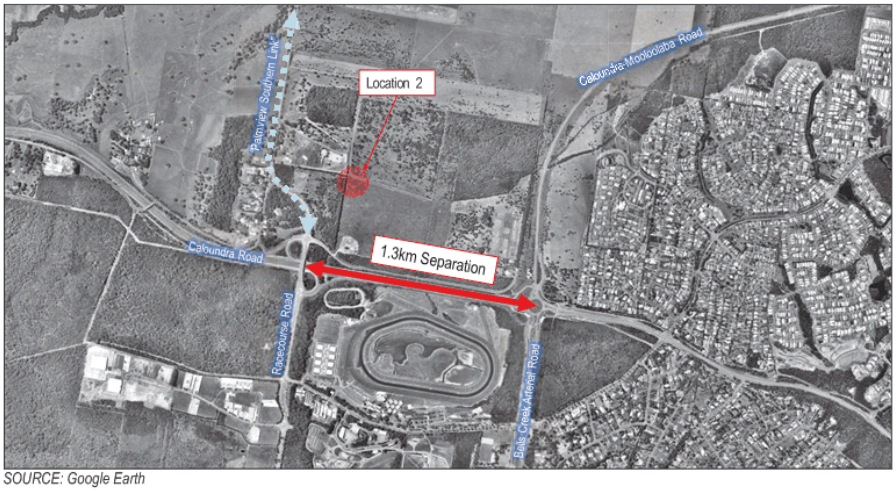


SOURCE: Google Earth

Figure 3.6: Location 2: Recent Upgrades at Intersection 12

If this intersection was grade-separated in the future (i.e. fly over from Caloundra-Mooloolaba Road to Bells Creek Arterial Road) it would effectively become an interchange, and would not comply with standard interchange spacing requirements due to the proximity of the Racecourse Road interchange (i.e. approximately 1.3km to the west). This may create weaving and operational impacts, particularly given the master planned communities which are currently under construction (i.e. Palmview, Caloundra South etc.).

The abovementioned potential spacing issue is further illustrated on Figure 3.7 below.



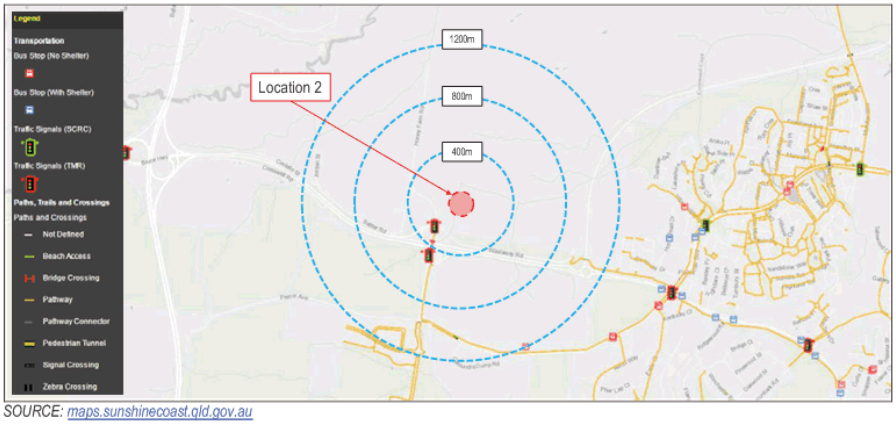
SOURCE: Google Earth

Figure 3.7: Location 2: Potential Interchange Spacing Issues on Caloundra Road

It is noted that TMR's Road Planning and Design Manual (RPDM) states that the 'minimum spacing of interchanges on four lane motorways is about 2km in urban areas. At the time of preparing this report, there was no known planning solution to this potential future road network issue.

3.3 EXISTING ALTERNATIVE TRANSPORT NETWORK

Figure 3.8 illustrates the location of key roads and intersections in proximity to Location 2.



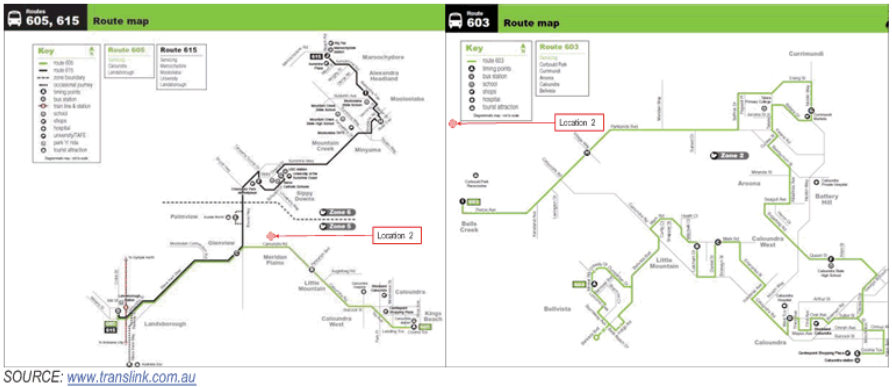
SOURCE: maps.sunshinecoast.qld.gov.au

Figure 3.8: Location 2: Alternative Transport Provisions

3.3.1 Existing Public Transport Network

As highlighted on Figure 3.8, there are no bus stops within a reasonable walking distance of the proposed stadium site at Location 2. However, there are four (4) stops located on Pierce Avenue and another two (2) at the Caloundra Road / Parklands Boulevard / Pierce Avenue roundabout (Intersection 13), all of which are located more than 1,200m from the site (as the crow flies). The stops at Pierce Avenue are serviced by Route 603, whereas the stops in proximity to Intersection 13 are serviced by Route 605.

Figure 3.9 below illustrates the site location in context with the relevant TransLink route maps.



SOURCE: www.translink.com.au

Figure 3.9: Location 2: Bus Routes

Relevant route details and frequencies are summarised in Table 3.3.

Table 3.3: Location 2: Public Transport Services

Route Number	Route Description	Weekday Services	Saturday Services	Sunday Services	Peak Frequency	Off-Peak Frequency
603	Bellvista to Corbould Park	WB: 11 services (8:15am to 6:15pm) EB: 11 services (7:29am to 5:29pm)	WB: 10 services (8:15am to 5:15am) EB: 11 services (7:29am to 4:29am)	WB: 10 services (8:15am to 5:15am) EB: 10 services (8:48am to 10:16am)	60 minutes	60 minutes
605	Maroochydore to Landsborough via University	WB: 18 services (6:35am to 8:45pm) EB: 17 services (5:55am to 7:33pm)	WB: 10 services (6:45am to 10:16am) EB: 10 services (6:07am to 10:03am)	WB: 8 services (8:15am to 5:15am) EB: 7 services (7:37am to 7:39am)	15- 30 minutes	60 minutes

It is noted that Route 605 provides a connection to the Landsborough Train Station on the North Coast Railway Line, which is located approximately 10km to the west (as the crow flies).

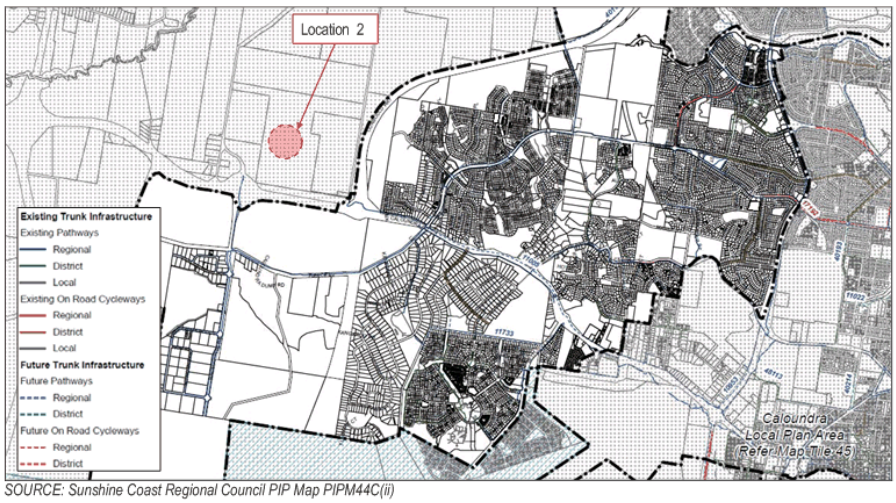
3.3.2 Existing Active Transport Network

As highlighted on Figure 3.8, Location 2 has poor access to active transport infrastructure. That said, there is a pathway network connection from the Caloundra Road / Racecourse Road interchange (Intersection 10 and 11) and the Corbould Park Racecourse via Racecourse Road and Pierce Avenue.

3.4 Future Alternative Transport Network Planning

3.4.1 Planned Active Transport Network Upgrades

Figure 3.10 illustrates planned Council active transport network upgrades adjacent to Location 2.



SOURCE: Sunshine Coast Regional Council PIP Map PIPM44C(ii)

Figure 3.10: Location 2: PIP Map – Transport Network (Council Active Transport Network)

In summary, there are no planned Council active transport network upgrades included in the priority infrastructure plan within proximity to Location 2.

3.4.2 Planned Public Transport Network Upgrades

There does not appear to be any planned public transport network upgrades in proximity to Location 2. The preferred alignment of the three (3) strategic public transport proposals outlined in Section 2.4.2 of this report (i.e. CoastConnect, Sunshine Coast Light Rail and CAMCOS) do not provide improved public transport coverage for Location 2.

3.5 Existing Traffic Management Arrangements

The Sunshine Coast Turf Club is located on the opposite side of Caloundra Road and frequently caters for larger scale vents. Based on a review of their website, it is understood that:

- the club regularly hosts race days, which typically occur on the weekend;
- the club provides significant off-street parking for their committee and members as well as the public (i.e. approximately 500 parking spaces);
- the club offers bus services from Noosa south to Caloundra and out to the racecourse. There is also a shuttle bus that runs between the parking areas and the front gate; and
- the club promotes Sunbus route 603, noting that there are local hourly services seven (7) days a week starting and finishing at the club.

Whilst there is the potential that an event at the proposed Stadium development would occur on the same day as a major event at the Sunshine Coast Turf Club, this is not considered to be a typical scenario and as such, has not specifically been tested as part of this pre-feasibility assessment. If Location 2 is selected as the preferred location, further testing would be required to quantify impacts under this scenario.

3.6 SUMMARY

In summary:

- Location 2 is currently located in a rural setting within limited transport infrastructure;
- there is currently only one (1) vehicular access route to and from the site (i.e. via the Caloundra Road / Racecourse Road interchange). However, long term, a secondary connection will be provided from Sunshine Motorway to the north via "Palmview Southern Link";
- there are very limited viable alternative transport options for access to and from the site;
- there are significant gaps in the active transport network with no committed plans for improvements;
- existing rail may be more viable compared to Location 1, however the closest station (Landsborough) is approximately 15km west of the site and the connecting bus service (Route 605) only stops on Caloundra Road near Parklands Boulevard, which is 2km east of the subject site (as the crow flies) with limited / no pathways in-between;
- there is limited on-street parking capacity within 1km of the site;
- the subject site could potentially utilise the adjacent Sunshine Coast Turf Club car park and soon to be constructed Car Pool Facility (adjacent to the Aussie World Precinct) for event day 'park n walk' (turf club) and 'park n ride' (car pool facility car park) facilities. However, the overall capacity of these facilities is very limited and as such, they are unlikely to accommodate peak event peaking demands;
- the site is not strategically located to capitalise on the three (3) major public transport initiatives on the Sunshine Coast (i.e. CoastConnect, Sunshine Coast Light Rail and CAMCOS); and
- whilst there may be more available land to accommodate on-site parking compared to Location 1, this would only encourage more private vehicle access to the Stadium development and therefore increase impacts on the surrounding road network. It would also not align with the guiding principles which aim to achieve 40-50% public transport mode share for the Stadium development.

Plans illustrating existing / planned transport infrastructure close to Location 2 is included at **Appendix B**.

4. ESTIMATED EVENT TRAFFIC & PARKING DEMANDS

4.1 ADOPTED EVENT USE SCENARIOS

Table 4.1 below provides a summary of the event use scenarios adopted by KMPG.

Table 4.1: Adopted Event Use Scenarios

ID	Title	Day of Week	Time of Day	Attendance
1	Midweek Night NRL Game	Thursday	7:50pm	11,000
2	Friday Night NRL Game	Friday	7:50pm	16,000
3	Saturday Afternoon NRL Game	Saturday	3:00pm	13,000
4	Saturday Night NRL Game	Saturday	7:50pm	13,000
5	Sunday Afternoon NRL Game	Sunday	4:00pm	13,000
6	Midweek Night Concert	Thursday	7:30pm	15,000
7	Saturday Night Concert	Saturday	7:30pm	15,000
8	Midweek Night Major Event	Thursday	7:30pm	25,000
9	Saturday Night Major Event	Saturday	7:30pm	25,000
10	Midweek Participation Event	Thursday	7:00am to 9:00pm	5,500
11	Weekend Participation Event	Saturday	7:00am to 9:00pm	5,500
12	Saturday Club Event	Saturday	8:00am to 4:00pm	1,500-2,000

4.2 ADJACENT ROAD NETWORK TRAFFIC DEMAND PROFILES

Bitzios sourced 2016 'Annual Volume Reports' from TMR for fixed traffic counter locations on the State-controlled network adjacent to both sites, including:

- Site 20014: Nicklin Way, 200m north of Waterview Street (i.e. 1.2km north of Location 1); and
- Site 23804: Caloundra Road, West of Racecourse Road (i.e. 0.6km west of Location 2).

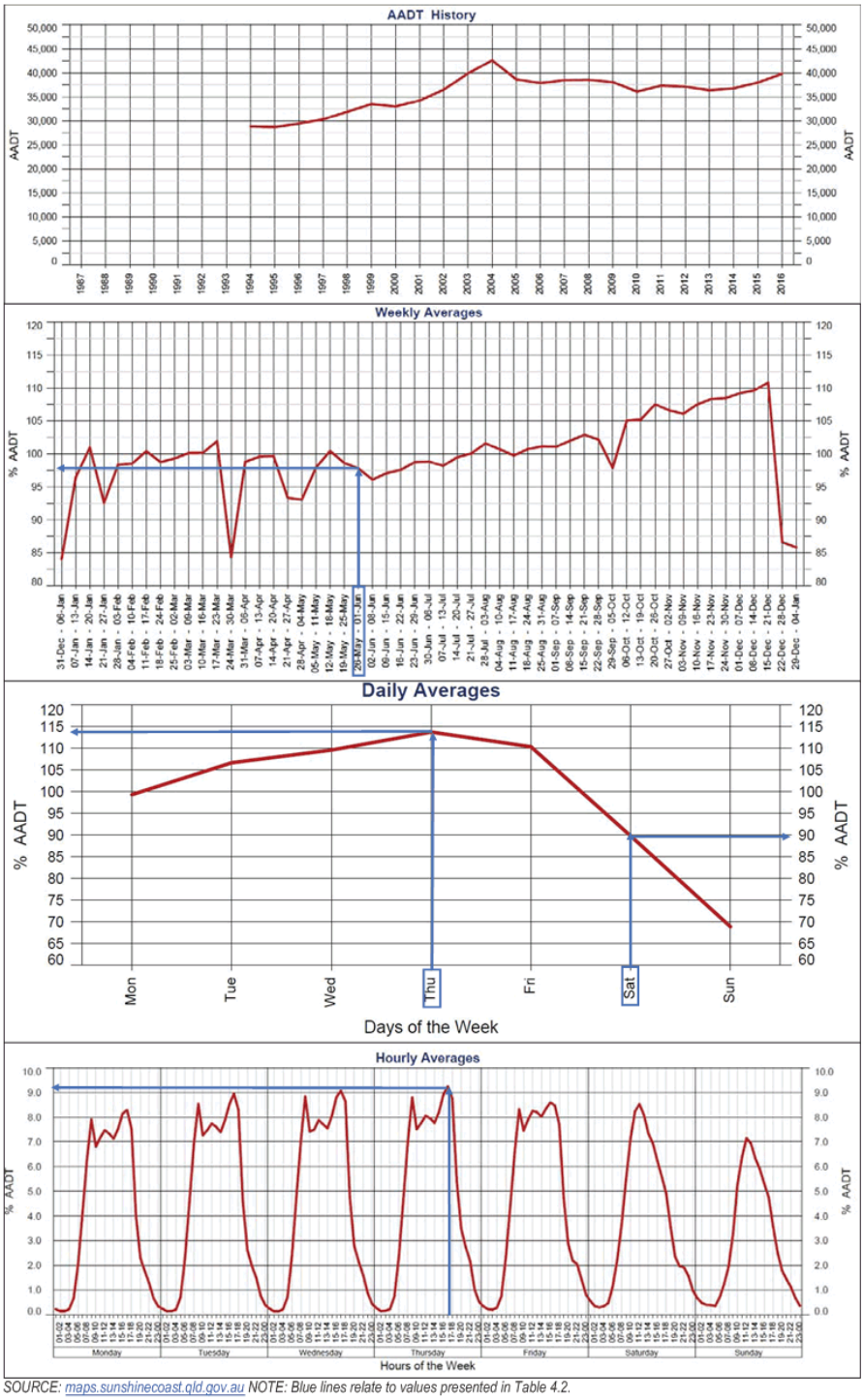
The 'Annual Volume Reports' provide a summary of the average annual daily traffic (AADT) recorded for the previous 12 months, by direction, hour of day, and day of week. It also provides traffic growth rates.

Key results are illustrated on Figure 4.1 and Figure 4.2 overleaf and in Table 4.2 below.

A copy of the annual volume reports is included at **Appendix C**.

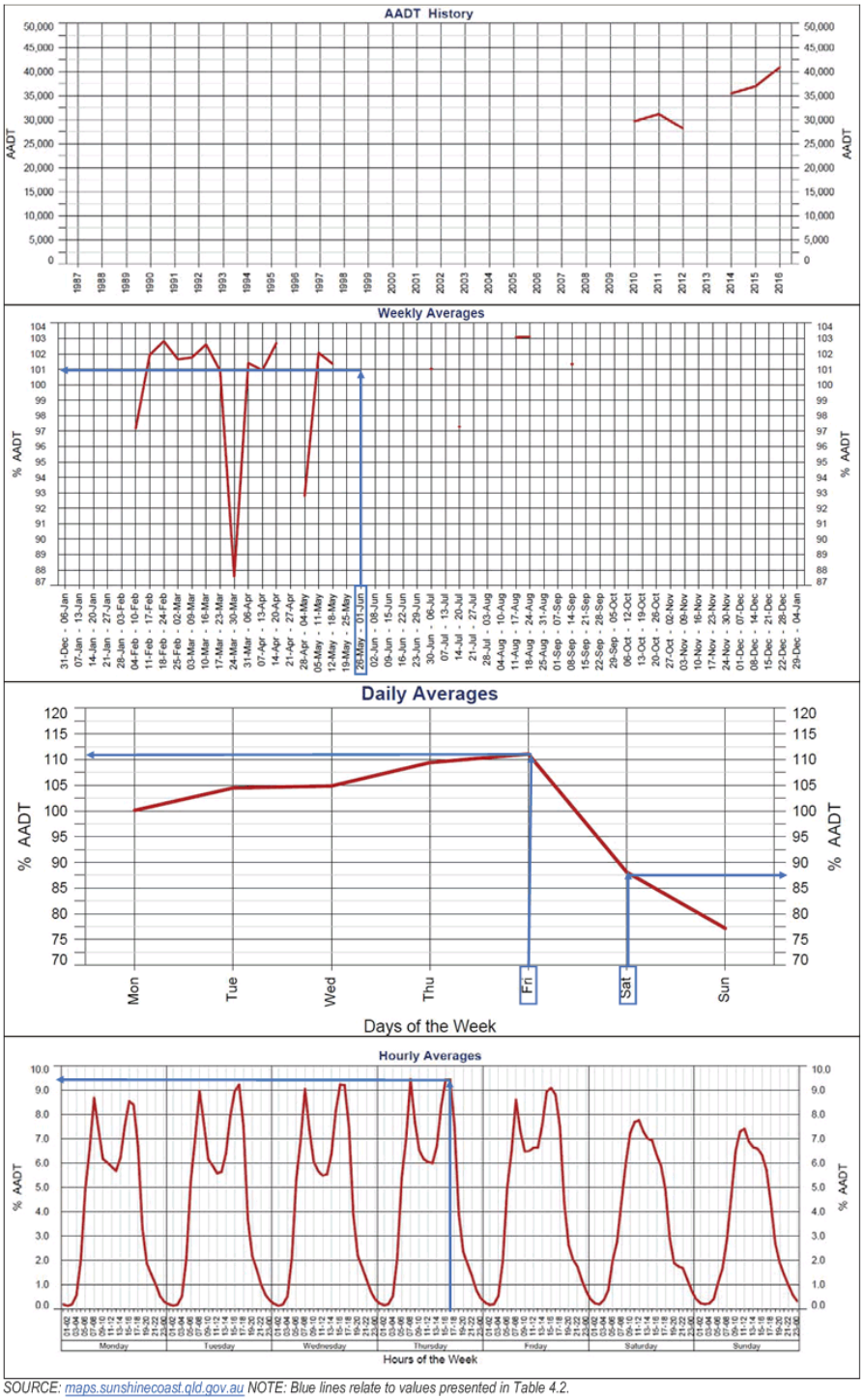
Table 4.2: Adjacent Road Network Traffic Characteristics

Parameter	Site 20014 (Nicklin Way)	Site 23804 (Caloundra Road)
AADT	39,792 vpd	40,866 vpd
Growth Last 5 Years	1.97% p.a.	7.26% p.a.
Growth Last 10 Years	0.79% p.a.	n/a
Average Peak Weekday Day	Thursday = 45,350 vpd (114% of AADT)	Friday =45,800 vpd (112% of AADT)
Average Peak Weekend Day	Saturday = 35,800 vpd (90% of AADT)	Saturday = 36,000 vpd (88% of AADT)
Average Peak Hour of the Network	Thursday 4pm to 5pm = 3,650 vph (9.2% of AADT)	Thursday 4pm to 5pm = 3,900 vph (9.5% of AADT)



SOURCE: maps.sunshinecoast.qld.gov.au NOTE: Blue lines relate to values presented in Table 4.2.

Figure 4.1: Location 1: Site 20014: 2016 Annual Volume Report (Nicklin Way)



SOURCE: maps.sunshinecoast.qld.gov.au NOTE: Blue lines relate to values presented in Table 4.2.

Figure 4.2: Location 2: Site 23804: 2016 Annual Volume Report (Caloundra Road)

4.3 ADOPTED TRAFFIC IMPACT DESIGN SCENARIOS

The project brief outlined a requirement to investigate two (2) alternative design scenarios, including:

- **Scenario 1:** Peak of the Network (Thursday 4:00pm to 5:00pm); and
- **Scenario 2:** Peak of the Use (Full capacity, either midweek or Saturday night starting at 7:30pm).

From the 'Annual Volume Reports', we have estimated the average traffic demands on the adjacent State-controlled road network in the hour preceding the nominated start time of each event use scenario. The purpose of this exercise is to identify appropriate 'traffic impact design scenarios'.

The results are summarised in Table 4.3 below.

Table 4.3: Adopted Event Use Scenarios vs. Adjacent Road Network Traffic Demands

ID	Title	Day of Week	Nominated Start Time	Attendance (people)	Estimated Demand on Nicklin Way in Preceding Hour (vehicles)	Estimated Demand on Caloundra Road in Preceding Hour (vehicles)
Thursday Road Network Peak Hour Volume (Network Peak: 4:00pm to 5:00pm)					3,650	3,900
10	Midweek Participation Event	Thursday	7:00am (to 9:00pm)	5,500	1,600	2,550
6	Midweek Night Concert	Thursday	7:30pm	15,000	1,750	1,300
8	Midweek Night Major Event	Thursday	7:30pm	25,000	1,750	1,300
1	Midweek Night NRL Game	Thursday	7:50pm	11,000	1,350	1,000
Friday Road Network Peak Hour Volume (3:00pm to 4:00pm)					3,450	3,700
2	Friday Night NRL Game	Friday	7:50pm	16,000	1,100	1,050
Saturday Road Network Peak Hour Volume (11:00am to 12:00pm)					3,400	3,200
11	Weekend Participation Event	Saturday	7:00am (to 9:00pm)	5,500	800	1,100
12	Saturday Club Event	Saturday	8:00am (to 4:00pm)	1,500-2,000	1,350	1,650
3	Saturday Afternoon NRL Game	Saturday	3:00pm	13,000	2,780	2,820
7	Saturday Night Concert	Saturday	7:30pm	15,000	1,150	1,000
9	Saturday Night Major Event	Saturday	7:30pm	25,000	1,150	1,000
4	Saturday Night NRL Game	Saturday	7:50pm	13,000	950	750
Sunday Road Network Peak Hour Volume (11:00am to 12:00pm)					2,850	3,100
5	Sunday Afternoon NRL Game	Sunday	4:00pm	13,000	2,150	2,550

Key points are summarised below:

- no event use scenario corresponds with the 'road network peak hour'; (i.e. Thursday 4:00 to 5:00pm).
- the full capacity event use scenarios (i.e. ID 8 and 9, with 25,000 people) commence at 7:30pm on a Thursday and Saturday night respectively, when traffic volumes on the adjacent road network are relatively low (i.e. less than 50% of the road network peak hour); and
- it is anticipated that any event with an expected attendance greater than 10,000 people (i.e. nine (9) out of the 12 adopted event use scenarios) would operate under traffic management, as currently occurs at Location 1 (i.e. NRL trial games, Nitro Circus etc.). These events are not considered to be 'typical' and as such, it is not reasonable to upgrade the transport network due to these events.

Given the above, there would be negligible impacts under **Scenario 1** (Peak of the Network). In fact, it would be recommended that no large-scale event occurred prior to 7:00pm on a weekday. This could form part of the conditions of approval as well as the overarching traffic management plan.

Furthermore, we are of the view that there would be little benefit of investigating impacts under **Scenario 2** (Peak of the Use) as it does not represent a 'typical' event and would operate under traffic management. Consistent with the guiding principles, 'there will be a degree of transport congestion during major events'.

Given the above, we have identified three (3) alternative 'traffic impact design scenarios', including:

- **Scenario A:** 5,000 spectators at an event starting at 5pm on a Thursday evening;
- **Scenario B:** 10,000 spectators at an event starting at 6pm on a Thursday evening; and
- **Scenario C:** 15,000 spectators at an event starting at 7pm on a Thursday evening.

The project brief also outlined a requirement to investigate impacts during incremental five (5) future year design scenarios, including 2021, 2027, 2031, 2037 and 2041. This is considered to be excessive for a pre-feasibility study, particularly given the level of uncertainty around the rate of development that may occur within the adjacent master planned communities (i.e. Kawana, Palmview, Caloundra South etc.); the timing and funding availability for planned road infrastructure upgrades (i.e. Palmview Southern Link, MMTC etc.); as well as the timing and funding availability for planned public transport infrastructure upgrades (i.e. CoastConnect, Sunshine Coast Light Rail, CAMCOS etc.).

Given the above, we have adopted the following three (3) alternative design horizons to broadly assess potential Stadium impacts on the adjacent road network:

- **Design Horizon 1:** 2017 (existing conditions); and
- **Design Horizon 2:** 2021 (assumed year of opening of the Stadium); and
- **Design Horizon 3:** 2031 (10-year post opening of the Stadium).

4.4 ADOPTED TRAFFIC ASSUMPTIONS

4.4.1 Mode Share

Table 4.4 provides a summary of the adopted mode share for each scenario.

The adopted mode share has largely been derived from the guiding principles as well as consideration of what currently occurs at the Sunshine Coast Stadium in Bokarina (i.e. Location 1). We have also drawn on our previous experience with large scale sporting events, including the Queensland Sports and Athletics Centre (QSAC) and the proposed Queensland State Netball Centre (QSNC), and the Carrara Sports and Leisure Precinct (Metricon Stadium).

Table 4.4: Key Assumption - Adopted Mode Share

Travel Mode	Scenario A	Scenario B	Scenario C	Justification
Car (Parking)[1]	65%	50%	35%	As size of event increases, a higher proportion of patrons will need to rely on alternative transport.
Car (Drop-Off)	20%	20%	20%	As per QSAC & QSNC.
Public Transport[2]	10%	25%	40%	As size of event increases, a higher proportion of patrons will need to rely on alternative transport.
Walk / Cycle	5%	5%	5%	As per QSAC & QSNC.
Total	100%	100%	100%	

[1] Parking on-site or in adjacent residential / industrial areas
[2] Public transport usage, including regular buses, event buses, park 'n' ride shuttles

Whilst it is acknowledged that the proportion of walking and cycling trips at Location 2 would be very low, the adopted 5% is considered appropriate for the purposes of the pre-feasibility assessment.

4.4.2 Vehicle Occupancy

Table 4.5 provides a summary of the adopted vehicle occupancy rates. The adopted rates have largely been derived from our previous experience with large scale sporting events, including the QSAC and QSNC (which were discussed with Stadiums Queensland and approved by the relevant road authorities).

Table 4.5: Key Assumption - Vehicle Occupancy

Travel Mode	Scenario A	Scenario B	Scenario C	Justification
Car (Parking)	2.8 persons / vehicle	2.8 persons / vehicle	2.8 persons / vehicle	As per QSAC & QSNC.
Car (Drop-Off)	1.8 persons / vehicle	1.8 persons / vehicle	1.8 persons / vehicle	As per QSAC & QSNC.
Public Transport	45 persons / vehicle	45 persons / vehicle	45 persons / vehicle	Typical bus capacity.
Walk / Cycle	1	1	1	n/a

4.4.3 Arrival / Departure Profiles

Table 4.6 provides a summary of the adopted arrival / departure profiles for each scenario. The adopted rates have largely been derived from our previous experience with large scale sporting events, including the QSAC and QSNC (which were discussed with Stadiums Queensland and approved by the relevant road authorities).

Table 4.6: Key Assumption - Arrival / Departure

Time	Scenario A	Scenario B	Scenario C	Justification
Arrive > 60mins prior to start time	20%	20%	20%	Staff, athletes, some patrons.
Arrive 0 to 60mins prior to start time	80%	80%	80%	Majority of patrons.
Depart 0 to 60mins after finish time	90%	90%	90%	Majority of patrons.
Depart > 60mins after finish time	10%	10%	10%	Staff, athletes, some patrons.

4.4.4 Traffic Growth Rate

Table 4.7 provides a summary of the historical population growth within the Sunshine Coast Regional Council area between 2006 and 2016. Population growth and traffic growth are typically comparable and as such, for the purposes of this pre-feasibility transport impact assessment, we have adopted a compound traffic growth rate of 2.16% per annum at both locations.

Table 4.7: Key Assumption - Traffic Growth Rate (Historical Population Growth)

Year (Ending June 30)	Recorded Population	Net Increase in Population	% Increase in Population per Year
2006	236,654	-	-
2007	243,309	6,655	2.81% p.a.
2008	250,800	7,491	3.08% p.a.
2009	258,047	7,247	2.89% p.a.
2010	263,053	5,006	1.94% p.a.
2011	267,241	4,188	1.59% p.a.
2012	272,723	5,482	2.05% p.a.
2013	277,804	5,081	1.86% p.a.
2014	282,702	4,898	1.76% p.a.
2015	287,535	4,833	1.71% p.a.
2016	292,990	5,455	1.90% p.a.
2006 to 2016		**56,336**	**2.16% p.a.**

4.4.5 Traffic Distribution Patterns

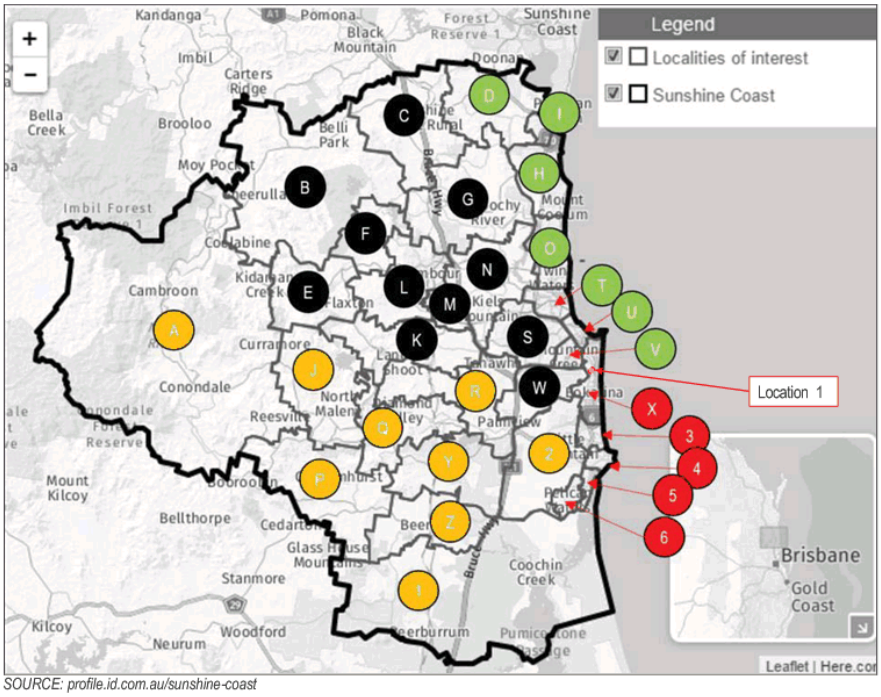
The following assumptions have been utilised to derive traffic distribution patterns for both location:

- **Internal Traffic:** 78% (as per recent NRL trial fixture at Location 1, with distribution based on 2016 population patterns as well as engineering judgement in relation to the quickest route to site); and
- **External Traffic:** 22% (as per recent NRL trial fixture at Location 1, with an assumed 25% (north) / 75% (south) split as well as engineering judgement in relation to the quickest route to site).

Table 4.8 and Figure 4.3 provides a summary of the adopted traffic distribution patterns for Location 1. Each suburb has been assigned an individual identification (i.e. letter or number). Whilst Table 4.8 only provides a summation of each traffic catchment, detailed outputs are included at **Appendix E**.

Table 4.8: Key Assumption - Traffic Distribution Patterns (Location 1)

Catchment	Colour	2016 Population	Internal		External		TOTAL
			100%	78%	100%	22%	100%
Nicklin Way (south)	Red	63,000	21.5%	16.8%	-	-	16.8%
Kawana Way (south)	Yellow	54,769	18.7%	14.6%	75.0%	16.5%	31.1%
Kawana Way (north)	Black	100,812	34.4%	26.8%	25.0%	5.5%	32.3%
Nicklin Way (north)	Green	74,416	25.4%	19.8%	-	-	19.8%
TOTAL		292,997	100%	78%	100%	22%	100%



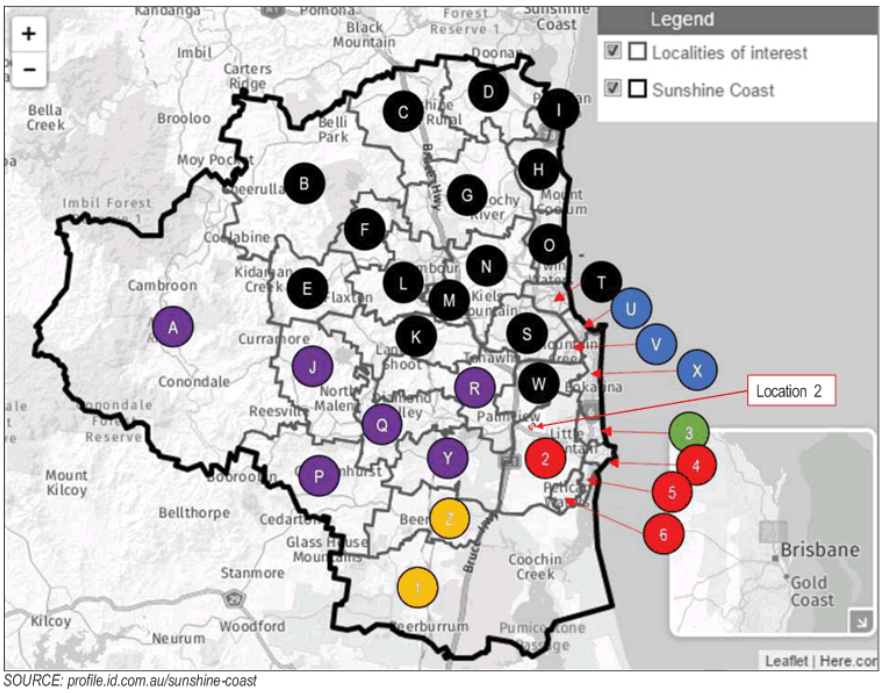
SOURCE: profile.id.com.au/sunshine-coast

Figure 4.3: Location 1: Population (Traffic) Distribution Patterns

Table 4.9 and Figure 4.4 provides a summary of the adopted traffic distribution patterns for Location 1. Each suburb has been assigned an individual identification (i.e. letter or number). Whilst Table 4.9 only provides a summation of each traffic catchment, detailed outputs are included at **Appendix E**.

Table 4.9: Key Assumption - Traffic Distribution Patterns (Location 2)

Catchment	Colour	2016 Population	Internal		External		TOTAL
			100%	78%	100%	22%	100%
Caloundra Road (east)	Red	40,706	13.9%	10.8%	-	-	10.8%
Parklands Boulevard (east)	Green	15,914	5.4%	4.2%	-	-	4.2%
Caloundra-Mooloolaba Road (east)	Blue	46,609	15.9%	12.4%	-	-	12.4%
Bruce Highway (north)	Black	152,952	52.2%	40.7%	25%	5.5%	46.2%
Steve Irwin Way (west)	Purple	24,155	8.2%	6.4%	-	-	6.4%
Bruce Highway (south)	Yellow	12,661	4.3%	3.4%	75%	16.5%	19.9%
TOTAL		292,997	100%	78%	100%	22%	100%



SOURCE: profile.id.com.au/sunshine-coast

Figure 4.4: Location 2: Population (Traffic) Distribution Patterns

4.5 PEAK TRAFFIC & PARKING ESTIMATES

Table 4.10 provides a summary of the estimated peak traffic and parking demands for each scenario (including a full stadium scenario), based on the adopted assumptions documented herein.

Table 4.10: Peak Traffic & Parking Estimates

Scenario	Inbound Trips	Outbound Trips	TOTAL Trips	Peak Parking
Scenario A – 5,000 spectators at Event Starting at 5:00pm on a Thursday Evening				
Total Event	2,294	2,294	4,588	
> 60mins before Event	345	113	459	
< 60mins before Event	1,382	453	1,835	1,161
< 60mins after Event	510	1,555	2,065	
> 60mins after Event	57	173	229	
Scenario B – 10,000 spectators at Event Starting at 6:00pm on a Thursday Evening				
Total Event	4,119	4,119	8,238	
> 60mins before Event	590	233	824	
< 60mins before Event	2,362	933	3,295	1,786
< 60mins after Event	1,050	2,657	3,707	
> 60mins after Event	117	295	412	
Scenario C – 15,000 spectators at Event Starting at 7:00pm on a Thursday Evening				
Total Event	5,475	5,474	10,950	
> 60mins before Event	735	360	1,095	
< 60mins before Event	2,940	1,440	4,380	1,875
< 60mins after Event	1,620	3,308	4,928	
> 60mins after Event	180	368	548	
25,000 spectators at Event				
Total Event	8,343	8,343	16,687	
> 60mins before Event	1,058	611	1,669	
< 60mins before Event	4,230	2,444	6,675	2,232
< 60mins after Event	2,750	4,759	7,509	
> 60mins after Event	306	529	834	

The above estimates roughly equate to approximately:

- **Scenario A:** 0.92 event trips per spectator and one (1) parked vehicle per 4.31 spectators;
- **Scenario B:** 0.82 event trips per spectator and one (1) parked vehicle per 5.59 spectators;
- **Scenario C:** 0.73 event trips per spectator and one (1) parked vehicle per 8.00 spectators; and
- **Stadium Capacity:** 0.66 event trips per spectator and one (1) parked vehicle per 11.20 spectators.

Given that parking capacity is effectively fixed, the above results appear logical (i.e. as the size of event increases, a higher proportion of patrons will need to utilise alternative transport modes). Furthermore, if mode share was 100% car parking (not feasible), the trip rate would be two (2) trips per spectator. Therefore, the estimated trip rates again appear to be logical.

The above stadium capacity scenario is based on achieving public transport mode share in accordance with the guiding principles (i.e. 50% of all trips). This is considered unlikely at Location 2 and as such, parking demands may increase to between 5,000 vehicles (based on 20% PT mode share) and 6,700 vehicles (based on 0% PT). This parking demand would likely consume all available land at Location 2.

5. TRAFFIC IMPACT ASSESSMENT

5.1 ASSESSMENT TOOL

Potential operational impacts generated by the Stadium development have been identified utilising SIDRA INTERSECTION 7.1 (SIDRA). This program is an 'advanced micro-analytical traffic evaluation tool that employs lane-by-lane and vehicle path models coupled with an iterative approximate method to provide estimates of capacity and performance statistics (delay, queue length, stop rate, etc.)'.

A copy of the SIDRA files can be provided upon request.

5.2 ASSESSMENT CRITERIA

TMR's 'Guidelines for Assessment of Road Impacts of Development' (GARID) recommends the following DOS thresholds:

- priority junctions: 80%;
- roundabout: 85%; and
- signalised intersections: 90%.

The GARID notes that a DOS exceeding these values indicates that an intersection is nearing its theoretical capacity and that upgrade works may be required.

We have also been mindful of back of queue lengths and potential safety implications of queues spilling back to adjacent intersections, interchanges or the highway.

5.3 ASSUMED FUTURE NETWORK

As highlighted in Section 2.2 of this report, there are no planned road upgrades in proximity to Location 1. As such, the existing network has been adopted for all future year scenarios.

As highlighted in Section 3.2 of this report, the Bruce Highway / Caloundra Road interchange is scheduled to be upgraded to a 'Diverging Diamond Interchange' by 2020. Furthermore, the 'Palmview Southern Link' is scheduled to be upgraded by 2026. Both projects have been included in our future year assessment.

5.4 BASELINE TRAFFIC VOLUMES

Traffic surveys were undertaken at each study intersection by Traffic Data and Control (TDC) on Thursday 1st June 2017 from 3:00pm to 9:00pm, in order to establish baseline traffic flows.

5.5 DESIGN TRAFFIC VOLUMES

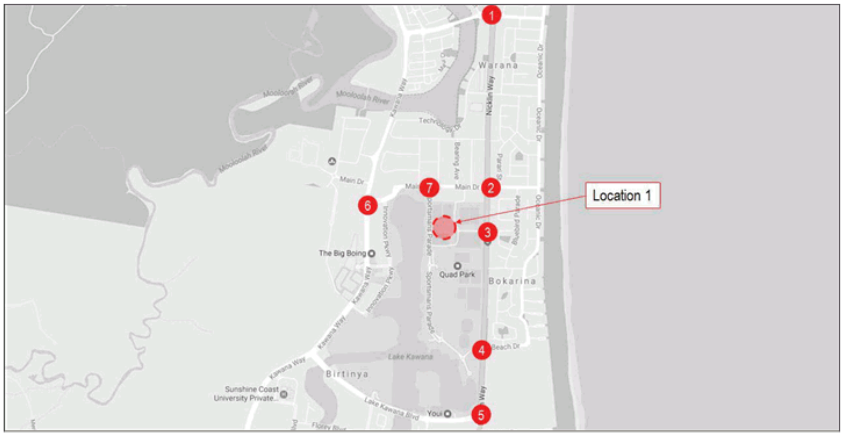
Baseline traffic volumes were factored by a growth rate of 2.16%p.a. to derive background volumes.

Design traffic volumes have been derived by adding estimated development trips to background traffic forecasts for both the 'year of opening' (assumed to be 2021) and a 10-year design horizon (2031).

A copy of the design traffic volumes is included at **Appendix D**. This includes a summary of the baseline traffic survey volumes.

5.6 TRAFFIC ANALYSIS RESULTS: LOCATION 1

Key intersections in proximity to Location 1 are reproduced on the figure below for ease of reference.



SOURCE: www.google.com.au/maps

Figure 5.1: Location 1: Road Network

A broad overview of Stadium impacts in terms of Intersection DOS is provided in Table 5.1 below.

Table 5.1: Location 1: SIDRA Results – Overall Summary (Intersection DOS)

ID	Time Period (Thursday)	2017	2021			2031			Unacceptable Impact
		Existing	Baseline	Stadium	% Impact	Baseline	Stadium	% Impact	
1	4pm to 5pm	1.026	1.117	1.208	8.1%	1.370	1.486	8.5%	No
	5pm to 6pm	1.025	1.116	1.234	10.6%	1.383	1.476	6.7%	No
	6pm to 7pm	0.654	0.718	0.892	24.2%	0.908	1.026	13.0%	No
2	4pm to 5pm	0.781	0.852	1.306	53.3%	1.059	1.499	41.5%	Yes
	5pm to 6pm	0.766	0.840	1.622	93.1%	1.034	1.813	75.3%	Yes
	6pm to 7pm	0.395	0.431	1.524	253.6%	0.536	1.599	198.3%	Yes
3	4pm to 5pm	1.000	1.000	6.698	569.8%	1.000	8.262	726.2%	Yes
	5pm to 6pm	1.000	1.000	13.497	1249.7%	1.000	28.585	2758.5%	Yes
	6pm to 7pm	0.221	0.241	19.600	8032.8%	0.298	19.723	6518.5%	Yes
4	4pm to 5pm	0.716	0.781	0.868	11.1%	0.958	1.035	8.0%	No
	5pm to 6pm	0.728	0.794	0.919	15.7%	0.942	1.106	17.4%	No
	6pm to 7pm	0.411	0.448	0.669	49.3%	0.558	0.772	38.4%	No
5	4pm to 5pm	0.598	0.941	0.979	4.0%	0.967	1.019	5.4%	No
	5pm to 6pm	0.645	0.750	0.933	24.4%	1.001	1.182	18.1%	No
	6pm to 7pm	0.355	0.386	0.588	52.3%	0.479	0.686	43.2%	No
6	4pm to 5pm	0.699	0.795	1.244	56.5%	1.131	1.521	34.5%	Yes
	5pm to 6pm	0.634	0.718	1.602	123.1%	1.015	1.739	71.3%	Yes
	6pm to 7pm	0.273	0.302	1.441	377.2%	0.391	1.366	249.4%	Yes
7	4pm to 5pm	0.413	0.464	1.171	152.4%	0.630	1.360	115.9%	Yes
	5pm to 6pm	0.406	0.452	1.673	270.1%	0.587	1.919	226.9%	Yes
	6pm to 7pm	0.217	0.236	1.809	666.5%	0.292	1.941	564.7%	Yes

In summary, the results suggest that there will be significant impacts at Intersection 2, 3, 6 and 7, if the adopted event scenarios were scheduled at the adopted time periods.

Design Horizon 1: 2017 Background

Table 5.2 provides a summary of the SIDRA results for the base year. Key points are summarised below:

- it appears that only Intersection 1 (Nicklin Way / Palkana Drive / Kawana Island Boulevard) is currently operating over capacity during the Thursday afternoon peak periods (i.e. both 4-5pm and 5-6pm); and
- it appears that all intersections are currently operating with spare capacity after 6pm on Thursday.

Design Horizon 2: 2021 Design Horizon (Year of Opening)

Table 5.3 provides a summary of the SIDRA results for 2021. Key points are summarised below:

- **Scenario A** (5,000 spectator event starting at 5pm): the results suggest that five (5) intersections are likely to exceed capacity during 2021, increased from one (1) in the background scenario;
- **Scenario B** (10,000 spectator event starting at 6pm): the results suggest that five (5) intersections are likely to exceed capacity during 2021, increased from one (1) in the background scenario; and
- **Scenario C** (15,000 spectator event starting at 7pm): the results suggest that four (4) intersections are likely to exceed capacity during 2021, increased from zero (0) in the background scenario.

The analysis also suggests that the Stadium may generate significant queuing at the following locations:

- Intersection 1: in the order of 1km to 2km both north and south on Nicklin Way (Scenario A and B);
- Intersection 2: in the order of 1km to 2km both north and south on Nicklin Way (Scenario A and B), and in the order of 1km to 2km on Main Drive (Scenario A, B and C);
- Intersection 3: in the order of 2km to 6km on the site access approach (Scenario A, B and C), suggesting that there is limited capacity to exit the site (i.e. drop-off and public transport trips);
- Intersection 6: in the order of 2km (Scenario A and C) and 4km (Scenario B) on the southern approach and in the order of 2.8km on the northern approach (Scenario C); and
- Intersection 7: in the order of 1.5km (Scenario A) and 2.4km (Scenario B and C) on the western approach and in the order of 1.9km and 2.4km (Scenario B and C) on the southern approach.

Design Horizon 3: 2031 Design Horizon (10 Years Post Opening)

Table 5.4 provides a summary of the SIDRA results for 2031. Key points are summarised below:

- **Scenario A** (5,000 spectator event starting at 5pm): the results suggest that seven (7) intersections are likely to exceed capacity during 2031, increased from four (4) in the background scenario;
- **Scenario B** (10,000 spectator event starting at 6pm): the results suggest that seven (7) intersections are likely to exceed capacity during 2031, increased from three (3) in the background scenario; and
- **Scenario C** (15,000 spectator event starting at 7pm): the results suggest that five (5) intersections are likely to exceed capacity during 2031, increased from zero (0) in the background scenario.

The analysis also suggests that the Stadium may generate significant queuing at the intersections listed above, albeit slightly longer given the increased background traffic demands.

Summary

All adopted event use scenarios will impact road network operations during a Thursday evening. Scenario C (larger event starting later in the evening) appears to have the least impacts due to reduced background traffic volumes after 6pm. This would suggest that **no** events should be scheduled to coincide with the weekday road network evening peak.

Whilst the analysis suggests significant queueing on the adjacent road network, queues are likely to be confined within the relatively low speed environment and unlikely to extend to the adjacent motorway.

Notwithstanding the above, we anticipate that Intersection 2, 3, 6 and 7 will require traffic management in place before and after scheduled events on a Thursday evening, to manage both vehicular queues and delays, as well as pedestrian movements.

A plan further illustrating the analysis results for Location 1 is included at **Appendix E**.

Table 5.2: Location 1: SIDRA Results – 2017 Background

Intersection ID	Demand (vehicles)	Degree of Saturation (DOS)	Average Delay (seconds)	Level of Service	95th Percentile Queue Length (metres)	Cycle Time (seconds)	Acceptable Performance
Int ID	2017 Background | Thursday 4:00pm to 5:00pm						
1	5137	1.026	92.8	LOS F	725.1	150	No
2	3315	0.781	35.2	LOS D	278.2	150	Yes
3	2803	1.000	2.4	LOS A	16.8	n/a	Yes
4	3241	0.716	23.5	LOS C	273.8	150	Yes
5	3185	0.598	22.3	LOS C	195.0	150	Yes
6	3085	0.699	8.8	LOS A	62.3	n/a	Yes
7	1216	0.413	22.1	LOS C	116.3	150	Yes
Int ID	2017 Background | Thursday 5:00pm to 6:00pm						
1	5122	1.025	81.9	LOS F	516.0	150	No
2	3321	0.766	30.8	LOS C	279.3	150	Yes
3	2911	1.000	2.3	LOS A	16.5	n/a	Yes
4	3351	0.728	22.6	LOS C	279.5	150	Yes
5	3449	0.645	23.1	LOS C	201.2	150	Yes
6	2766	0.634	8.2	LOS A	48.0	n/a	Yes
7	1093	0.406	24.7	LOS C	119.0	150	Yes
Int ID	2017 Background | Thursday 6:00pm to 7:00pm						
1	3007	0.654	28.8	LOS C	154.5	150	Yes
2	1861	0.395	23.4	LOS C	121.0	150	Yes
3	1680	0.221	0.1	LOS A	0.8	n/a	Yes
4	1866	0.411	18.1	LOS B	130.9	150	Yes
5	2046	0.355	18.6	LOS B	106.9	150	Yes
6	1470	0.273	5.6	LOS A	13.2	n/a	Yes
7	551	0.217	23.4	LOS C	59.3	150	Yes

Green = operating below the practical operating capacity of existing intersection control. Orange = operating above the practical operating capacity but below theoretical capacity of existing intersection control. Red = operating above the theoretical capacity of existing intersection control

Table 5.3: Location 1: SIDRA Results – 2021 Design Horizon (Year of Opening)

Intersection ID	Demand (vehicles)	Degree of Saturation (DOS)	Average Delay (seconds)	Level of Service	95th Percentile Queue Length (metres)	Cycle Time (seconds)	Acceptable Performance	Demand (vehicles)	Degree of Saturation (DOS)	Average Delay (seconds)	Level of Service	95th Percentile Queue Length (metres)	Cycle Time (seconds)	Acceptable Performance
Int ID	2021 Background | Thursday 4:00pm to 5:00pm							2021 Background + 5,000 Spectator Event | Thursday 4:00pm to 5:00pm						
1	5593	1.117	182.9	LOS F	1086.5	150	No	5966	1.208	298.8	LOS F	1822.7	150	No
2	3611	0.852	38.1	LOS D	334.5	150	Yes	4543	1.306	312.5	LOS F	1615.1	150	No
3	3053	1.000	2.1	LOS A	16.2	n/a	Yes	3721	6.698	883.4	LOS F	1829.9	n/a	No
4	3531	0.781	24.7	LOS C	313.0	150	Yes	3897	0.868	30.8	LOS C	382.2	150	Yes
5	3469	0.941	28.1	LOS C	264.2	150	Yes	3830	0.979	31.1	LOS C	323.0	150	Yes
6	3361	0.795	10.7	LOS B	92.8	n/a	Yes	4467	1.244	209.9	LOS F	2054.9	n/a	No
7	1325	0.464	22.4	LOS C	127.9	150	Yes	2442	1.171	273.0	LOS F	1516.7	150	No
Int ID	2021 Background | Thursday 5:00pm to 6:00pm							2021 Background + 10,000 Spectator Event | Thursday 5:00pm to 6:00pm						
1	5578	1.116	166.6	LOS F	819.5	150	No	6282	1.234	368.0	LOS F	2122.9	150	No
2	3619	0.840	32.6	LOS C	324.1	150	Yes	5307	1.622	638.0	LOS F	2618.3	150	No
3	3171	1.000	2.0	LOS A	16.0	n/a	Yes	4451	13.497	3863.4	LOS F	3955.4	n/a	No
4	3650	0.794	23.9	LOS C	320.0	150	Yes	4329	0.919	43.0	LOS D	474.4	150	Yes
5	3757	0.750	24.7	LOS C	268.5	150	Yes	4430	0.933	41.3	LOS D	529.4	150	Yes
6	3012	0.718	9.5	LOS A	67.1	n/a	Yes	4991	1.602	512.3	LOS F	4047.5	n/a	No
7	1191	0.452	24.9	LOS C	131.1	150	Yes	3209	1.673	701.6	LOS F	2485.0	150	No
Int ID	2021 Background | Thursday 6:00pm to 7:00pm							2021 Background + 15,000 Spectator Event | Thursday 6:00pm to 7:00pm						
1	3274	0.718	29.1	LOS C	171.8	150	Yes	4263	0.892	39.1	LOS D	434.3	150	Yes
2	2026	0.431	23.7	LOS C	134.6	150	Yes	4303	1.524	557.0	LOS F	1820.3	150	No
3	1828	0.241	0.1	LOS A	1.1	n/a	Yes	3665	19.600	7046.3	LOS F	6080.2	n/a	No
4	2028	0.448	18.5	LOS B	146.1	150	Yes	2968	0.669	24.8	LOS C	231.9	150	Yes
5	2228	0.386	18.9	LOS B	119.3	150	Yes	3160	0.588	18.1	LOS B	188.7	150	Yes
6	1602	0.302	5.7	LOS A	15.1	n/a	Yes	4214	1.441	310.2	LOS F	2821.7	n/a	No
7	600	0.236	23.6	LOS C	65.3	150	Yes	3305	1.809	829.5	LOS F	2393.8	150	No

Green = operating below the practical operating capacity of existing intersection control. Orange = operating above the practical operating capacity but below theoretical capacity of existing intersection control. Red = operating above the theoretical capacity of existing intersection control

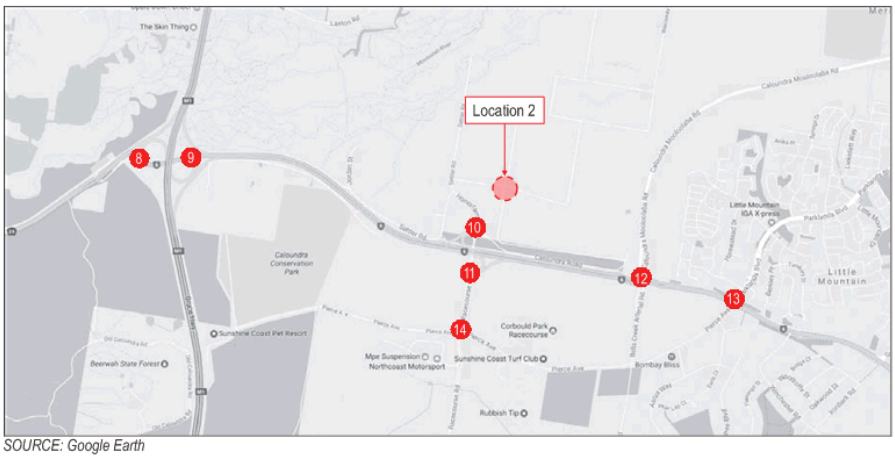
Table 5.4: Location 1: SIDRA Results – 2031 Design Horizon (10 Years Post Opening)

Intersection ID	Demand (vehicles)	Degree of Saturation (DOS)	Average Delay (seconds)	Level of Service	95th Percentile Queue Length (metres)	Cycle Time (seconds)	Acceptable Performance	Demand (vehicles)	Degree of Saturation (DOS)	Average Delay (seconds)	Level of Service	95th Percentile Queue Length (metres)	Cycle Time (seconds)	Acceptable Performance
Int ID	2031 Background | Thursday 4:00pm to 5:00pm							2031 Background + 5,000 Spectator Event | Thursday 4:00pm to 5:00pm						
1	6923	1.370	557.8	LOS F	2545.9	150	No	7297	1.486	667.1	LOS F	3223.4	150	No
2	4468	1.059	108.2	LOS F	943.4	150	No	5398	1.499	474.1	LOS F	2451.9	150	No
3	3779	1.000	1.6	LOS A	15.0	n/a	Yes	4448	8.262	65535.0	LOS F	1932.5	n/a	No
4	4368	0.958	44.3	LOS D	624.1	150	Yes	4733	1.035	137.4	LOS F	987.5	150	No
5	4294	0.967	55.9	LOS E	627.2	150	No	4655	1.019	83.2	LOS F	872.1	150	No
6	4160	1.131	125.4	LOS F	1302.5	n/a	No	5267	1.521	503.0	LOS F	4087.7	n/a	No
7	1641	0.630	23.2	LOS C	163.7	150	Yes	2756	1.360	419.9	LOS F	1953.2	150	No
Int ID	2031 Background | Thursday 5:00pm to 6:00pm							2031 Background + 10,000 Spectator Event | Thursday 5:00pm to 6:00pm						
1	6903	1.383	529.2	LOS F	2191.7	150	No	7606	1.476	735.6	LOS F	3570.9	150	No
2	4479	1.034	88.0	LOS F	900.3	150	No	6170	1.813	827.9	LOS F	3609.1	150	No
3	3924	1.000	1.5	LOS A	14.8	n/a	Yes	5205	28.585	65535.0	LOS F	4236.7	n/a	No
4	4515	0.942	46.3	LOS D	566.7	150	Yes	5196	1.106	207.9	LOS F	1344.5	150	No
5	4650	1.001	60.5	LOS E	658.9	150	No	5323	1.182	152.8	LOS F	878.0	150	No
6	3728	1.015	44.9	LOS D	481.8	n/a	Yes	5706	1.739	755.6	LOS F	5266.7	n/a	No
7	1473	0.587	26.0	LOS C	169.9	150	Yes	3491	1.919	856.1	LOS F	2746.8	150	No
Int ID	2031 Background | Thursday 6:00pm to 7:00pm							2031 Background + 15,000 Spectator Event | Thursday 6:00pm to 7:00pm						
1	4056	0.908	38.4	LOS D	236.4	150	Yes	5044	1.026	114.0	LOS F	927.4	150	No
2	2513	0.536	24.9	LOS C	179.0	150	Yes	4792	1.599	669.8	LOS F	2163.3	150	No
3	2262	0.298	0.4	LOS A	4.0	n/a	Yes	4100	19.723	6908.6	LOS F	6065.1	n/a	No
4	2513	0.558	19.8	LOS B	195.7	150	Yes	3453	0.772	26.3	LOS C	286.9	150	Yes
5	2760	0.479	19.9	LOS B	159.1	150	Yes	3690	0.686	20.6	LOS C	272.3	150	Yes
6	1981	0.391	6.1	LOS A	21.2	n/a	Yes	4593	1.366	392.9	LOS F	2512.2	n/a	No
7	745	0.292	24.3	LOS C	84.0	150	Yes	3449	1.941	913.6	LOS F	2567.6	150	No

Green *= operating below the practical operating capacity of existing intersection control.* ***Orange*** *= operating above the practical operating capacity but below theoretical capacity of existing intersection control.* ***Red*** *= operating above the theoretical capacity of existing intersection control*

5.7 TRAFFIC ANALYSIS RESULTS: LOCATION 2

Key intersections in proximity to Location 2 are reproduced on the figure below for ease of reference.



SOURCE: Google Earth

Figure 5.2: Location 2: Road Network

A broad overview of Stadium impacts in terms of Intersection DOS is provided in Table 5.5 below.

Table 5.5: Location 2: SIDRA Results – Overall Summary (Intersection DOS)

ID	Time Period (Thursday)	2017	2021			2031			Unacceptable Impact
		Existing	Baseline	Stadium	% Impact	Baseline	Stadium	% Impact	
8	4pm to 5pm	0.982	0.854	0.678	-20.6%	0.690	0.763	10.6%	No
	5pm to 6pm	0.930	0.516	0.835	61.8%	0.639	0.878	37.4%	No
	6pm to 7pm	0.386	0.286	0.718	151.0%	0.354	0.709	100.3%	No
9	4pm to 5pm	0.65	0.799	0.954	19.4%	0.738	1.024	38.8%	Yes
	5pm to 6pm	0.627	0.552	1.172	112.3%	0.684	1.180	72.5%	Yes
	6pm to 7pm	0.410	0.286	1.010	253.1%	0.373	0.907	143.2%	Yes
10	4pm to 5pm	0.049	0.054	0.728	1248.1%	0.067	0.573	755.2%	Yes
	5pm to 6pm	0.037	0.040	1.259	3047.5%	0.050	0.987	1874.0%	Yes
	6pm to 7pm	0.013	0.014	2.019	14321.4%	0.017	1.307	7588.2%	Yes
11	4pm to 5pm	0.100	0.110	0.351	219.1%	0.135	0.328	143.0%	No
	5pm to 6pm	0.069	0.075	0.492	556.0%	0.094	0.429	356.4%	No
	6pm to 7pm	0.019	0.020	0.644	3120.0%	0.024	0.518	2058.3%	No
12	4pm to 5pm	0.708	0.825	1.239	50.2%	1.691	2.045	20.9%	Yes
	5pm to 6pm	0.679	0.751	1.491	98.5%	1.517	2.428	60.1%	Yes
	6pm to 7pm	0.350	0.383	0.590	54.0%	0.482	0.632	31.1%	No
13	4pm to 5pm	0.977	1.055	1.134	7.5%	1.306	1.353	3.6%	No
	5pm to 6pm	0.969	1.063	1.158	8.9%	1.316	1.380	4.9%	No
	6pm to 7pm	0.481	0.543	0.667	22.8%	0.662	0.827	24.9%	No
14	4pm to 5pm	0.063	0.070	0.074	5.7%	0.094	0.098	4.3%	No
	5pm to 6pm	0.040	0.043	0.121	181.4%	0.057	0.100	75.4%	No
	6pm to 7pm	0.012	0.014	0.115	721.4%	0.017	0.093	447.1%	No

In summary, the results suggest that there will be significant impacts at Intersection 8, 9, 10, 11 and 12, if the adopted event uses scenarios were scheduled at the adopted time periods.

Design Horizon 1: 2017 Background

Table 5.6 provides a summary of the SIDRA results for the base year (i.e. 2017).

Key points are summarised below:

- it appears that all intersections are operating under capacity during each of all assessed time periods.

Design Horizon 2: 2021 Design Horizon (Year of Opening)

Table 5.7 provides a summary of the SIDRA results for 2021. Key points are summarised below:

- **Scenario** A (5,000 spectator event starting at 5pm): the results suggest that two (2) intersections are likely to exceed capacity thresholds during 2021, increased from one (1) in the background scenario;
- **Scenario B** (10,000 spectator event starting at 6pm): the results suggest that four (4) intersections are likely to exceed capacity during 2021, increased from one (1) in the background scenario; and.
- **Scenario C** (15,000 spectator event starting at 7pm): the results suggest that one (1) intersection is likely to exceed capacity during 2021, increased from zero (0) in the background scenario.

The analysis also suggests that the Stadium may generate significant queuing at the following locations:

- **Intersection 10:** Eastbound Off-Ramp, in the order of 2.5km (Scenario B) and 4.2km (Scenario C). There is only 450m storage capacity on the off-ramp back to Caloundra Road;
- **Intersection 11:** Westbound Off-Ramp, in the order of 1.2km (Scenario B) and 2.8km (Scenario C) back from Intersection 10. There is only 740m storage capacity from Intersection 10 to Caloundra Road;
- **Intersection 12:** Northern Approach, in the order of 1.3km (Scenario A) and 2.4km (Scenario B).

Design Horizon 3: 2031 Design Horizon (10 Years Post Opening)

Table 5.8 provides a summary of the SIDRA results for 2031. Key points are summarised below:

- **Scenario A** (5,000 spectator event starting at 5pm): the results suggest that two (2) intersections are likely to exceed capacity thresholds during 2031, consistent with two (2) in the background scenario;
- **Scenario B** (10,000 spectator event starting at 6pm): the results suggest that four (4) intersections are likely to exceed capacity during 2031, increased from two (2) in the background scenario;
- **Scenario C** (15,000 spectator event starting at 7pm): the results suggest that one (1) intersection is likely exceed capacity during 2031, increased from zero (0) in the background scenario.

The analysis also suggests that the Stadium may generate significant queuing at the intersections listed above, albeit slightly longer given the increased background traffic demands.

Summary

All adopted event use scenarios will significantly impact road network operations during a Thursday evening. Given the proximity of both Caloundra Road and Bruce Highway (high speed roads), and the limited routes to/from the site (concentrated impacts), there is a real potential that a Stadium development would result in vehicle queues extending back from Intersection 10 and 11 onto Caloundra Road (and potentially back to the Bruce Highway / Caloundra Road interchange), effectively blocking one lane of travel in either direction on Caloundra Road. We are of the view that this is an unacceptable safety risk that would be difficult to mitigate either via infrastructure upgrades or traffic management measures. **This safety impact would be exacerbated if the target PT mode share at Location 2 was not achieved.** As such, it is recommended that **no** major events be scheduled at this location during a Thursday evening.

Notwithstanding the above, a smaller event could potentially be accommodated after 7pm with traffic management in place at 10, 11 and 12, before and after scheduled events on a Thursday evening, to avoid queueing back onto the motorway and to assist with pedestrian movements.

A plan further illustrating the analysis results for Location 2 is included at **Appendix E**.

Table 5.6: Location 2: SIDRA Results – 2017 Background

Intersection ID	Demand (vehicles)	Degree of Saturation (DOS)	Average Delay (seconds)	Level of Service	95th Percentile Queue Length (metres)	Cycle Time (seconds)	Acceptable Performance
Int ID	2017 Background | Thursday 4:00pm to 5:00pm						
8	2852	0.982	42.3	LOS D	435.4	150	Yes
9	4183	0.650	3.0	LOS A	1.3	n/a	Yes
10	200	0.049	26.9	LOS C	10.1	150	Yes
11	319	0.100	20.9	LOS C	22.7	150	Yes
12	4527	0.708	12.4	LOS B	60.1	n/a	Yes
13	4064	0.977	53.9	LOS D	573.0	150	Yes
14	290	0.063	2.8	LOS A	1.5	n/a	Yes
Int ID	2017 Background | Thursday 5:00pm to 6:00pm						
8	2821	0.930	32.4	LOS C	316.0	150	Yes
9	3927	0.627	2.7	LOS A	1.2	n/a	Yes
10	141	0.037	27.9	LOS C	7.0	150	Yes
11	216	0.069	14.6	LOS B	13.0	150	Yes
12	4248	0.679	11.3	LOS B	56.3	n/a	Yes
13	3840	0.969	52.0	LOS D	528.1	150	Yes
14	189	0.040	2.5	LOS A	0.9	n/a	Yes
Int ID	2017 Background | Thursday 6:00pm to 7:00pm						
8	1599	0.386	20.6	LOS C	112.6	150	Yes
9	2034	0.410	2.2	LOS A	0.3	n/a	Yes
10	51	0.013	29.1	LOS C	2.3	150	Yes
11	61	0.019	19.8	LOS B	4.4	150	Yes
12	2256	0.350	9.0	LOS A	18.6	n/a	Yes
13	2076	0.481	29.7	LOS C	136.5	150	Yes
14	51	0.012	2.7	LOS A	0.3	n/a	Yes

Green *= operating below the practical operating capacity of existing intersection control.* ***Orange*** *= operating above the practical operating capacity but below theoretical capacity of existing intersection control.* ***Red*** *= operating above the theoretical capacity of existing intersection control*

Table 5.7: Location 2: SIDRA Results – 2021 Design Horizon (Year of Opening)

Intersection ID	Demand (vehicles)	Degree of Saturation (DOS)	Average Delay (seconds)	Level of Service	95th Percentile Queue Length (metres)	Cycle Time (seconds)	Acceptable Performance	Demand (vehicles)	Degree of Saturation (DOS)	Average Delay (seconds)	Level of Service	95th Percentile Queue Length (metres)	Cycle Time (seconds)	Acceptable Performance
Int ID	2021 Background | Thursday 4:00pm to 5:00pm							2021 Background + 5,000 Spectator Event | Thursday 4:00pm to 5:00pm						
8	3106	0.854	15.6	LOS B	65.6	120	Yes	3715	0.678	19.2	LOS B	152.0	120	Yes
9	4117	0.799	10.4	LOS B	55.9	120	Yes	5369	0.954	19.1	LOS B	166.6	120	Yes
10	218	0.054	26.8	LOS C	11.1	150	Yes	2036	0.728	27.7	LOS C	239.6	150	Yes
11	347	0.110	21.2	LOS C	24.8	150	Yes	1138	0.351	26.3	LOS C	103.0	150	Yes
12	4931	0.825	15.4	LOS B	84.5	n/a	Yes	5421	1.239	74.4	LOS F	1296.4	n/a	No
13	4426	1.055	92.2	LOS F	896.5	150	No	4705	1.134	123.1	LOS F	1063.3	150	No
14	315	0.070	2.8	LOS A	1.7	n/a	Yes	424	0.074	3.8	LOS A	1.8	n/a	Yes
Int ID	2021 Background | Thursday 5:00pm to 6:00pm							2021 Background + 10,000 Spectator Event | Thursday 5:00pm to 6:00pm						
8	3072	0.516	16.5	LOS B	95.8	120	Yes	4220	0.835	23.6	LOS C	225.6	120	Yes
9	3991	0.552	18.2	LOS B	121.1	120	Yes	6251	1.172	72.4	LOS E	196.3	120	No
10	154	0.040	28.0	LOS C	7.8	150	Yes	3472	1.259	318.1	LOS F	2546.0	150	No
11	235	0.075	14.6	LOS B	14.2	150	Yes	1743	0.492	22.4	LOS C	157.1	150	Yes
12	4627	0.751	12.8	LOS B	71.9	n/a	Yes	5521	1.491	140.4	LOS F	2427.7	n/a	No
13	4181	1.063	98.1	LOS F	880.4	150	No	4691	1.158	158.5	LOS F	1294.5	150	No
14	205	0.043	2.4	LOS A	1.0	n/a	Yes	409	0.121	4.6	LOS A	1.1	n/a	Yes
Int ID	2021 Background | Thursday 6:00pm to 7:00pm							2021 Background + 15,000 Spectator Event | Thursday 6:00pm to 7:00pm						
8	1742	0.286	15.0	LOS B	52.9	120	Yes	3357	0.718	18.5	LOS B	167.4	120	Yes
9	2135	0.301	16.7	LOS B	65.6	120	Yes	5158	1.010	22.1	LOS C	163.3	120	Yes
10	56	0.014	28.6	LOS C	2.6	150	Yes	4583	2.019	691.0	LOS F	4239.4	150	No
11	67	0.020	19.1	LOS B	4.6	150	Yes	2164	0.644	16.0	LOS B	180.4	150	Yes
12	2457	0.383	9.1	LOS A	21.3	n/a	Yes	3683	0.590	11.2	LOS B	40.2	n/a	Yes
13	2259	0.543	30.9	LOS C	155.0	150	Yes	2951	0.667	32.7	LOS C	207.2	150	Yes
14	55	0.014	2.6	LOS A	0.3	n/a	Yes	259	0.115	5.9	LOS A	0.4	n/a	Yes

Green *= operating below the practical operating capacity of existing intersection control.* ***Orange*** *= operating above the practical operating capacity but below theoretical capacity of existing intersection control.* ***Red*** *= operating above the theoretical capacity of existing intersection control*

Table 5.8: Location 2: SIDRA Results – 2031 Design Horizon (10 Years Post Opening)

Intersection ID	Demand (vehicles)	Degree of Saturation (DOS)	Average Delay (seconds)	Level of Service	95th Percentile Queue Length (metres)	Cycle Time (seconds)	Acceptable Performance	Demand (vehicles)	Degree of Saturation (DOS)	Average Delay (seconds)	Level of Service	95th Percentile Queue Length (metres)	Cycle Time (seconds)	Acceptable Performance
Int ID	2031 Background | Thursday 4:00pm to 5:00pm							2031 Background + 5,000 Spectator Event | Thursday 4:00pm to 5:00pm						
8	3845	0.690	18.2	LOS B	153.9	120	Yes	4333	0.763	21.3	LOS C	184.0	120	Yes
9	5098	0.738	19.7	LOS B	158.5	120	Yes	6100	1.024	26.6	LOS C	193.3	120	Yes
10	269	0.067	27.3	LOS C	13.7	150	Yes	1723	0.573	25.5	LOS C	137.5	150	Yes
11	431	0.135	21.1	LOS C	31.3	150	Yes	1064	0.328	27.8	LOS C	95.0	150	Yes
12	6103	1.691	207.3	LOS F	2441.2	n/a	No	6495	2.045	312.8	LOS F	3680.6	n/a	No
13	5479	1.306	265.7	LOS F	2146.2	150	No	5702	1.353	299.3	LOS F	2352.4	150	No
14	391	0.094	2.9	LOS A	2.3	n/a	Yes	478	0.098	3.6	LOS A	2.4	n/a	Yes
8	2031 Background | Thursday 5:00pm to 6:00pm							2031 Background + 10,000 Spectator Event | Thursday 5:00pm to 6:00pm						
8	3805	0.639	17.3	LOS B	133.5	120	Yes	4724	0.878	25.8	LOS C	268.2	120	Yes
9	4943	0.684	19.4	LOS B	159.3	120	Yes	6751	1.180	74.5	LOS E	242.3	120	No
10	188	0.050	27.8	LOS C	9.4	150	Yes	2843	0.987	62.2	LOS E	745.3	150	No
11	291	0.094	14.8	LOS B	17.9	150	Yes	1498	0.429	24.0	LOS C	134.0	150	Yes
12	5725	1.517	143.6	LOS F	1935.4	n/a	No	6440	2.428	401.6	LOS F	4579.0	n/a	No
13	5176	1.316	282.6	LOS F	2077.8	150	No	5584	1.380	331.0	LOS F	2392.4	150	No
14	254	0.057	2.5	LOS A	1.4	n/a	Yes	417	0.100	4.2	LOS A	1.5	n/a	Yes
Int ID	2031 Background | Thursday 6:00pm to 7:00pm							2031 Background + 15,000 Spectator Event | Thursday 6:00pm to 7:00pm						
8	2155	0.354	15.4	LOS B	68.7	120	Yes	3448	0.709	18.2	LOS B	166.5	120	Yes
9	2642	0.373	17.3	LOS B	84.2	120	Yes	5060	0.907	18.1	LOS B	163.8	120	Yes
10	66	0.017	28.0	LOS C	3.0	150	Yes	3688	1.307	355.8	LOS F	2952.6	150	No
11	82	0.024	20.0	LOS B	5.6	150	Yes	1759	0.518	15.7	LOS B	127.0	150	Yes
12	3041	0.482	9.4	LOS A	30.5	n/a	Yes	4022	0.632	11.4	LOS B	46.1	n/a	Yes
13	2800	0.662	31.3	LOS C	207.8	150	Yes	3354	0.827	34.3	LOS C	270.3	150	Yes
14	68	0.017	2.6	LOS A	0.4	n/a	Yes	231	0.093	5.5	LOS A	0.4	n/a	Yes

Green = operating below the practical operating capacity of existing intersection control. **Orange** = operating above the practical operating capacity but below theoretical capacity of existing intersection control. **Red** = operating above the theoretical capacity of existing intersection

6. INFRASTRUCTURE UPGRADE REQUIREMENTS

6.1 OVERVIEW

A Stadium development has the potential to generate traffic and parking impacts ranging from 'negligible' to 'significant', based on the scale, time and duration of the event. However, unlike other land uses (e.g. shopping centres), Council has some control over when and how they operate. Therefore, a simple management strategy (and condition of approval) would be to prohibit large-scale events from occurring during road network peaks where there is no spare capacity and the potential for significant impacts is high. This assertion is supported by the event use scenarios adopted by KMPG, which includes capacity events (i.e. 25,000 spectators) starting at 7:30pm on a Thursday and Saturday night respectively, when traffic volumes on the adjacent road network are relatively low (i.e. less than 50% of the road network peak).

Given the above, we are of the view that there is limited need to upgrade the external road network to 'mitigate' or 'offset' development impacts, beyond the site access intersections and/or intersections immediately adjacent to the subject site. Rather, the focus should be on identifying when the network has capacity to accommodate an event, and then ensuring a comprehensive:

- active transport network is provided to accommodate high pedestrian demands between public transport facilities; park n walk facilities; and adjacent catchments (on-street park n walk); and
- traffic management strategies are in place.

Nevertheless, we have identified a number of infrastructure upgrade options for further consideration.

6.2 LOCATION 1

Potential transport infrastructure upgrade options at Location 1 include:

- investigate the merit of upgrading Intersection 3 (Nicklin Way / Site Access) to a signalised intersection. Whilst it is acknowledged that there are closely spaced intersections at this location (i.e. 300m to the north and 250m to the south); and that demands into / out of the site would be low outside of event periods; providing signals would improve access for both motorists and pedestrians;
- investigate the merit of upgrading Intersection 7 (Main Drive / Sportsmans Parade). This may include resuming industrial land on the south-east corner of the intersection and realigning the intersection to create a four-way with Tandem Avenue, consistent with the long-term plan at this location;
- investigate the merit of constructing additional on-site parking to the north of the existing stadium, noting that the stadium would result in the loss of the existing field at this location;
- investigate opportunities to enhance existing public transport on Nicklin Way to cater for peak pedestrian loadings (i.e. additional shelter and hardstand, extended bus bay lengths etc.); and
- investigate opportunities to enhance existing active transport infrastructure, particularly focusing on nearby formal and informal 'park n walk' facilities and the subject site.

A plan illustrating the abovementioned transport upgrade options is included at **Appendix F**.

6.3 LOCATION 2

Potential transport infrastructure upgrade options at Location 2 include:

- investigate the merit of upgrading Honeyfarm Road along the site frontage to its ultimate configuration;
- investigate the merit of upgrading Intersection 10 (Honeyfarm Road / Racecourse Road Interchange (north)) to provide additional capacity. This may include increasing the capacity of the off-ramp;
- investigate the merit of upgrading Intersection 11 (Honeyfarm Road / Racecourse Road Interchange (south)) to provide additional capacity. This may include increasing the capacity of the off-ramp;
- investigate opportunities to link the site with existing public transport services. This may include diverting Route 605 off Caloundra Road; and
- investigate opportunities to provide active transport linkages to the surrounding catchment.

A plan illustrating the abovementioned transport upgrade options is included at **Appendix F**.

7. TRAFFIC MANAGEMENT STRATEGIES

7.1 OVERVIEW

Given the pre-feasibility nature of this assessment, we have identified high-level traffic management strategies that could be implemented at each location to both reduce transport impacts and improve safety for all road users. Further investigations and site-specific testing would need to be undertaken for the preferred site as part of any future development application for the Stadium.

7.2 LOCATION 1

The traffic management strategy for Location 1 would be generally as per the existing arrangements utilised by Council. However, there are additional options that could be investigated such as 'park n ride' and free public transport for ticket holders. Key strategies are summarised below:

- heavily promote and advertise alternative transport modes available to patrons prior to events (i.e. 'park n walk', 'park n ride', cycling, carpooling, buses, taxis, Uber, pick-up / drop-off etc.)
- investigate the feasibility of implementing free public transport for all ticket holders;
- liaise with bus operators to confirm fleet capacity and willingness to operate shuttle buses;
- investigate 'park and ride' options external to the site (i.e. nearby sportsground etc.);
- investigate alternative 'park n walk' options, noting that the western fields may be resumed as part of the CAMCOS project;
- liaise with the Sunshine Coast University Hospital to discuss utilising their multi-storey car parking facility during large events. This could function as a 'park n walk' or 'park n ride' for the Stadium;
- liaise with Kawana State College to discuss 'park n walk' options (i.e. parking on fields);
- charge patrons to park on-site, excluding PWD, as a method to discourage private vehicle uses; and
- investigate installing permanent Variable Message Signs (VMS) on Nicklin Way and display relevant messages to passing motorists in advance of major events (i.e. expect delays; seek alternate routes).

A plan illustrating the abovementioned traffic management strategies is included at **Appendix G**.

7.3 LOCATION 2

The traffic management strategy for Location 2 would be generally as per Location 1, with additional site-specific considerations. Key strategies are summarised below:

- heavily promote and advertise alternative transport modes available to patrons prior to events (i.e. 'park n walk', 'park n ride', cycling, carpooling, buses, taxis, Uber, pick-up / drop-off etc.)
- investigate the feasibility of implementing free public transport for all ticket holders;
- liaise with bus operators to confirm fleet capacity and willingness to operate shuttle buses;
- investigate 'park and ride' options external to the site (i.e. nearby sportsground, soon to be constructed 'Car Pool Facility' car park opposite Aussie World precinct etc.);
- liaise with the Corbould Park Racecourse to discuss utilising their car park as a 'park n walk' facility;
- charge patrons to park on-site, excluding PWD, as a method to discourage private vehicle uses; and
- investigate installing permanent VMS on Caloundra Road and display relevant messages to passing motorists in advance of major events (i.e. expect delays; seek alternate routes).

A plan illustrating the abovementioned traffic management strategies is included at **Appendix G**.

8. SUMMARY AND RECOMMENDATIONS

Overview

This pre-feasibility 'transport impact assessment' considers potential high-level transport impacts generated by a 25,000-seat stadium development, at two (2) alternative locations on the Sunshine Coast. The purpose of this assessment is to provide suitable level of detail to assist Council make an informed decision on a single preferred site, rather than identifying a suite of infrastructure upgrade requirements or traffic management measures that should be in place under future event scenarios. A more thorough assessment will need to be undertaken for the preferred site as part of any future development application for the Stadium. This may include utilising both strategic and simulation transport models.

Suitability of Existing / Planned Transport Networks

A review of the transport networks in proximity to both locations was undertaken to consider the suitability of each site to accommodate a Stadium development. Key findings are summarised in Table 8.1 below.

Table 8.1: Suitability of Transport Networks

Parameter	Location 1	Location 2	Preferred
Road Network	Highly-urbanised setting with mature road network infrastructure (i.e. multi-lane urban cross sections, signalised intersections etc.)	Rural setting with limited road network infrastructure beyond the Caloundra Road / Racecourse Road interchange. That said, there are plans for a new road connection to the north	1
Vehicular Access Routes to/from Site	Multiple (4) vehicular access routes to/from site from north and south (via Nicklin Way and Kawana Way), which should help spread traffic impacts	Currently only one (1) vehicular access route via Caloundra Road / Racecourse Road interchange, which will concentrate traffic impacts. That said, there are plans for a secondary connection to the north	1
Off-Street Parking Capacity	Whilst on-site parking capacity is currently limited (approximately 400 spaces), there is 'park n walk' capacity at the 'western fields' which is currently utilised during events	Whilst there may be more available land to accommodate on-street parking compared to Location 1, this would only encourage more private vehicle access to the Stadium development and therefore increase impacts on the surrounding road network. It would also not align with the guiding principles which aim to achieve 40-50% public transport mode share for the Stadium development	1
On-Street Parking Capacity	Significant on-street parking capacity within 1km of the site	Very limited on-street parking capacity within 1km of the site	1
Public Transport Provisions	Well connected to existing bus infrastructure and services, although there is no access to existing rail. That said, the site is strategically located to capitalise on the major public transport initiatives on the Sunshine Coast	Poorly connected to existing bus infrastructure and services. Whilst existing rail may be more viable compared to Location 1, the closest station (Landsborough) is 15km west of the site and the connecting bus service (Route 605) only stops 2km east of the subject site. Furthermore, the site is not strategically located to capitalise on the major public transport initiatives on the Sunshine Coast.	1
Active Transport Provisions	Highly-urbanised setting with mature active transport infrastructure. No significant gaps in the active transport network	Rural setting with limited active transport infrastructure. Significant gaps in the active transport network and no committed plans for improvements	1
Capacity to Host Large Events	Already hosts multiple large events throughout the year (i.e. circa 10,000 spectators), therefore it appears that the transport network has capacity to host large events. There is also an existing expectation from the community that events will occur at this location	Limited capacity to host large events (i.e. limited road connections; limited public transport access, limited active transport connections; limited on-street parking opportunities etc.)	1

Based on the above, Location 1 is far superior from a transport planning perspective.

Potential Transport Impacts

Potential road network impacts were quantified for three (3) alternative event use scenarios, including:

- **Scenario A:** 5,000 spectators at an event starting at 5pm on a Thursday evening;
- **Scenario B:** 10,000 spectators at an event starting at 6pm on a Thursday evening; and
- **Scenario C:** 15,000 spectators at an event starting at 7pm on a Thursday evening.

The above scenarios were tested during three (3) alternative design horizons, including:

- **Design Horizon 1:** 2017 (existing conditions); and
- **Design Horizon 2:** 2021 (assumed year of opening of the Stadium); and
- **Design Horizon 3:** 2031 (10-year post opening of the Stadium).

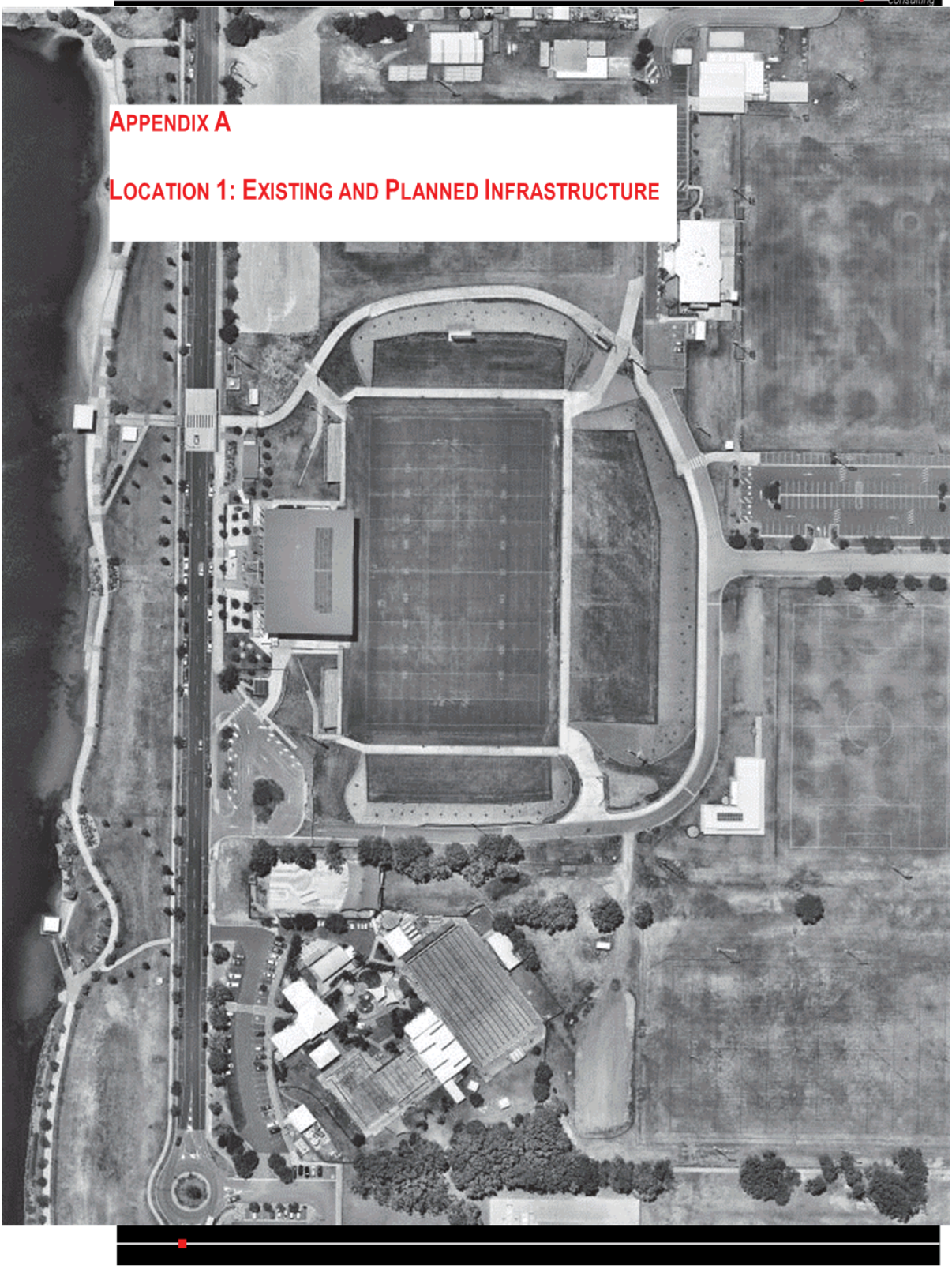
The purpose of the above approach was to identify existing capacity constraints during the road network peak; develop an understanding of how operational performance improves after the road peak; and 'get a feel' for what scale of event could occur at what time. Key findings are summarised in Table 8.2 below.

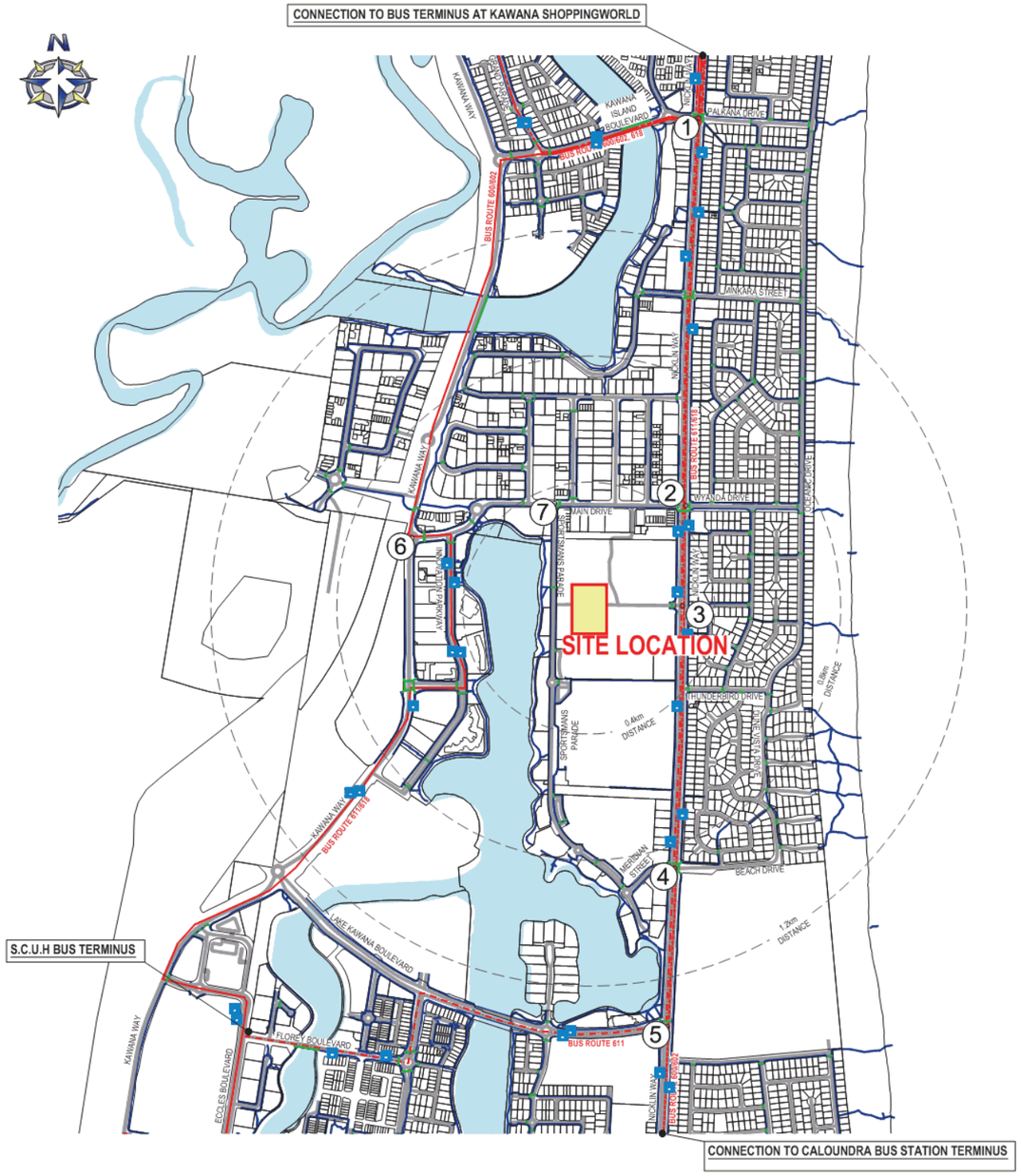
Table 8.2: Potential Transport Impacts

Parameter	Location 1	Location 2	Preferred Location
2017 Baseline	All intersections operate below capacity thresholds during each assessed time periods, except Intersection 1, which exceeds capacity between 4pm and 6pm.	All intersections currently operate below capacity thresholds during each assessed time periods	2
2021 Background	All intersections are likely to continue to operate below capacity thresholds during each assessed time periods, except Intersection 1. Although Intersection 2 and 5 would also be close to capacity between 4pm and 6pm.	All intersections are likely to continue to operate below capacity thresholds during each assessed time periods, except Intersection 13 (4pm to 6pm).	1
2021 Scenario A	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to Caloundra Road, which is unacceptable.	1
2021 Scenario B	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to Caloundra Road and Caloundra-Mooloolaba Road, which is unacceptable.	1
2021 Scenario C	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The the Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to the Bruce Highway and Caloundra-Mooloolaba Road, which is unacceptable.	1
2031 Background	Intersection 1, 2 and 6 are likely to fail prior to 2031, based on the adopted growth rate, with Intersection 4 and 5 approaching their theoretical capacity limits.	Intersection 12 and 13 are likely to fail prior to 2031, based on the adopted growth rate (4pm to 6pm).	1
2031 Scenario A	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to Caloundra Road, which is unacceptable.	1
2031 Scenario B	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to Caloundra Road and Caloundra-Mooloolaba Road, which is unacceptable.	1
2031 Scenario C	The Stadium would have significant impacts at Intersection 2, 3, 6 and 7. These intersections would likely experience significant delays and queues; however, they are unlikely to impact the highway / motorway network.	The Stadium would have significant impacts at Intersection 10, 11 and 12. Impacts at Intersection 10 and 11 include potential queuing back to the Bruce Highway and Caloundra-Mooloolaba Road, which is unacceptable.	1

Based on the above, Location 1 is far superior from an impact perspective. Given the proximity of the Caloundra Road and the Bruce Highway (high speed roads), and the limited routes to/from Location 2 (concentrated impacts), there is a real potential that a Stadium development would result in vehicle queues extending back from Intersection 10 and 11 onto Caloundra Road and potentially back to the Bruce Highway / Caloundra Road interchange, effectively blocking one lane of travel in either direction on Caloundra Road. This is an unacceptable safety risk that would be difficult to mitigate either via infrastructure upgrades or traffic management strategies. **It is important to note that this safety impact would be exacerbated if the target PT mode share at Location 2 was not achieved.**

BITZIOS consulting





LEGEND

- ROAD NETWORK
- PATHWAYS
- PEDESTRIAN / PATHWAY CONNECTOR
- WATERBODY
- DCDB BOUNDARY
- BUS ROUTE - 600 & 602
- BUS ROUTE - 607
- BUS ROUTE - 611
- BUS ROUTE - 618
- BUS STOP
- 400/800/1200m DISTANCE - AS NOTED

LOCATION 1: KEY ROADS

ROAD NAME	JURISDICTION	HIERARCHY	NO. OF LANES	SPEED LIMIT
NICKLIN WAY	TMR	ARTERIAL	4 LANE MEDIAN DIVIDED	60KM/H
KAWANA WAY	TMR	ARTERIAL	4 LANE MEDIAN DIVIDED	60KM/H
KAWANA ISLAND BOULEVARD	COUNCIL	DISTRIBUTOR	4 LANE MEDIAN DIVIDED WITH 2 LANE BRIDGE	60KM/H
LAKE KAWANA BOULEVARD	COUNCIL	ARTERIAL	4 LANE MEDIAN DIVIDED	60KM/H
METIER LINKWAY / MAIN DRIVE	COUNCIL	CONTROLLED DISTRIBUTOR	2 LANE UNDIVIDED	50KM/H
SPORTSMANS PARADE / MERIDIAN STREET	COUNCIL	NEIGHBOURHOOD COLLECTOR	2 LANE UNDIVIDED	40-60KM/H

LOCATION 1: KEY INTERSECTIONS

ID	NAME	JURISDICTION	CONTROL
INTERSECTION 1	NICKLIN WAY / PALKANA DRIVE / KAWANA ISLAND BOULEVARD	TMR	TRAFFIC SIGNALS
INTERSECTION 2	NICKLIN WAY / MAIN DRIVE	TMR	TRAFFIC SIGNALS
INTERSECTION 3	NICKLIN WAY / SITE ACCESS	TMR	PRIORITY CONTROL
INTERSECTION 4	NICKLIN WAY / MERIDIAN STREET / BEACH STREET	TMR	TRAFFIC SIGNALS
INTERSECTION 5	NICKLIN WAY / LAKE KAWANA BOULEVARD	TMR	TRAFFIC SIGNALS
INTERSECTION 6	KAWANA WAY / METIER LINKWAY (MAIN DRIVE)	TMR	ROUNDABOUT
INTERSECTION 7	MAIN DRIVE / SPORTSMAN PARADE	COUNCIL	TRAFFIC SIGNALS

0 150 300 450 600 750m
SCALE 1:15000 A3

CONTOUR
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Registered ISO 9001:2008 Quality Assured International 3rd Party Accredited

PLAN DETAILS:

Designed:	K.M.
Drawn:	K.M.
Checked:	C.D.F.
Datum:	AHD
Date:	12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
EXISTING TRANSPORT INFRASTRUCTURE
NOT FOR CONSTRUCTION

PLAN No: 1557 - SK101 REVISION: - SHEET: 1 OF 1
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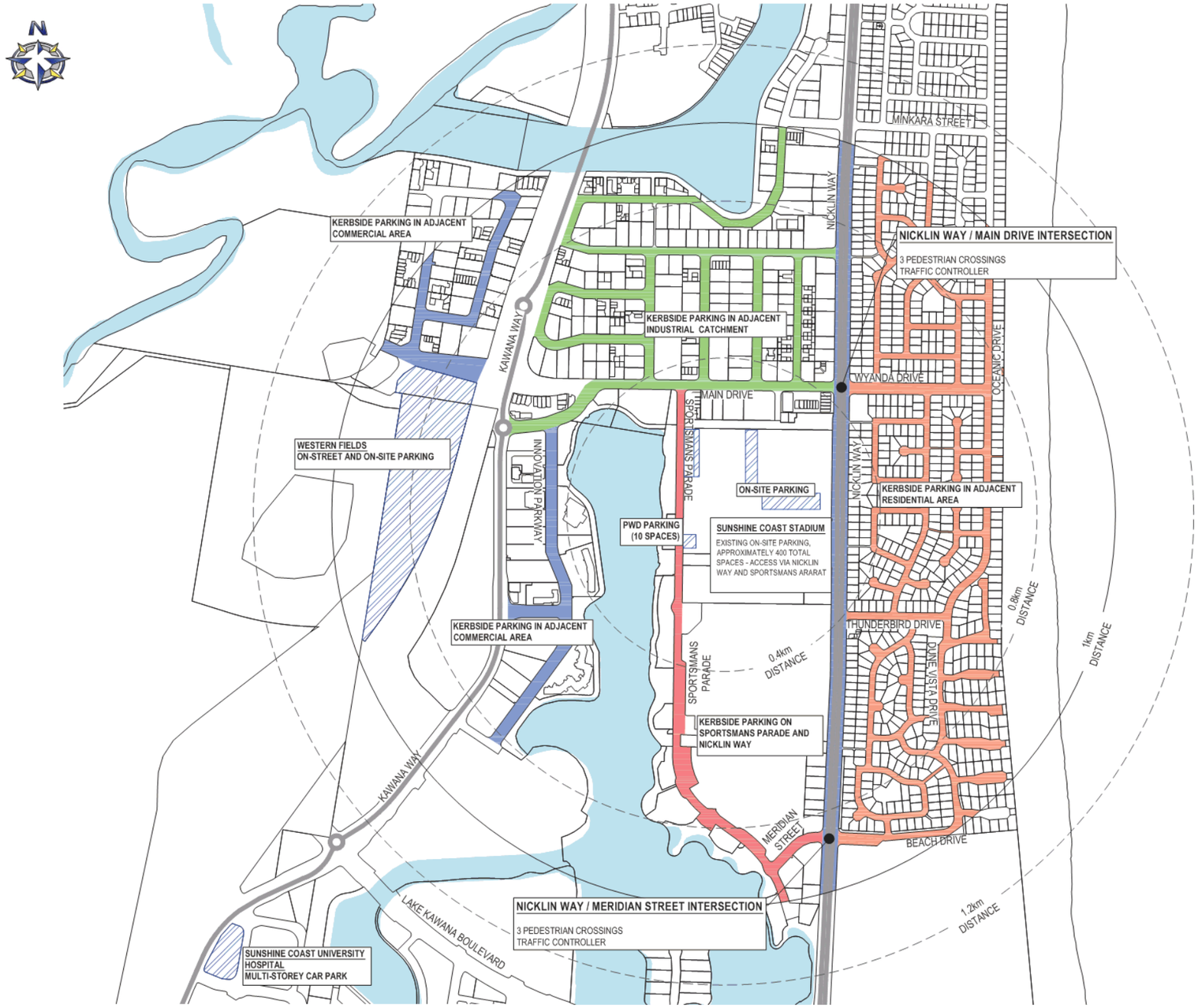

EXISTING TRAFFIC MANAGEMENT ARRANGEMENTS

Council (via the Stadium website and Facebook page) promotes a range of transport methods to access the venue including 'park n walk', cycling, carpooling, buses, taxis, Uber, pick-up / drop-off, and car parking.

In terms of on-site parking, there are three (3) formalised car parking areas with approximately 250 spaces, as well as a recently constructed gravel car park with capacity for approximately 150 spaces (i.e. 400 total). During major events, patrons are charged $10 for on-site parking.

In terms of off-site parking, there is kerbside parking available on Sportsmans Parade, Main Drive, and Nicklin Way, as well as within the adjacent industrial, commercial and residential precincts. Patrons are also encouraged to park at the 'western fields' or on the vacant block of land at the corner of Main Drive / Sportsmans Parade. It is understood there could be as many has 5,000 parking opportunities within 1km of the venue. This is considered to be a reasonable walking catchment for a major event (noting that patrons walk approximately 1.2km from Roma Street Train Station to Suncorp Stadium in Milton). In terms of 'park n walk', the abovementioned 'western fields' are heavily utilised. At this location, there are approximately 170 formalised off-street car parking spaces as well as significant capacity for overflow parking on the four (4) sporting fields if required. Patrons are also encouraged to 'park around Lake Kawana and walk along the scenic path to the venue'. In terms of cycling, bicycle racks are located at the southern end of the Stadium on Sportsmans Parade

LEGEND

- ROAD NETWORK (MAJOR ROADS ONLY)
- RESIDENTIAL KERBSIDE PARKING
- INDUSTRIAL KERBSIDE PARKING
- "SPORTS PRECINCT" KERBSIDE PARKING
- COMMERCIAL/MAIN ROAD KERBSIDE PARKIN
- DCDB BOUNDARY
- 400/800/1200m DISTANCE - AS NOTED

0 100 200 300 400 500m
SCALE 1:10000 A3

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Datum:	AHD
Date:	12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked
A	17-07-17	MINOR AMENDMENTS	K.M.	C.D.F.

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
EXISTING PARKING & TRAFFIC MANAGEMENT ARRANGEMENTS
NOT FOR CONSTRUCTION

PLAN No: 1557 - SK103 REVISION: A SHEET: 1 OF 1
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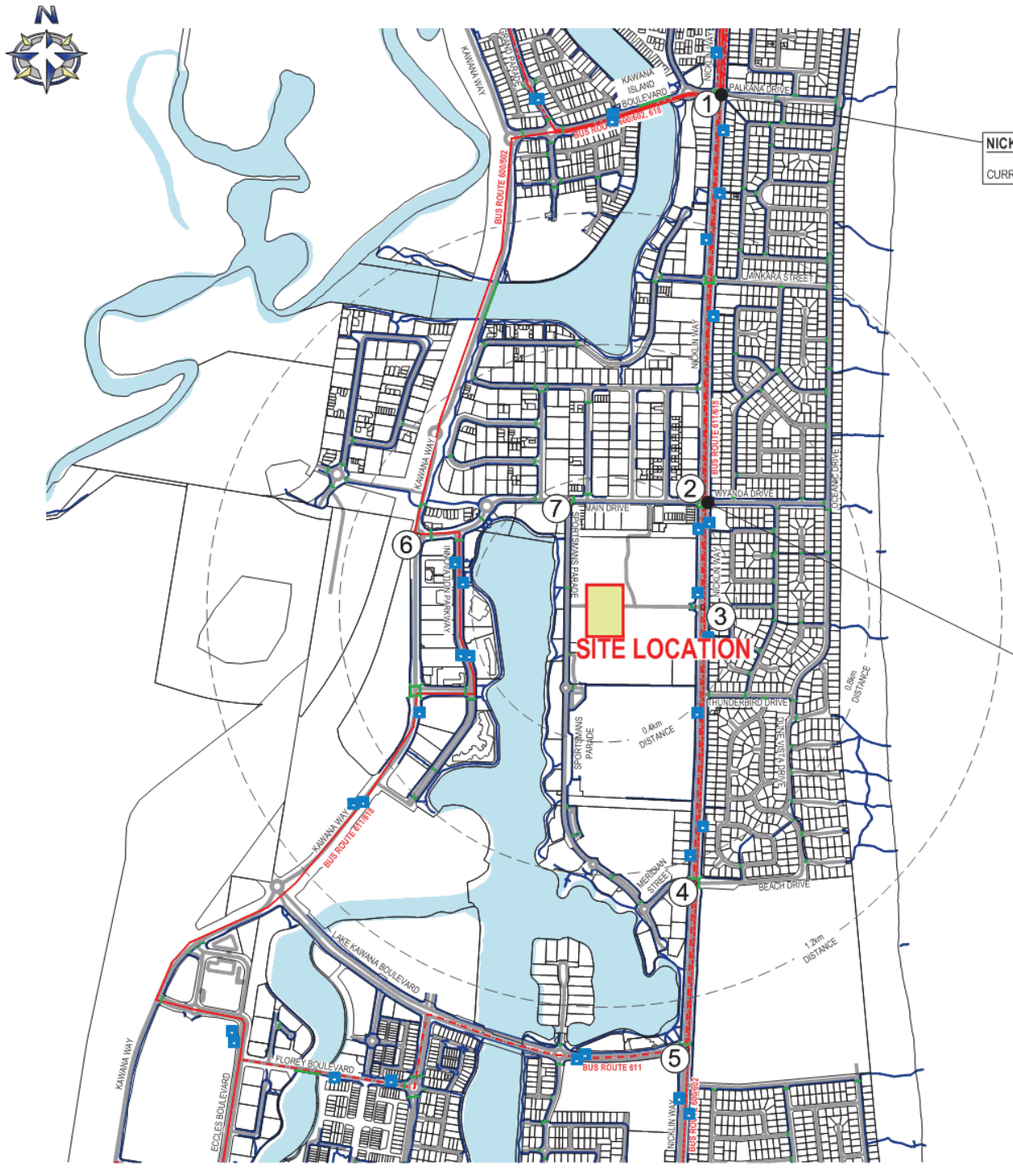

NICKLIN WAY, PALKANA DRIVE & KAWANA ISLAND BOULEVARD INTERSECTION

CURRENTLY AT CAPACITY

Table 2.3: Location 1: Existing Bus Services

Route Number	Route Description	Weekday Services	Saturday Services	Sunday Services	Peak Frequency	Off-Peak Frequency
600	Caloundra to Maroochydore via Kawana and Mooloolaba	NB: 58 services (5:42am to 9:57pm) SB: 59 services (5:23am to 10:01pm)	NB: 60 services (6:42am to 2:27am) SB: 61 services (5:28am to 2:31am)	NB: 44 services (7:15am to 8:57pm) SB: 44 services (7:05am to 10:01pm)	15 minutes	15-30 minutes
602	Caloundra to Maroochydore via Mountain Creek	NB: 13 services (7:37am to 7:37pm) SB: 13 services (7:33am to 7:33pm)	NB: 11 services (8:35am to 6:35pm) SB: 11 services (8:31am to 6:31pm)	NB: 11 services (8:35am to 6:35pm) SB: 11 services (8:31am to 6:31pm)	60 minutes	60 minutes
607	Caloundra to University via SCUH and Kawana	NB: 31 services (6:49am to 9:46pm) SB: 31 services (6:46am to 9:46pm)	NB: 16 services (6:49am to 9:49pm) SB: 16 services (6:46am to 9:46pm)	NB: 16 services (6:49am to 9:49pm) SB: 16 services (6:46am to 9:46pm)	30 minutes	60 minutes
611	Maroochydore to SCUH via Mooloolaba and Kawana	NB: 29 services (7:54am to 9:54pm) SB: 29 services (6:30am to 8:30pm)	NB: 15 services (7:54am to 9:54pm) SB: 15 services (6:30am to 8:30pm)	NB: 15 services (7:54am to 9:54pm) SB: 15 services (6:30am to 8:30pm)	30 minutes	60 minutes

NICKLIN WAY & MAIN DRIVE INTERSECTION

CURRENTLY EXPERIENCING REASONABLY LONG QUEUE TIMES

LEGEND

- ROAD NETWORK
- PATHWAYS
- PEDESTRIAN / PATHWAY CONNECTOR
- WATERBODY
- DCDB BOUNDARY
- BUS ROUTE - 600 & 602
- BUS ROUTE - 607
- BUS ROUTE - 611
- BUS ROUTE - 618
- BUS STOP
- 400/800/1200m DISTANCE - AS NOTED

0 150 300 450 600 750m
SCALE 1:15000 A3

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Date:	12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:

GAPS & DEFICIENCIES IN EXISTING NETWORK

NOT FOR CONSTRUCTION

PLAN No: 1557 - SK104 REVISION: - SHEET: 1 OF 1

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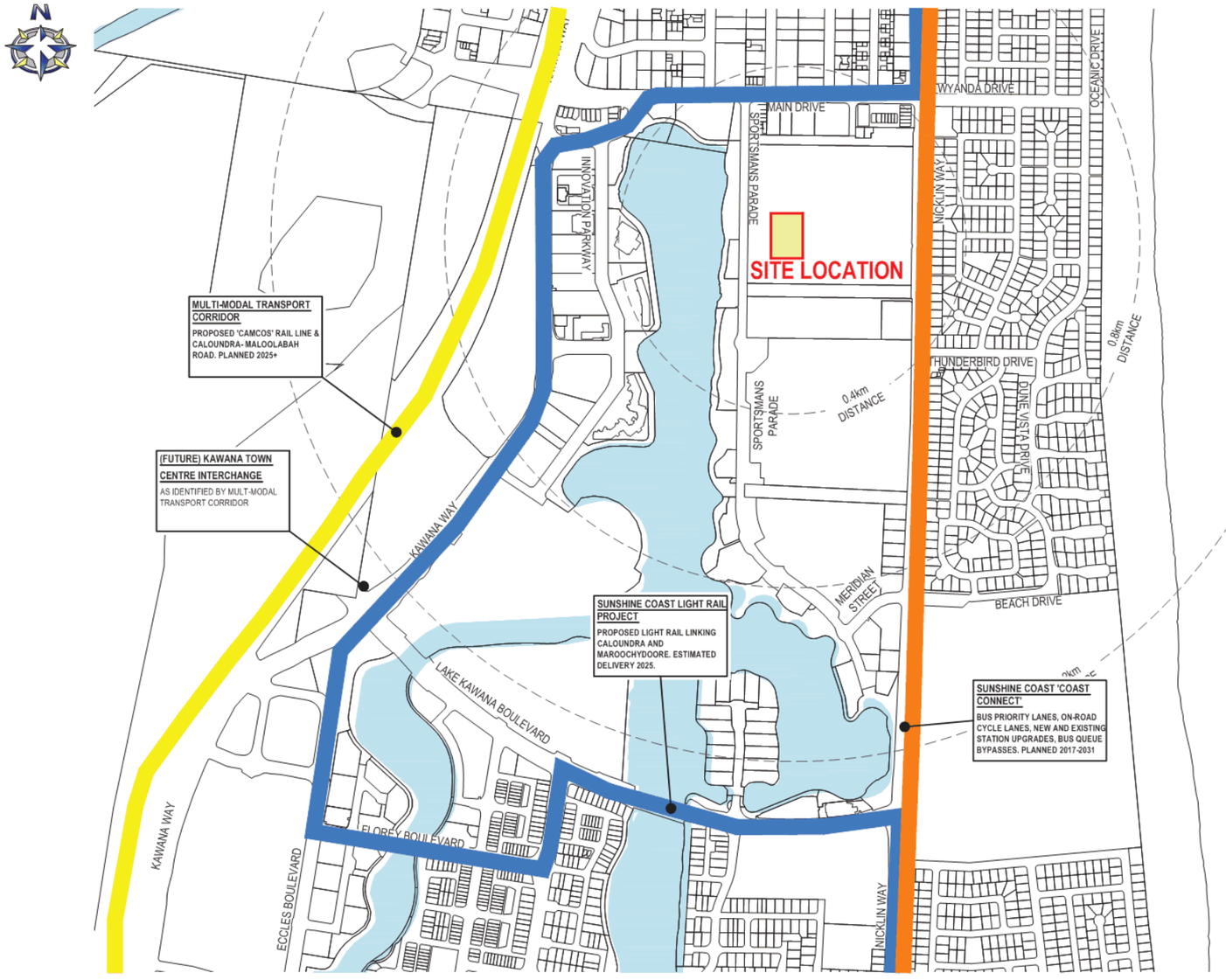

PLANNED PUBLIC TRANSPORT NETWORK UPGRADES

There are three (3) key public transport proposals in proximity to Location 1, including:

- Bus: CoastConnect (connection between Caloundra and Maroochydore);
- Light Rail: Sunshine Coast Light Rail (connection between Caloundra and Maroochydore); and
- Heavy Rail: Caloundra and Maroochydore Corridor Option Study (CAMCOS) (heavy rail connection from Beerwah on the north coast line to Caloundra, Maroochydore and the Sunshine Coast Airport).

CoastConnect is a Queensland Government initiative to improve public transport and sustainable travel on the Sunshine Coast. It is an important part of the Queensland Government's long-term plan to meet the transport needs of the fast-growing Sunshine Coast by providing faster and more reliable public transport options. This project proposes a mixture of transport infrastructure improvements to suit different parts of the coast, including bus lanes; bus queue bypasses; dedicated on-road cycle lanes; bus stations in key activity areas; and bus stop upgrades.

Sunshine Coast Light Rail proposal includes the delivery of a light rail network traversing the Sunshine Coast coastal enterprise zone, which would connect Caloundra through to the Sunshine Coast Public University Hospital at Kawana and on to the Maroochydore City Centre PDA, with an eventual extension to the Sunshine Coast Airport and Beerwah. Detailed feasibility studies have been completed where it is envisaged that the first stage of this network (connecting the Maroochydore PDA to the Sunshine Coast Public University Hospital) could be delivered by 2025.

CAMCOS is a passenger rail service branching off the North Coast railway line at Beerwah and extending through Caloundra to Maroochydore. It is understood that the 'Caboolture to Maroochydore Corridor Study' was completed in 2001 and that the study investigated the feasibility, preferred development, impacts and benefits of a new public transport corridor between Beerwah and the Sunshine Coast Airport. The study was undertaken in three stages, including corridor identification; corridor evaluation; and route assessment.

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SCALE 1:10000 A3

CONTOUR
A.B.N. 62 117 061 659
PO Box 474, Buddina 4575, Qld
6 Innovation Parkway, Kawana Waters 4575, Qld
Ph. (07) 5493 9777 Fax (07) 5493 6888
Website: www.ContourCE.com.au

PLAN DETAILS:
Designed: K.M.
Drawn: K.M.
Checked: C.D.F.
Datum: AHD
Date: 12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
PLANNED TRANSPORT INFRASTRUCTURE UPGRADES
NOT FOR CONSTRUCTION
PLAN No: 1557 - SK105 REVISION: - SHEET: 1 OF 1
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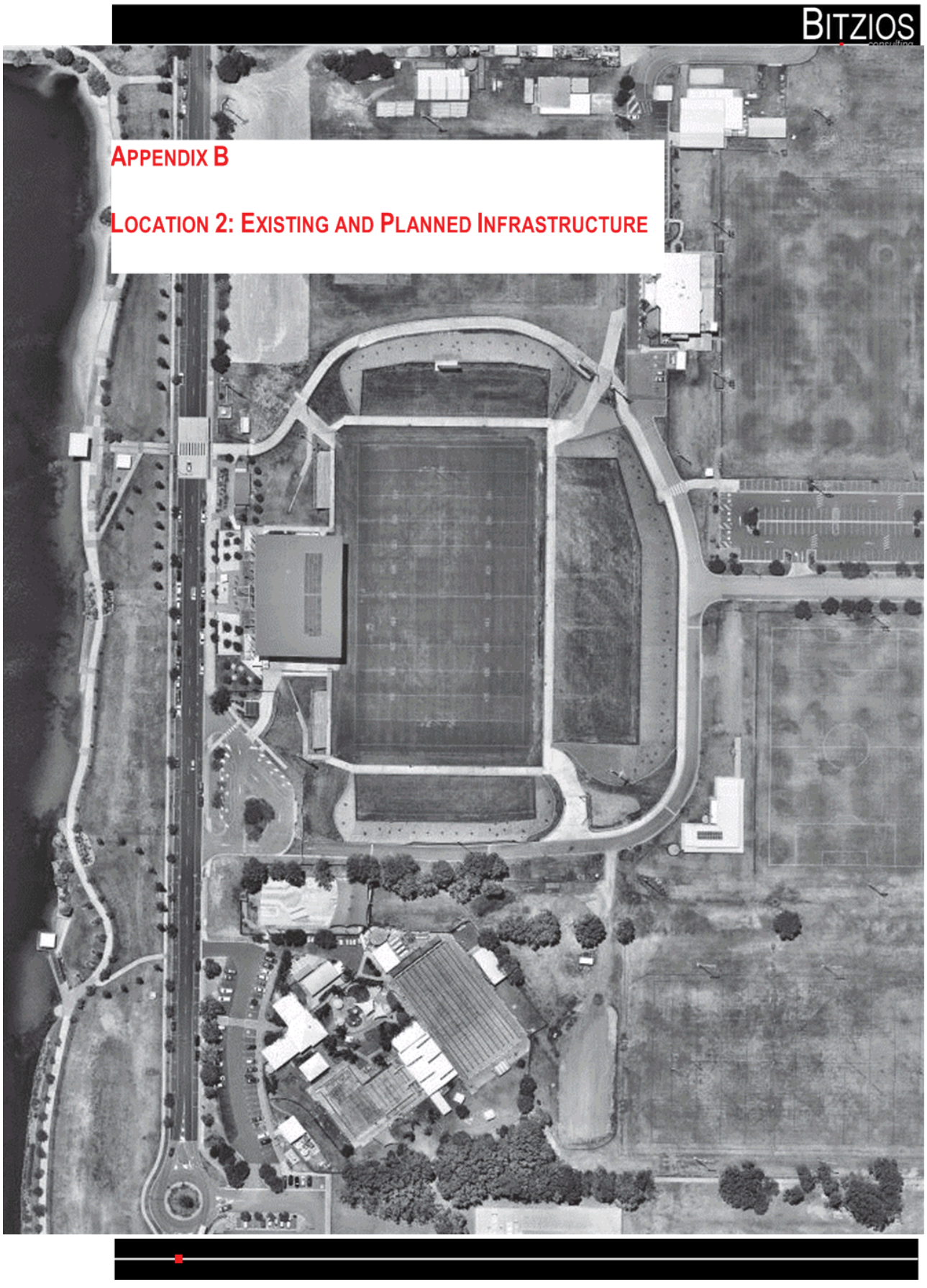
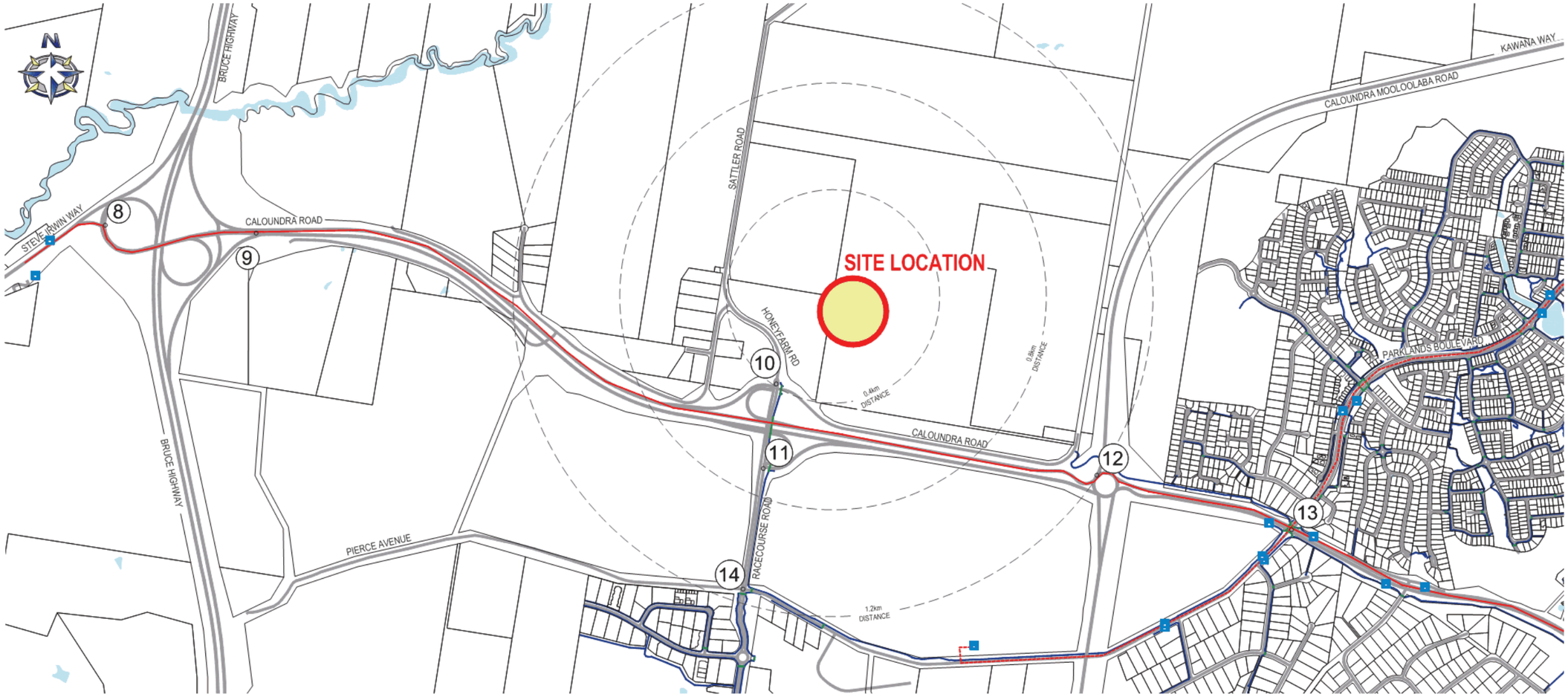

BITZIOS
APPENDIX B
LOCATION 2: EXISTING AND PLANNED INFRASTRUCTURE



LOCATION 2: KEY ROADS

ROAD NAME	JURISDICTION	HIERARCHY	NO. OF LANES	SPEED LIMIT
BRUCE HIGHWAY	TMR	HIGHWAY	4 LANE MEDIAN DIVIDED	110KM/H
CALOUNDRA ROAD	TMR	MOTORWAY	4 LANE MEDIAN DIVIDED	100KM/H
RACECOURSE ROAD	TMR	ARTERIAL	4 LANE MEDIAN DIVIDED	60KM/H
CALOUNDRA-MOOLOOLABA ROAD	TMR	MOTORWAY	2 LANE UNDIVIDED	80KM/H
BELLS CREEK ARTERIAL ROAD	TMR	MOTORWAY	2 LANE UNDIVIDED	80KM/H
HONEYFARM ROAD	COUNCIL	DISTRIBUTOR	2 LANE UNDIVIDED	60KM/H
PARKLANDS BOULEVARD	COUNCIL	DISTRIBUTOR	2 LANE MEDIAN DIVIDED	60KM/H
PIERCE AVENUE	COUNCIL	DISTRICT COLLECTOR	2 LANE UNDIVIDED	60KM/H

LOCATION 2: KEY INTERSECTIONS

ID	NAME	JURISDICTION	CONTROL
INTERSECTION 8	CALOUNDRA ROAD / NB OFF-RAMP / STEVE IRWIN WAY	TMR	TRAFFIC SIGNALS
INTERSECTION 9	CALOUNDRA ROAD / SB ON-RAMP / SB OFF-RAMP	TMR	PRIORITY CONTROL
INTERSECTION 10	CALOUNDRA ROAD / RACECOURSE ROAD INTERCHANGE (N)	TMR	TRAFFIC SIGNALS
INTERSECTION 11	CALOUNDRA ROAD / RACECOURSE ROAD INTERCHANGE (S)	TMR	TRAFFIC SIGNALS
INTERSECTION 12	CALOUNDRA ROAD / CALOUNDRA-MOOLOOLABA ROAD	TMR	ROUNDABOUT
INTERSECTION 13	CALOUNDRA ROAD / PARKLANDS BOULEVARD / PIERCE AVENUE	TMR	TRAFFIC SIGNALS
INTERSECTION 14	RACECOURSE ROAD / PIERCE AVENUE	COUNCIL	PRIORITY CONTROL

LEGEND

- ROAD NETWORK
- PATHWAYS
- PEDESTRIAN / PATHWAY CONNECTOR
- WATERBODY
- DCDB BOUNDARY
- BUS ROUTE - 603
- BUS ROUTE - 605
- BUS STOP

0 150 300 450 600 750m
SCALE 1:15000 A3

CONTOUR
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6 Innovation Parkway, Kawana Waters 4575, Qld
Ph. (07) 5493 9777 Fax (07) 5493 6888
Website: www.ContourCE.com.au

Registered ISO 9001:2008 Quality Assured International 3rd Party Accredited

PLAN DETAILS:

Designed:	K.M.
Drawn:	K.M.
Checked:	C.D.F.
Datum:	AHD
Date:	12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
EXISTING TRANSPORT INFRASTRUCTURE
NOT FOR CONSTRUCTION

PLAN No: 1557 - SK201 REVISION: -
SHEET: 1 OF 1
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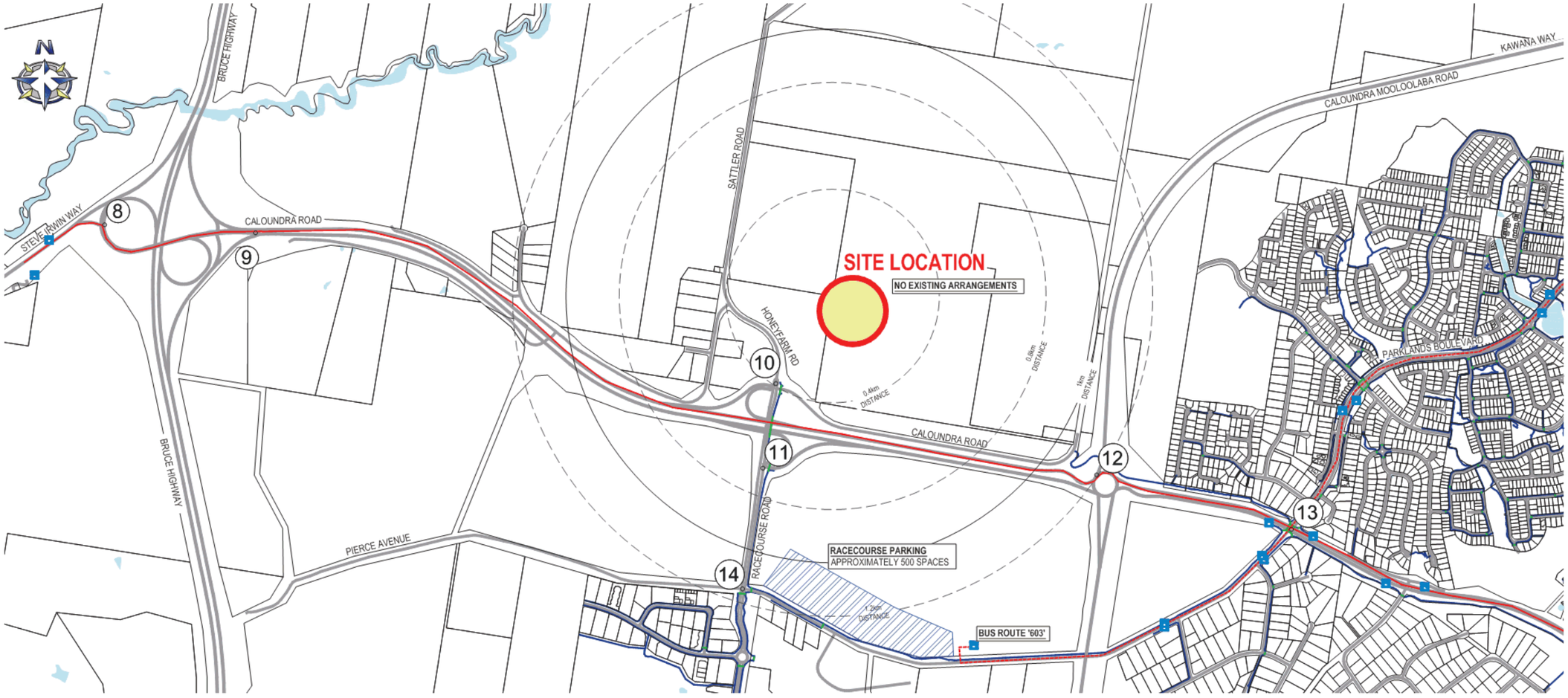

EXISTING TRAFFIC MANAGEMENT ARRANGEMENTS FOR THE SUNSHINE COAST TURF CLUB

The Sunshine Coast Turf Club is located on the opposite side of Caloundra Road and frequently caters for larger scale vents. Based on a review of their website, it is understood that:

- The club regularly hosts race days, which typically occur on the weekend;
- The club provides significant off-street parking for their committee and members as well as the public (i.e. approximately 500 parking spaces);
- The club offers bus services from Noosa south to Caloundra and out to the racecourse. There is also a shuttle bus that runs between the parking areas and the front gate; and the club promotes Sunbus route 603, noting that there are local hourly services seven (7) days a week starting and finishing at the club.

LEGEND

- ROAD NETWORK
- PATHWAYS
- PEDESTRIAN / PATHWAY CONNECTOR
- WATERBODY
- DCDB BOUNDARY
- BUS ROUTE - 603
- BUS ROUTE - 605
- BUS STOP

0 150 300 450 600 750m
SCALE 1:15000 A3

CONTOUR
A.B.N. 62 117 061 659
PO Box 474, Buddina 4575, Qld
6 Innovation Parkway, Kawana Waters 4575, Qld
Ph. (07) 5493 9777 Fax (07) 5493 6888
Website: www.ContourCE.com.au

PLAN DETAILS:
Designed: K.M.
Drawn: K.M.
Checked: C.D.F.
Datum: AHD
Date: 12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked

SUNSHINE COAST STADIUM
TRANSPORT ANALYSIS
FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
EXISTING TRAFFIC MANAGEMENT ARRANGEMENTS - SUNSHINE COAST TURF CLUB
NOT FOR CONSTRUCTION

PLAN No: 1557 - SK203 REVISION: -
SHEET: 1 OF 1
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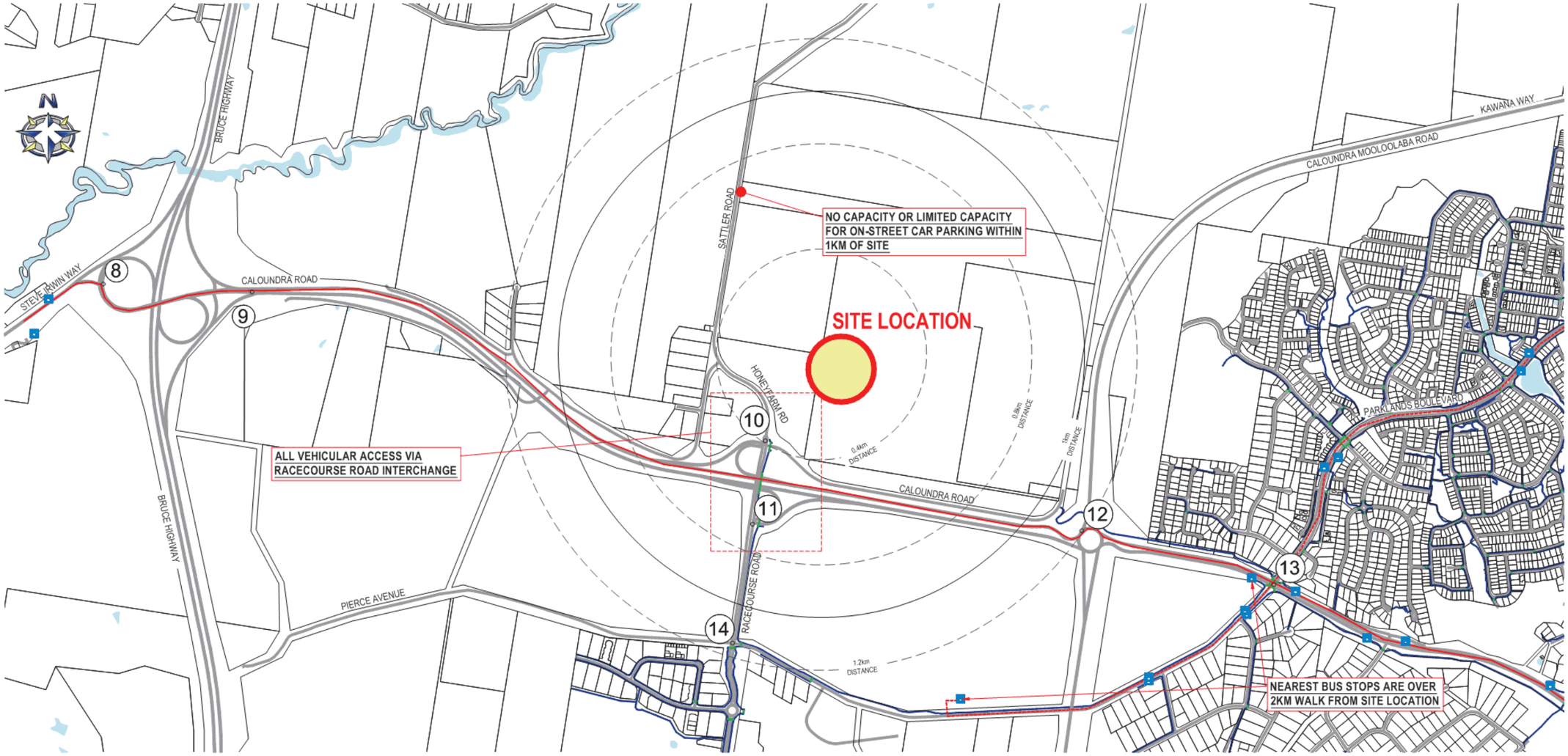

GAPS AND DEFICIENCIES IN EXISTING NETWORK

- Location 2 is currently located in a rural setting within limited transport infrastructure;
- There is currently only one (1) vehicular access route to and from the site (i.e. via the Caloundra Road / Racecourse Road interchange). However, long term, a secondary connection will be provided from Sunshine Motorway to the north via "Palmview Southern Link";
- There are very limited viable alternative transport options for access to and from the site;
- There are significant gaps in the active transport network with no committed plans for improvements;
- Existing rail may be more viable compared to Location 1, however the closest station (Landsborough) is approximately 15km west of the site and the connecting bus service (Route 605) only stops on Caloundra Road near Parklands Boulevard, which is 2km east of the subject site (as the crow flies) with limited / no pathways in-between;
- There is limited on-street parking capacity within 1km of the site;
- The site is not strategically located to capitalise on the three (3) major public transport initiatives on the Sunshine Coast (i.e. CoastConnect, Sunshine Coast Light Rail and CAMCOS); and
- Whilst there may be more available land to accommodate on-site parking compared to Location 1, this would only encourage more private vehicle access to the Stadium development and therefore increase impacts on the surrounding road network. It would also not align with the guiding principles which aim to achieve 40-50% public transport mode share for the Stadium development.

LEGEND

- ROAD NETWORK
- PATHWAYS
- PEDESTRIAN / PATHWAY CONNECTOR
- WATERBODY
- DCDB BOUNDARY
- BUS ROUTE - 603
- BUS ROUTE - 605
- BUS STOP

0 150 300 450 600 750m
SCALE 1:15000 A3

CONTOUR
A.B.N. 62 117 061 659
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6 Innovation Parkway, Kawana Waters 4575, Qld
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Website: www.ContourCE.com.au

PLAN DETAILS:	
Designed:	K.M.
Drawn:	K.M.
Checked:	C.D.F.
Datum:	AHD
Date:	12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked
A	17-07-17	MINOR AMENDMENTS	K.M.	C.D.F.

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
GAPS & DEFICIENCIES IN EXISTING NETWORK
NOT FOR CONSTRUCTION

PLAN No: 1557 - SK204 REVISION: A SHEET: 1 OF 1
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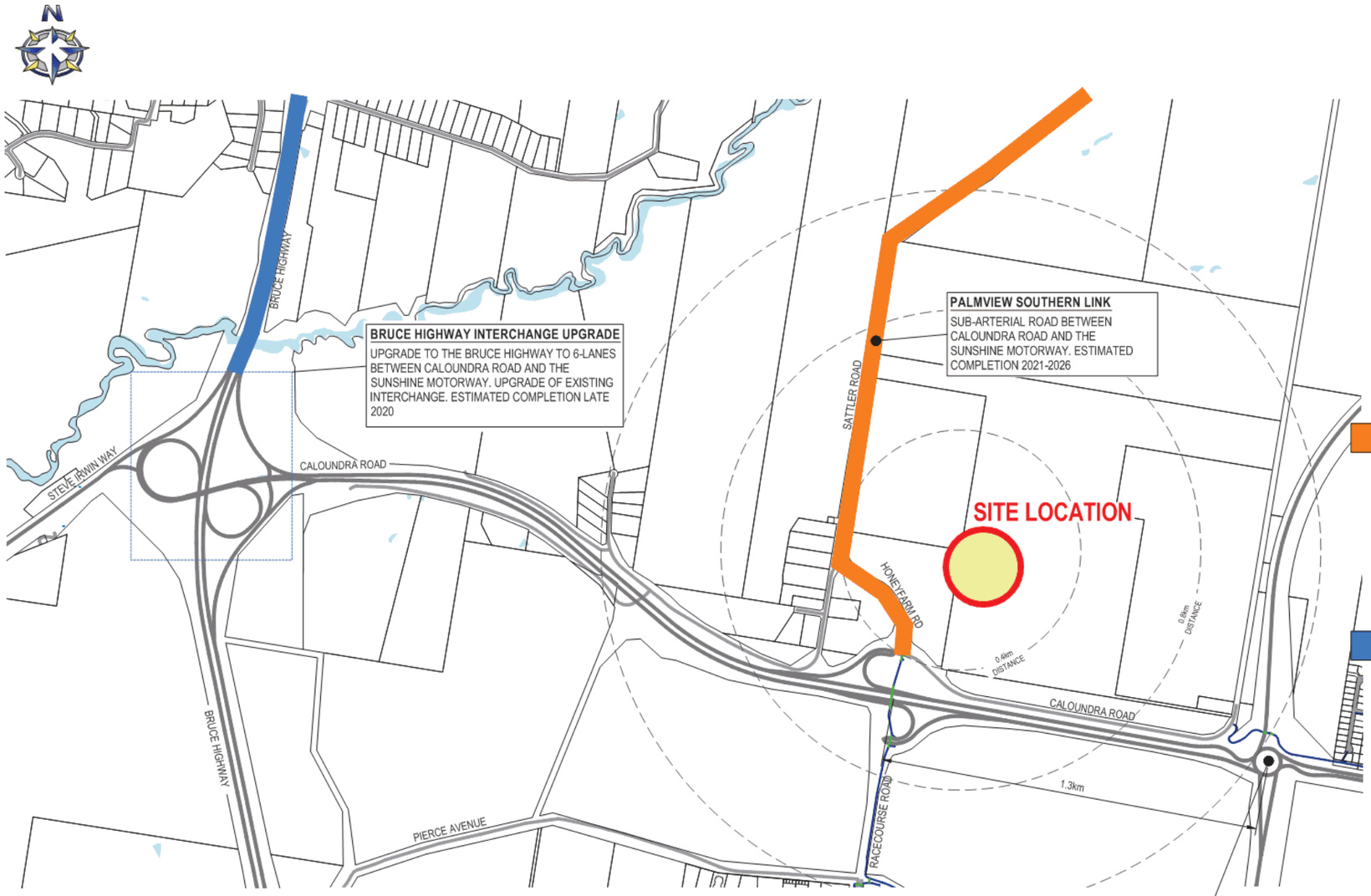

'Palmview Southern Link' - Once constructed, will form part of a continuous north-south sub-arterial road between Caloundra Road in the south and the Sunshine Motorway in the north. This link is fully funded, forms part of the Palmview Infrastructure Agreement (IA) and is estimated for completion between 2021 and 2026

Bruce Highway Upgrade - The project involves upgrading the Bruce Highway to 6-lanes between Caloundra Road and the Sunshine Motorway. This includes major upgrades to both interchanges and the delivery of a two way service road for local traffic on the western side of the highway between Steve Irwin Way and Tanawha Tourist Drive.

LEGEND

- ROAD NETWORK
- PATHWAYS
- PEDESTRIAN / PATHWAY CONNECTOR
- WATERBODY
- DCDB BOUNDARY
- BUS ROUTE - 603
- BUS ROUTE - 605
- BUS STOP

INTERSECTION SPACING

FUTURE UPGRADES TO CALOUNDRA ROAD / MOOLOOLABA ROAD MAY RESULT IN SPACING ISSUES. TMR'S ROAD PLANNING AND DESIGN MANUAL (RPDM) STATES THAT THE 'MINIMUM SPACING OF INTERCHANGES ON FOUR LANE MOTORWAYS IS ABOUT 2KM IN URBAN AREAS

0 150 300 450 600 750m
SCALE 1:15000 A3

CONTOUR
A.B.N. 62 117 061 659
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PLAN DETAILS:
Designed: K.M.
Drawn: K.M.
Checked: C.D.F.
Datum: AHD
Date: 12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
PLANNED TRANSPORT INFRASTRUCTURE UPGRADES
NOT FOR CONSTRUCTION

PLAN No: 1557 - SK205 REVISION: - SHEET: 1 OF 1
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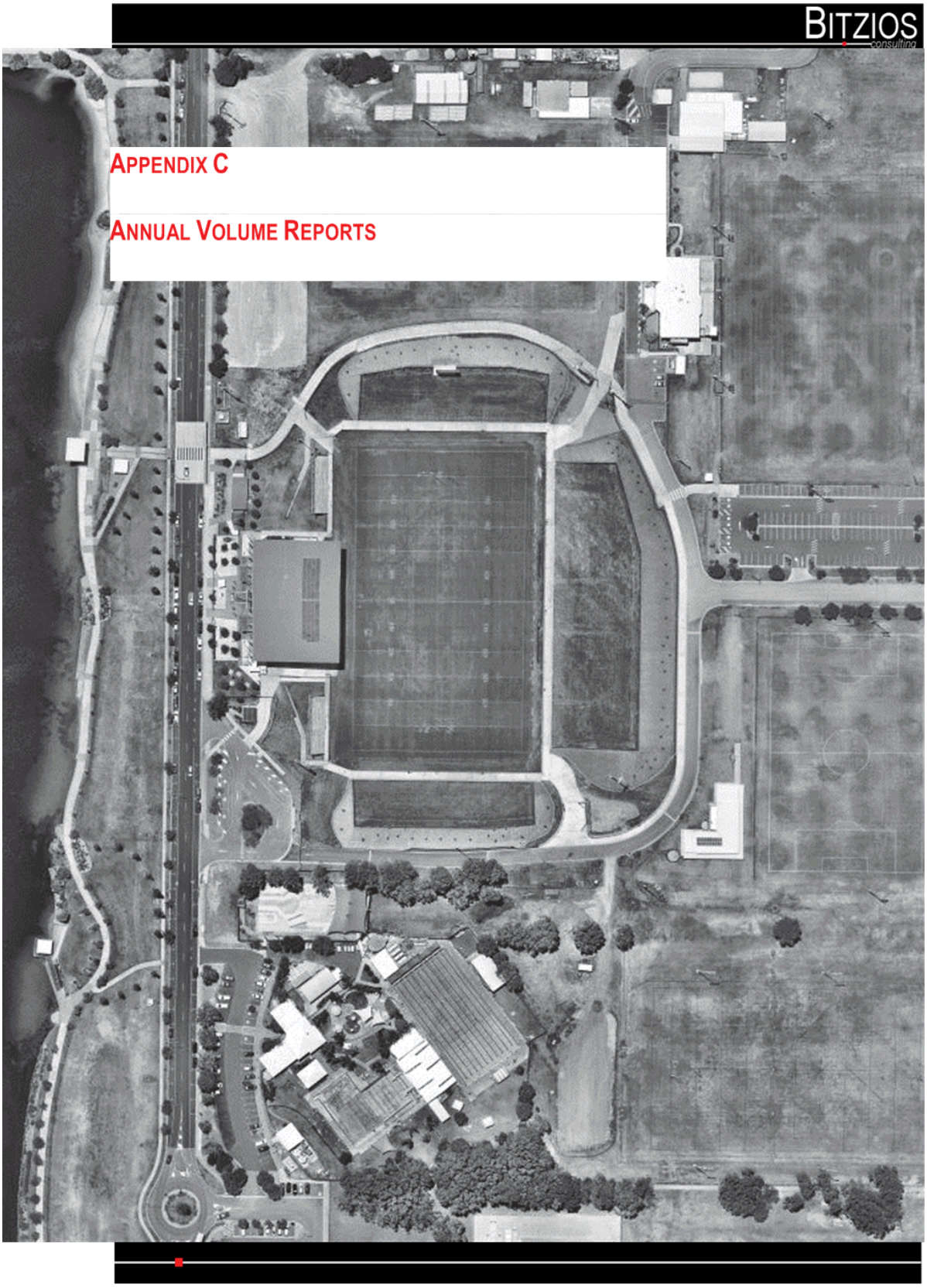

BITZIOS
consulting
APPENDIX C
ANNUAL VOLUME REPORTS

Queensland Government

26-Apr-2017 10:45

Traffic Analysis and Reporting System

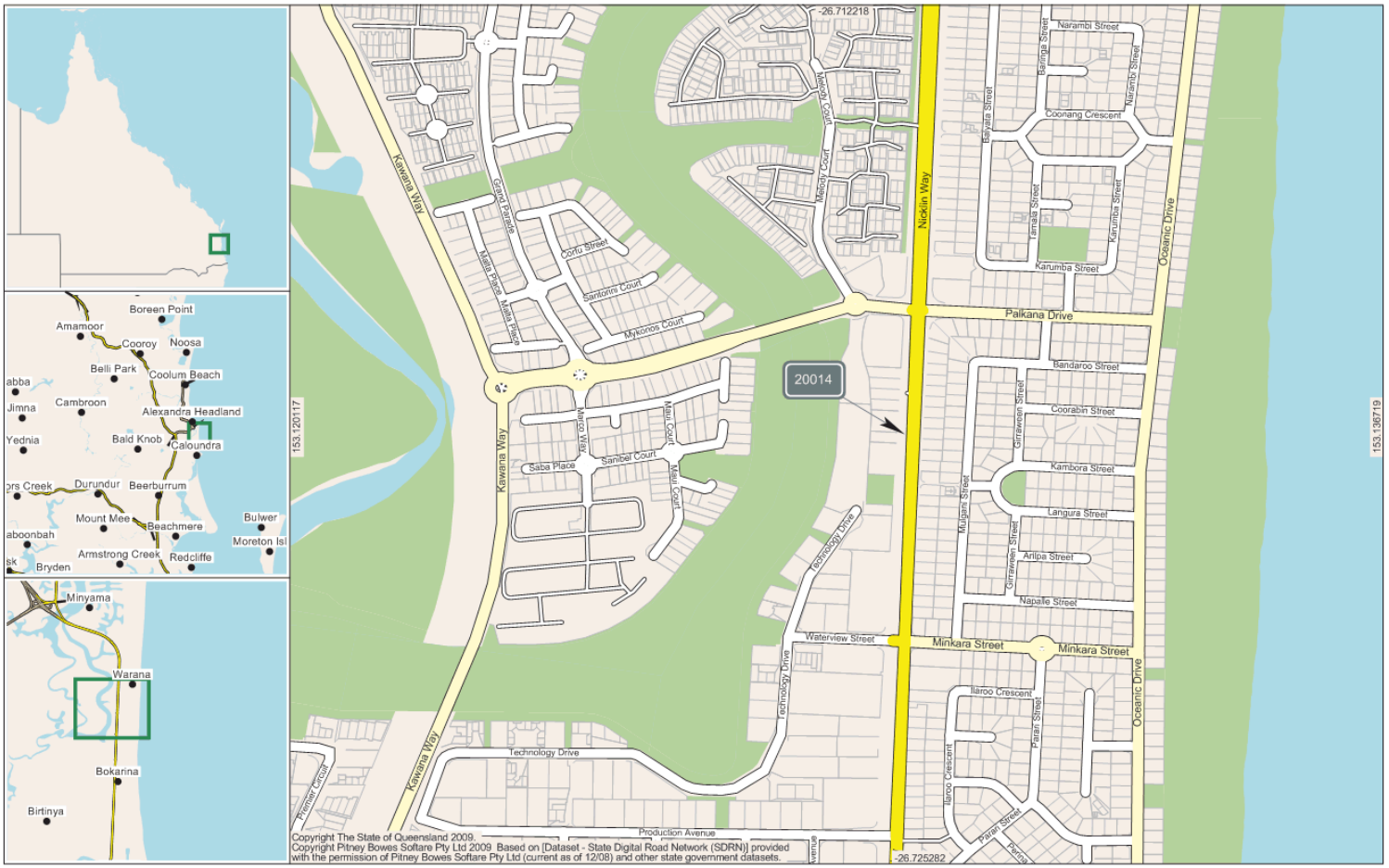
Annual Volume Report

Area 407 - North Coast District Road Section 153 - NICKLIN WAY

Site 20014 - 153 - 200m North of Waterview Street TDist 9.000km Speed Limit 70

TARS

Page 1 of 3 (1 of 16)



Queensland Government

Traffic Analysis and Reporting System
Annual Volume Report

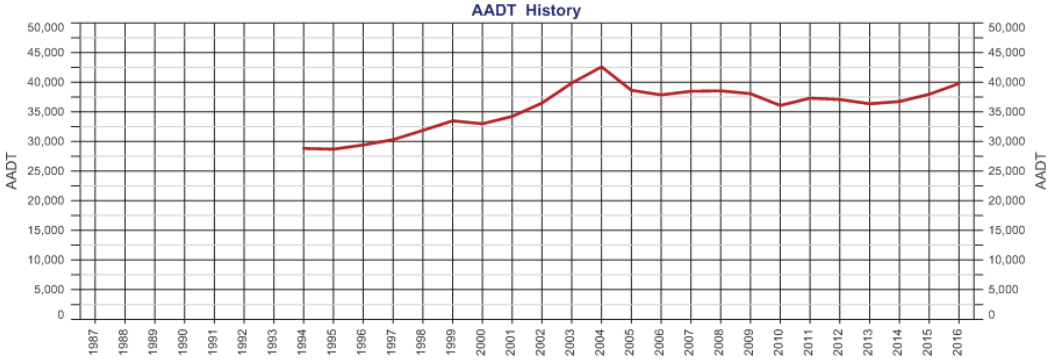
TARS

26-Apr-2017 10:45

Area	407 - North Coast District
Road Section	153 - NICKLIN WAY
Site	20014 - 153 - 200m North of Waterview Street
Thru Dist	9.0
Type	P - Permanent
Stream	TB - Bi-directional traffic flow

Year	2016	Growth last Year	4.75%
AADT	39,792	Growth last 5 Yrs	1.97%
Avg Week Day	42,577	Growth last 10 Yrs	0.79%
Avg Weekend Day	31,435		

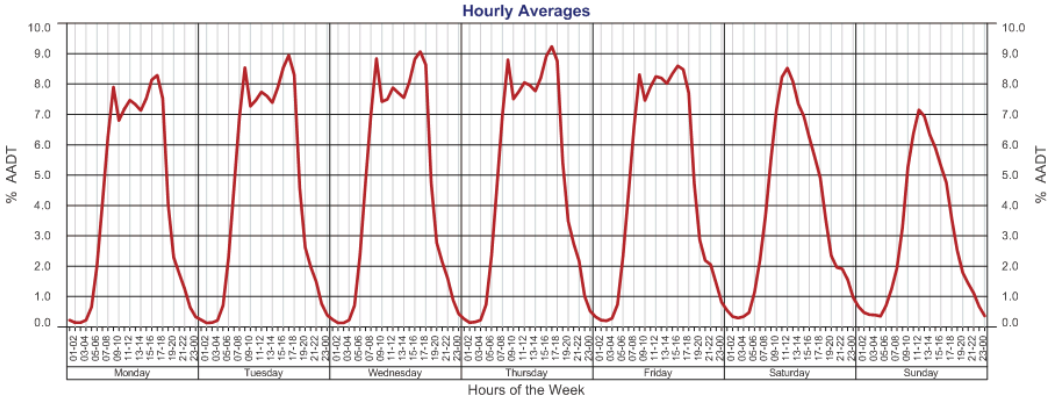
AADT History



Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2016	39,792	4.75%	1.97%	0.79%
2015	37,986	3.34%	0.94%	0.04%
2014	36,757	1.04%	-0.29%	-0.76%
2013	36,379	-1.96%	-0.94%	-1.03%
2012	37,105	-0.60%	-0.66%	-0.61%
2011	37,329	3.43%	-0.54%	-0.23%
2010	36,090	-5.23%	-1.65%	-0.35%
2009	38,080	-1.24%	-1.16%	0.73%
2008	38,558	0.18%	-0.97%	1.32%
2007	38,490	1.62%	-0.32%	1.78%
2006	37,878	-2.01%	0.44%	2.06%
2005	38,655	-9.28%	2.37%	2.86%
2004	42,608	6.84%	6.10%	4.73%
2003	39,882	9.26%	5.18%	
2002	36,501	6.60%	3.69%	

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2001	34,241	3.74%	2.84%	
2000	33,005	-1.47%	2.70%	
1999	33,498	5.07%	3.71%	
1998	31,883	5.17%		
1997	30,316	3.01%		
1996	29,429	2.50%		
1995	28,711	-0.44%		
1994	28,839			
1993				
1992				
1991				
1990				
1989				
1988				
1987				

Hourly Averages



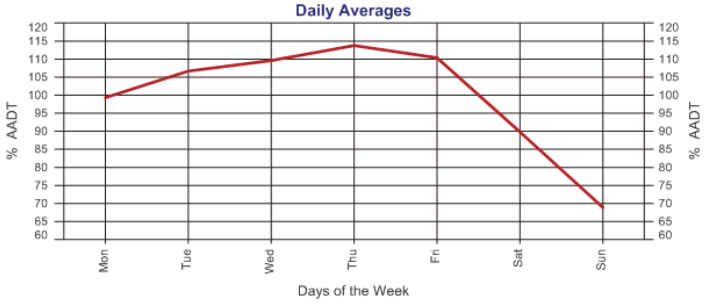
Queensland Government

Traffic Analysis and Reporting System
Annual Volume Report

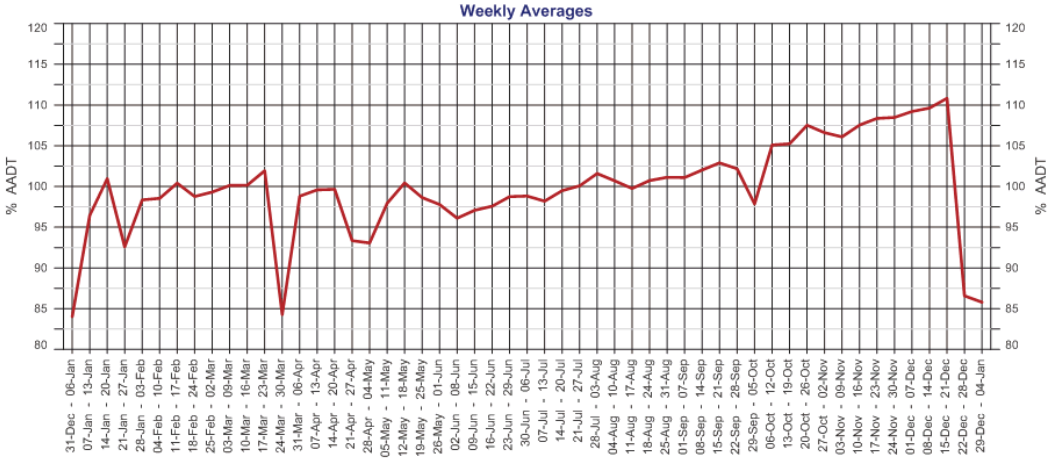
TARS

26-Apr-2017 10:45

Daily Averages



Weekly Averages



2016 Calendar

January

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29						

March

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

April

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

May

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

June

M	T	W	T	F	S	S
		1	2	3	4	5
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

July

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

August

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

September

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

October

M	T	W	T	F	S	S
31					1	2
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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

November

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

December

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Days on which traffic data was collected.

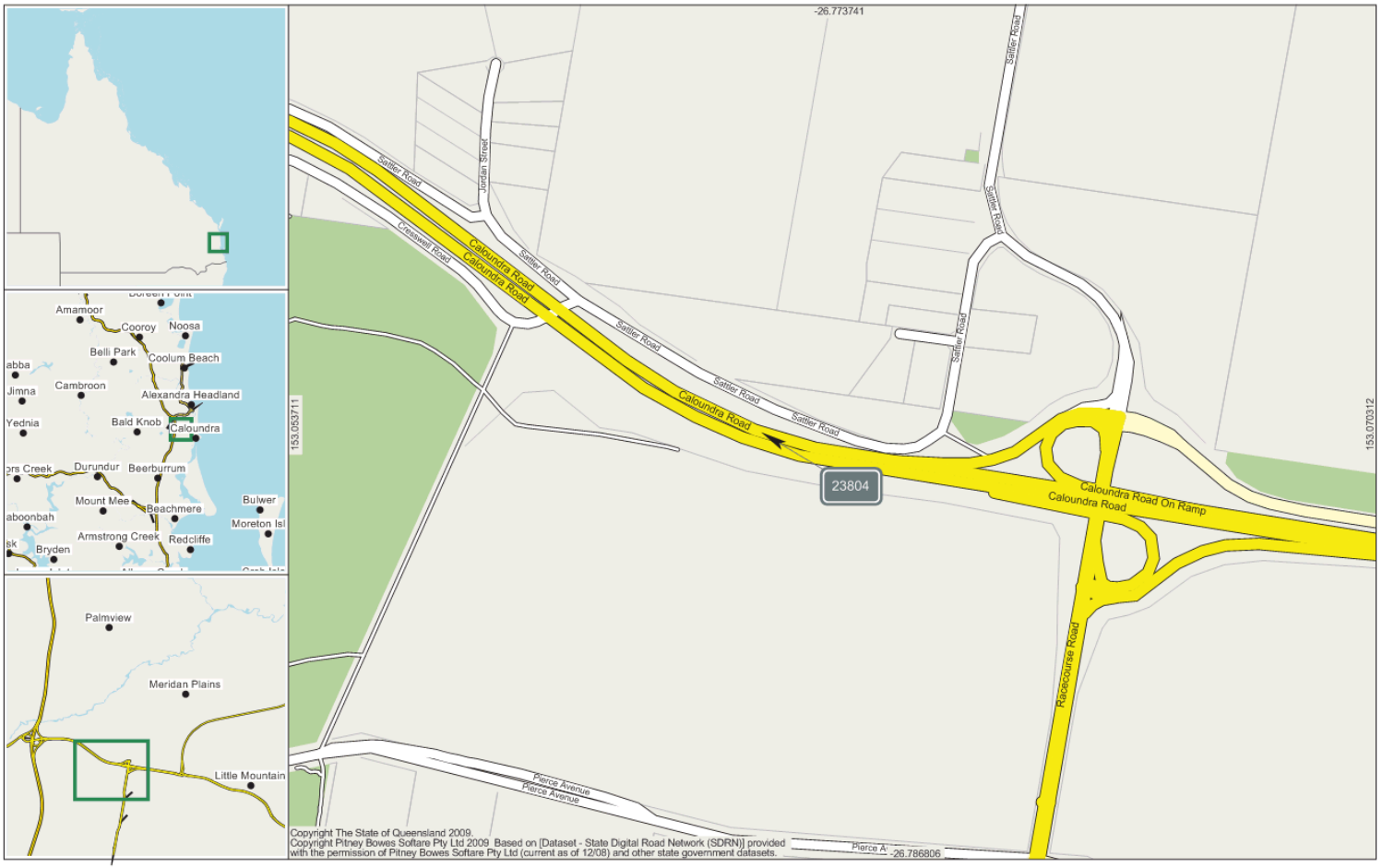
Queensland Government

26-Apr-2017 11:02

Traffic Analysis and Reporting System
Annual Volume Report
Area 407 - North Coast District Road Section 132 - CALOUNDRA ROAD
Site 23804 - 132 - West of Racecourse Road TDist 2.000km Speed Limit 100

TARS

Page 1 of 3 (1 of 16)



Queensland Government

Traffic Analysis and Reporting System
Annual Volume Report

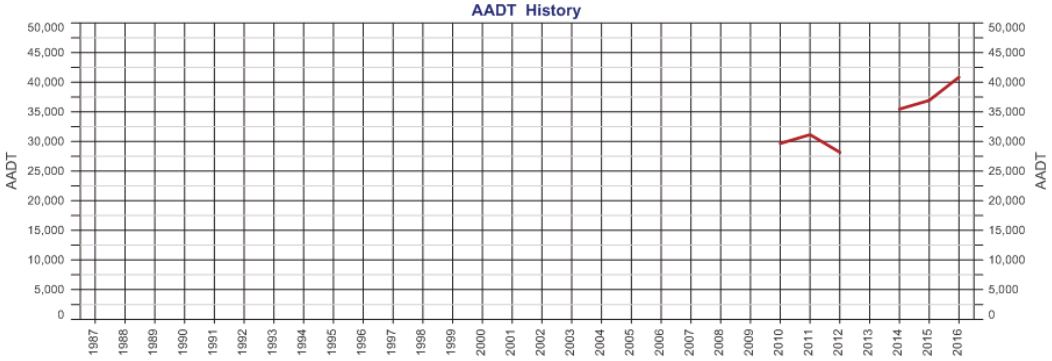
TARS

26-Apr-2017 11:02

Area	407 - North Coast District
Road Section	132 - CALOUNDRA ROAD
Site	23804 - 132 - West of Racecourse Road
Thru Dist	2.0
Type	C - Coverage
Stream	TB - Bi-directional traffic flow

Year	2016	Growth last Year	10.61%
AADT	40,866	Growth last 5 Yrs	7.26%
Avg Week Day	42,909	Growth last 10 Yrs	
Avg Weekend Day	33,510		

AADT History



Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2016	40,866	10.61%	7.26%	
2015	36,946	4.16%	5.29%	
2014	35,472			
2013				
2012	28,185	-9.55%		
2011	31,160	4.98%		
2010	29,681			
2009				
2008				
2007				
2006				
2005				
2004				
2003				
2002				

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2001				
2000				
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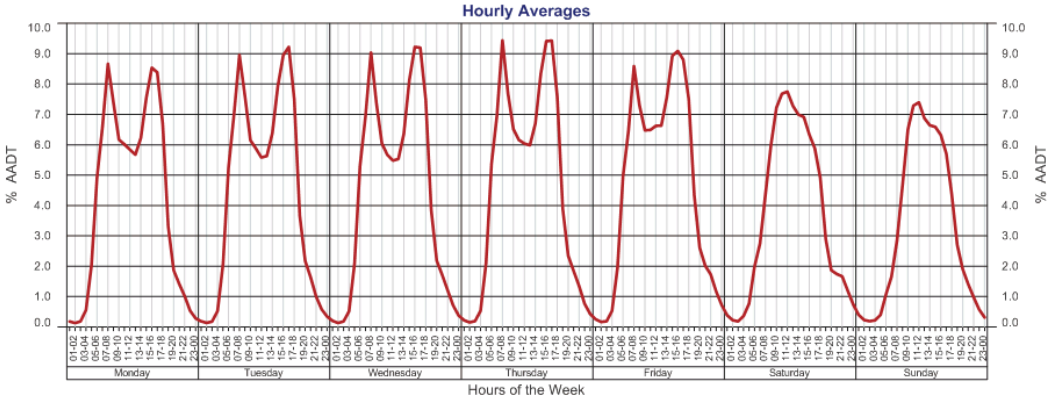
1988				
1987				

Hourly Averages



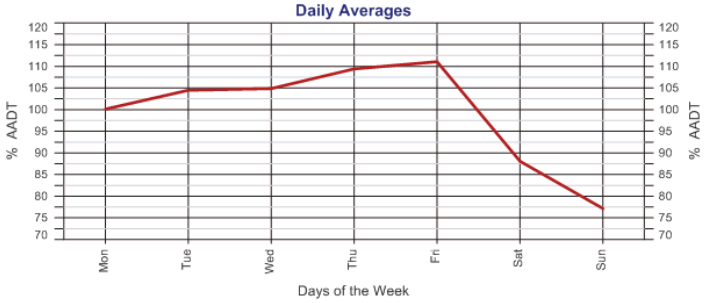
Queensland Government

Traffic Analysis and Reporting System
Annual Volume Report

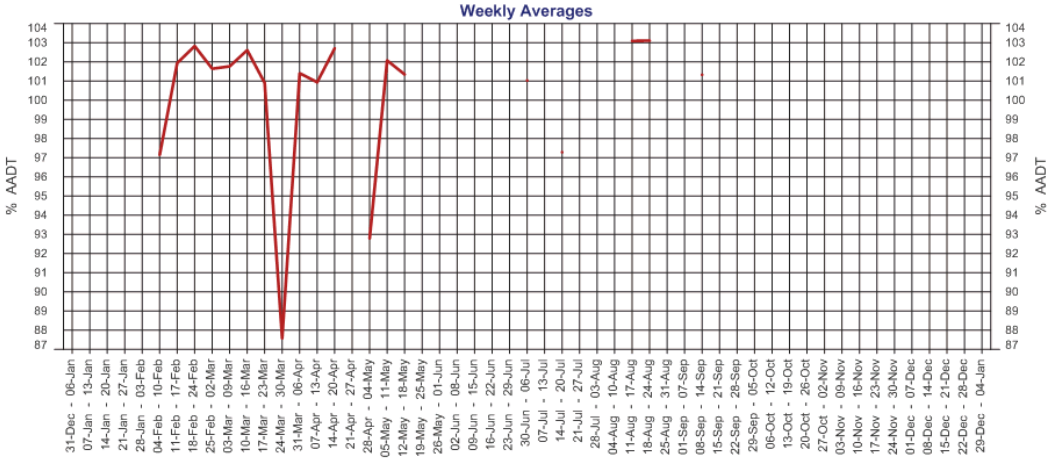
TARS

26-Apr-2017 11:02

Daily Averages



Weekly Averages



2016 Calendar

January

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29						

March

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

April

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

May

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

June

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

July

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

August

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

September

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

October

M	T	W	T	F	S	S
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

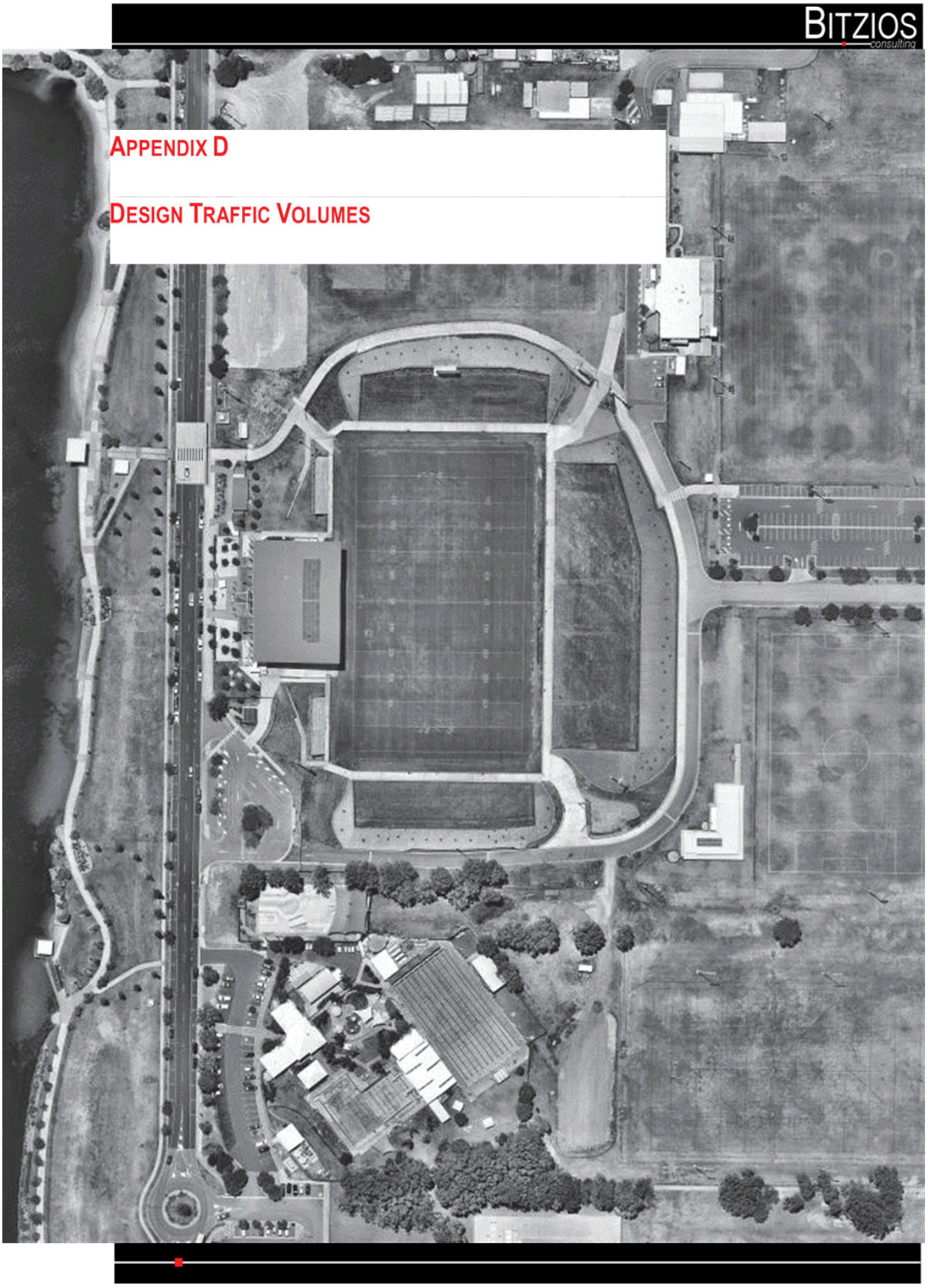
November

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

December

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Days on which traffic data was collected.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consulting
APPENDIX D
DESIGN TRAFFIC VOLUMES

Table 1: Attendance, Mode Share & Vehicle Occupancy Assumptions

Parameter	Scenario A		Scenario B		Scenario C	
Attenance						
Attenance (Persons)		5,000		10,000		15,000
Mode Share						
Car - Parking (%|Persons)	65%	3,250	50%	5,000	35%	5,250
Car - Drop Off (%|Persons)	20%	1,000	20%	2,000	20%	3,000
Bus (%|Persons)	10%	500	25%	2,500	40%	6,000
Walk / Cycle (%|Persons)	5%	250	5%	500	5%	750
Vehicle Occupancy						
Car - Parking (Persons/Car | Number of Cars)	2.8	1,161	2.8	1,786	2.8	1,875
Car - Drop Off (Persons/Car | Number of Cars)	1.8	556	1.8	1,111	1.8	1,667
Public Transport (People/Bus | Number of Buses)	45.0	11	45.0	56	45.0	133
TOTAL EVENT VEHICLES		1,727		2,952		3,675

Table 2: Estimated Peak Parking Demand

Parameter	Scenario A		Scenario B		Scenario C	
Vehicle Parking Demand						
Peak Parking Demand (vehicles)		1,161		1,786		1,875

Table 3: Estimated Total Pre & Post Event Trips

Parameter	Scenario A		Scenario B		Scenario C	
Pre-Event Trips						
Car - Parking (Trips/Car | Total Pre-event Trips)	1	1,161	1	1,786	1	1,875
Car - Drop Off (Trips/Car | Total Pre-Event Trips)	2	1,111	2	2,222	2	3,333
Public Transport (Trips/Bus | Total Pre-Event Trips)	2	22	2	111	2	267
TOTAL PRE-EVENT TRIPS		2,294		4,119		5,475
Post-Event Trips						
Car - Parking (Trips/Car | Total Post-event Trips)	1	1,161	1	1,786	1	1,875
Car - Drop Off (Trips/Car | Total Post-event Trips)	2	1,111	2	2,222	2	3,333
Public Transport (Trips/Bus | Total Post-event Trips)	2	22	2	111	2	267
TOTAL POST-EVENT TRIPS		2,294		4,119		5,475
TOTAL EVENT TRIPS						
Car - Parking (Trips/Car | Total Event Trips)	2	2,321	2	3,571	2	3,750
Car - Drop Off (Trips/Car | Total Event Trips)	4	2,222	4	4,444	4	6,667
Public Transport (Trips/Bus | Total Event Trips)	4	44	4	222	4	533
TOTAL EVENT TRIPS		4,588		8,238		10,950

Table 4: Arrival / Departure Profile Assumptions

Parameter	Scenario A		Scenario B		Scenario C	
ARRIVAL TIMES						
Event Start Time	Thursday	5:00pm	Thursday	6:00pm	Thursday	6:00pm
Arrival 0 to 60 mins before Start Time (PV & PT Trips)	80%	1,835	80%	3,295	80%	4,380
Arrival > 60 mins before Start Time (PV & PT Trips)	20%	459	20%	824	20%	1,095
TOTAL TRIPS BEFORE START TIME		2,294		4,119		5,475
DEPARTURE TIMES						
Event Finish Time	Thursday	8:00pm	Thursday	9:00pm	Thursday	10:00pm
Departure 0 to 60 mins after Finish Time (PV & PT Trips)	90%	2,065	90%	3,707	90%	4,928
Departure > 60 mins after Finish Time (PV & PT Trips)	10%	229	10%	412	10%	548
TOTAL TRIPS AFTER FINISH TIME		2,294		4,119		5,475
TOTAL EVENT TRIPS		4,588		8,238		10,950

Table 5: Event Peak Hour Traffic Demands

Parameter	Scenario A - TOTAL					< 60mins before/after Event			> 60mins before/after Event		
PRE EVENT	Inbound	Outbound	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL
Car - Parking (Trips)	100%	0%	1,161	0	1,161	929	0	929	232	0	232
Car - Drop Off (Trips)	50%	50%	556	556	1,111	444	444	889	111	111	222
Public Transport (Trips)	50%	50%	11	11	22	9	9	18	2	2	4
TOTAL TRIPS	75%	25%	1,727	567	2,294	1,382	453	1,835	345	113	459
POST EVENT	Inbound	Outbound	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL
Car - Parking (Trips)	0%	100%	0	1,161	1,161	0	1,045	1,045	0	116	116
Car - Drop Off (Trips)	50%	50%	556	556	1,111	500	500	1,000	56	56	111
Public Transport (Trips)	50%	50%	11	11	22	10	10	20	1	1	2
TOTAL TRIPS	25%	75%	567	1,727	2,294	510	1,555	2,065	57	173	229
TOTAL EVENT	Inbound	Outbound	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL
Car - Parking (Trips)	50%	50%	1,161	1,161	2,321	929	1,045	1,973	232	116	348
Car - Drop Off (Trips)	50%	50%	1,111	1,111	2,222	944	944	1,889	167	167	333
Public Transport (Trips)	50%	50%	22	22	44	19	19	38	3	3	7
TOTAL TRIPS	50%	50%	2,294	2,294	4,588	1,892	2,008	3,900	402	286	688

Parameter	Scenario B - TOTAL					< 60mins before/after Event			> 60mins before/after Event		
PRE EVENT	Inbound	Outbound	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL
Car - Parking (Trips)	100%	0%	1,786	0	1,786	1,429	0	1,429	357	0	357
Car - Drop Off (Trips)	50%	50%	1,111	1,111	2,222	889	889	1,778	222	222	444
Public Transport (Trips)	50%	50%	56	56	111	44	44	89	11	11	22
TOTAL TRIPS	72%	28%	2,952	1,167	4,119	2,362	933	3,295	590	233	824
POST EVENT	Inbound	Outbound	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL
Car - Parking (Trips)	0%	100%	0	1,786	1,786	0	1,607	1,607	0	179	179
Car - Drop Off (Trips)	50%	50%	1,111	1,111	2,222	1,000	1,000	2,000	111	111	222
Public Transport (Trips)	50%	50%	56	56	111	50	50	100	6	6	11
TOTAL TRIPS	28%	72%	1,167	2,952	4,119	1,050	2,657	3,707	117	295	412
TOTAL EVENT	Inbound	Outbound	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL
Car - Parking (Trips)	50%	50%	1,786	1,786	3,571	1,429	1,607	3,036	357	179	536
Car - Drop Off (Trips)	50%	50%	2,222	2,222	4,444	1,889	1,889	3,778	333	333	667
Public Transport (Trips)	50%	50%	111	111	222	94	94	189	17	17	33
TOTAL TRIPS	50%	50%	4,119	4,119	8,238	3,412	3,590	7,002	707	529	1,236

Parameter	Scenario C - TOTAL					< 60mins before/after Event			> 60mins before/after Event		
PRE EVENT	Inbound	Outbound	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL
Car - Parking (Trips)	100%	0%	1,875	0	1,875	1,500	0	1,500	375	0	375
Car - Drop Off (Trips)	50%	50%	1,667	1,667	3,333	1,333	1,333	2,667	333	333	667
Public Transport (Trips)	50%	50%	133	133	267	107	107	213	27	27	53
TOTAL TRIPS	67%	33%	3,675	1,800	5,475	2,940	1,440	4,380	735	360	1,095
POST EVENT	Inbound	Outbound	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL
Car - Parking (Trips)	0%	100%	0	1,875	1,875	0	1,688	1,688	0	188	188
Car - Drop Off (Trips)	50%	50%	1,667	1,667	3,333	1,500	1,500	3,000	167	167	333
Public Transport (Trips)	50%	50%	133	133	267	120	120	240	13	13	27
TOTAL TRIPS	33%	67%	1,800	3,675	5,475	1,620	3,308	4,928	180	368	548
TOTAL EVENT	Inbound	Outbound	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL
Car - Parking (Trips)	50%	50%	1,875	1,875	3,750	1,500	1,688	3,188	375	188	563
Car - Drop Off (Trips)	50%	50%	3,333	3,333	6,667	2,833	2,833	5,667	500	500	1,000
Public Transport (Trips)	50%	50%	267	267	533	227	227	453	40	40	80
TOTAL TRIPS	50%	50%	5,475	5,475	10,950	4,560	4,748	9,308	915	728	1,643

Table 6: Traffic Growth (Population Growth)

Year (Ending June 30)	Population	Year to Year		2006 to 2016	
		Change	% Change	Change	% Change
2006	236,654				
2007	243,309	6,655	2.81%		
2008	250,800	7,491	3.08%		
2009	258,047	7,247	2.89%		
2010	263,053	5,006	1.94%		
2011	267,241	4,188	1.59%		
2012	272,723	5,482	2.05%		
2013	277,804	5,081	1.86%		
2014	282,702	4,898	1.76%		
2015	287,535	4,833	1.71%		
2016	292,990	5,455	1.90%	56,336	2.16%

Source: Australian Bureau of Statistics, Regional Population Growth, Australia (3218.0).

Table 7: Location 1 - Internal Distribution

Zone Name	ID	Parking	Parking %	Drop Off	Drop Off %
Western Fields	A	200	10.0%	0	0%
Innovation Parkway Commercial	B	200	10.0%	0	0%
Industrial Precinct (north of Main St)	C	500	25.0%	0	0%
Kawana Sports Precinct	D	400	20.0%	100	100%
Residential Precinct (north of Wyanda Dr)	E	300	15.0%	0	0%
Residential Precinct (south of Wyanda Dr)	F	400	20.0%	0	0%
TOTAL		2000	100%	100	100%

Table 8: Location 2 - Internal Distribution (Parking)

Zone Name	Capacity	Scenario A	Scenario B	Scenario C
On-site (formal + informal)	1000	1000	1000	1000
Nearby (surrounding streets)		0	486	575
Racecourse	300	161	300	300
TOTAL		1,161	1,786	1,875

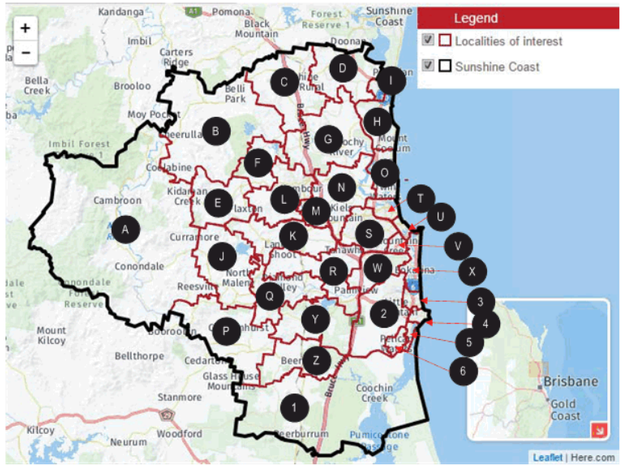

Table 1: Population by Suburb

ID	Suburbs	Population	%
A	Reesville-Curramore and District	2,684	0.92%
B	Belli Park - Cooloolabain - Gheerulla - Coolabine	1,264	0.43%
C	Eumundi - Eerwah Vale - North Arm - Bridges	3,588	1.22%
D	Doonan (part) - Weyba Downs - Verrierdale - Peregian Beach (p	4,395	1.50%
E	Mapleton - Flaxton - Obi Obi	2,687	0.92%
F	Kureelpa - Kiamba	1,202	0.41%
G	Yandina - Yandina Creek and District	6,642	2.27%
H	Coolum Beach - Mount Coolum - Yarromba - Point Arkwright	15,774	5.38%
I	Peregian Springs	5,023	1.71%
J	Maleny - Witta - North Maleny	5,785	1.97%
K	Palmwoods - Chevallum - Montville - Hunchy	7,925	2.70%
L	Nambour - Burnside and District	17,988	6.14%
M	Woombye	3,249	1.11%
N	Bli Bli - Rosemount and District	11,394	3.89%
O	Marcoola - Twin Waters - Pacific Paradise - Mudjimba	10,806	3.69%
P	Peachester - Crohamhurst - Booroobin - Wootha	1,942	0.66%
Q	Mooloolah Valley - Diamond Valley - Balmoral Ridge - Bald Knot	4,389	1.50%
R	Ilkley - Eudlo and District	4,789	1.63%
S	Buderim - Kuluin - Mons - Kunda Park	34,052	11.62%
T	Maroochydore	16,142	5.51%
U	Mooloolaba - Alexandra Headland	13,086	4.47%
V	Mountain Creek	9,190	3.14%
W	Sippy Downs - Palmview	10,821	3.69%
X	Wurtulla - Buddina and District	24,333	8.30%
Y	Landsborough - Mount Mellum	4,566	1.56%
Z	Beerwah	6,694	2.28%
1	Glass House Mountains - Beerburrum - Coochin Creek - Bribie Is	5,967	2.04%
2	Little Mountain - Caloundra West - Meridan Plains - Bells Creek	17,953	6.13%
3	Currimundi - Aroona - Battery Hill - Dicky Beach	15,914	5.43%
4	Caloundra - Kings Beach - Moffat Beach - Shelly Beach	10,913	3.72%
5	Golden Beach	6,141	2.10%
6	Pelican Waters	5,699	1.95%
TOTAL		292,997	100%

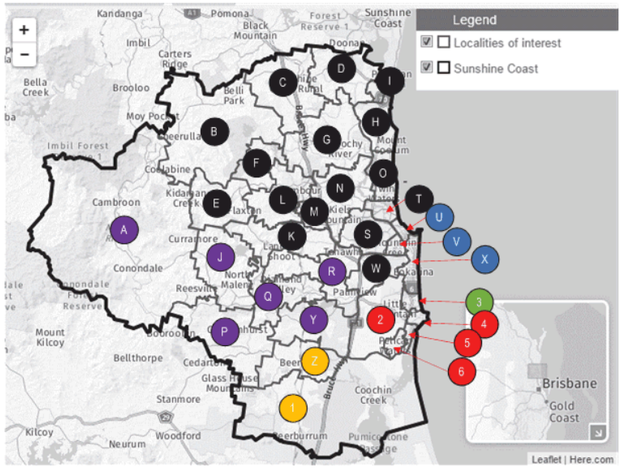

Table 2: Location 2 - Distribution Assumptions

ID	Suburbs	Population	%
A	Reesville-Curramore and District	2,684	0.92%
B	Belli Park - Cooloolabain - Gheerulla - Coolabine	1,264	0.43%
C	Eumundi - Eerwah Vale - North Arm - Bridges	3,588	1.22%
D	Doonan (part) - Weyba Downs - Verrierdale - Peregian Beach (p	4,395	1.50%
E	Mapleton - Flaxton - Obi Obi	2,687	0.92%
F	Kureelpa - Kiamba	1,202	0.41%
G	Yandina - Yandina Creek and District	6,642	2.27%
H	Coolum Beach - Mount Coolum - Yarromba - Point Arkwright	15,774	5.38%
I	Peregian Springs	5,023	1.71%
J	Maleny - Witta - North Maleny	5,785	1.97%
K	Palmwoods - Chevallum - Montville - Hunchy	7,925	2.70%
L	Nambour - Burnside and District	17,988	6.14%
M	Woombye	3,249	1.11%
N	Bli Bli - Rosemount and District	11,394	3.89%
O	Marcoola - Twin Waters - Pacific Paradise - Mudjimba	10,806	3.69%
P	Peachester - Crohamhurst - Booroobin - Wootha	1,942	0.66%
Q	Mooloolah Valley - Diamond Valley - Balmoral Ridge - Bald Kno	4,389	1.50%
R	Ilkley - Eudlo and District	4,789	1.63%
S	Buderim - Kuluin - Mons - Kunda Park	34,052	11.62%
T	Maroochydore	16,142	5.51%
U	Mooloolaba - Alexandra Headland	13,086	4.47%
V	Mountain Creek	9,190	3.14%
W	Sippy Downs - Palmview	10,821	3.69%
X	Wurtulla - Buddina and District	24,333	8.30%
Y	Landsborough - Mount Mellum	4,566	1.56%
Z	Beerwah	6,694	2.28%
1	Glass House Mountains - Beerburrum - Coochin Creek - Bribie Is	5,967	2.04%
2	Little Mountain - Caloundra West - Meridan Plains - Bells Creek	17,953	6.13%
3	Currimundi - Aroona - Battery Hill - Dicky Beach	15,914	5.43%
4	Caloundra - Kings Beach - Moffat Beach - Shelly Beach	10,913	3.72%
5	Golden Beach	6,141	2.10%
6	Pelican Waters	5,699	1.95%
TOTAL		292,997	100%

ID	Catchment	Population	%	INTERNAL	EXTERNAL		TOTAL
				78.0%	22%		100.0%
Red	Caloundra Road (East)	40,706	13.9%	10.8%			10.8%
Green	Parklands Boulevard (East)	15,914	5.4%	4.2%			4.2%
Blue	Caloundra-Mooloolaba Road (East)	46,609	15.9%	12.4%			12.4%
Black	Bruce Highway (North)	152,952	52.2%	40.7%	25%	5.5%	46.2%
Purple	Steve Irwin Way (West)	24,155	8.2%	6.4%			6.4%
Yellow	Bruce Highway (South)	12,661	4.3%	3.4%	75%	16.5%	19.9%
	TOTAL	292,997	100%	78.0%	100.0%	22.0%	100.0%

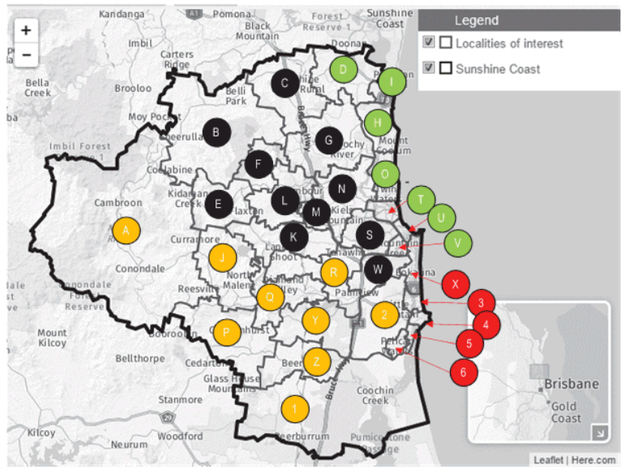

Table 2: Location 1 - Distribution Assumptions

ID	Suburbs	Population	%
A	Reesville-Curramore and District	2,684	0.92%
B	Belli Park - Cooloolabain - Gheerulla - Coolabine	1,264	0.43%
C	Eumundi - Eerwah Vale - North Arm - Bridges	3,588	1.22%
D	Doonan (part) - Weyba Downs - Verrierdale - Peregian Beach (p	4,395	1.50%
E	Mapleton - Flaxton - Obi Obi	2,687	0.92%
F	Kureelpa - Kiamba	1,202	0.41%
G	Yandina - Yandina Creek and District	6,642	2.27%
H	Coolum Beach - Mount Coolum - Yarromba - Point Arkwright	15,774	5.38%
I	Peregian Springs	5,023	1.71%
J	Maleny - Witta - North Maleny	5,785	1.97%
K	Palmwoods - Chevallum - Montville - Hunchy	7,925	2.70%
L	Nambour - Burnside and District	17,988	6.14%
M	Woombye	3,249	1.11%
N	Bli Bli - Rosemount and District	11,394	3.89%
O	Marcoola - Twin Waters - Pacific Paradise - Mudjimba	10,806	3.69%
P	Peachester - Crohamhurst - Booroobin - Wootha	1,942	0.66%
Q	Mooloolah Valley - Diamond Valley - Balmoral Ridge - Bald Knot	4,389	1.50%
R	Ilkley - Eudlo and District	4,789	1.63%
S	Buderim - Kuluin - Mons - Kunda Park	34,052	11.62%
T	Maroochydore	16,142	5.51%
U	Mooloolaba - Alexandra Headland	13,086	4.47%
V	Mountain Creek	9,190	3.14%
W	Sippy Downs - Palmview	10,821	3.69%
X	Wurtulla - Buddina and District	24,333	8.30%
Y	Landsborough - Mount Mellum	4,566	1.56%
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1	Glass House Mountains - Beerburrum - Coochin Creek - Bribie Is	5,967	2.04%
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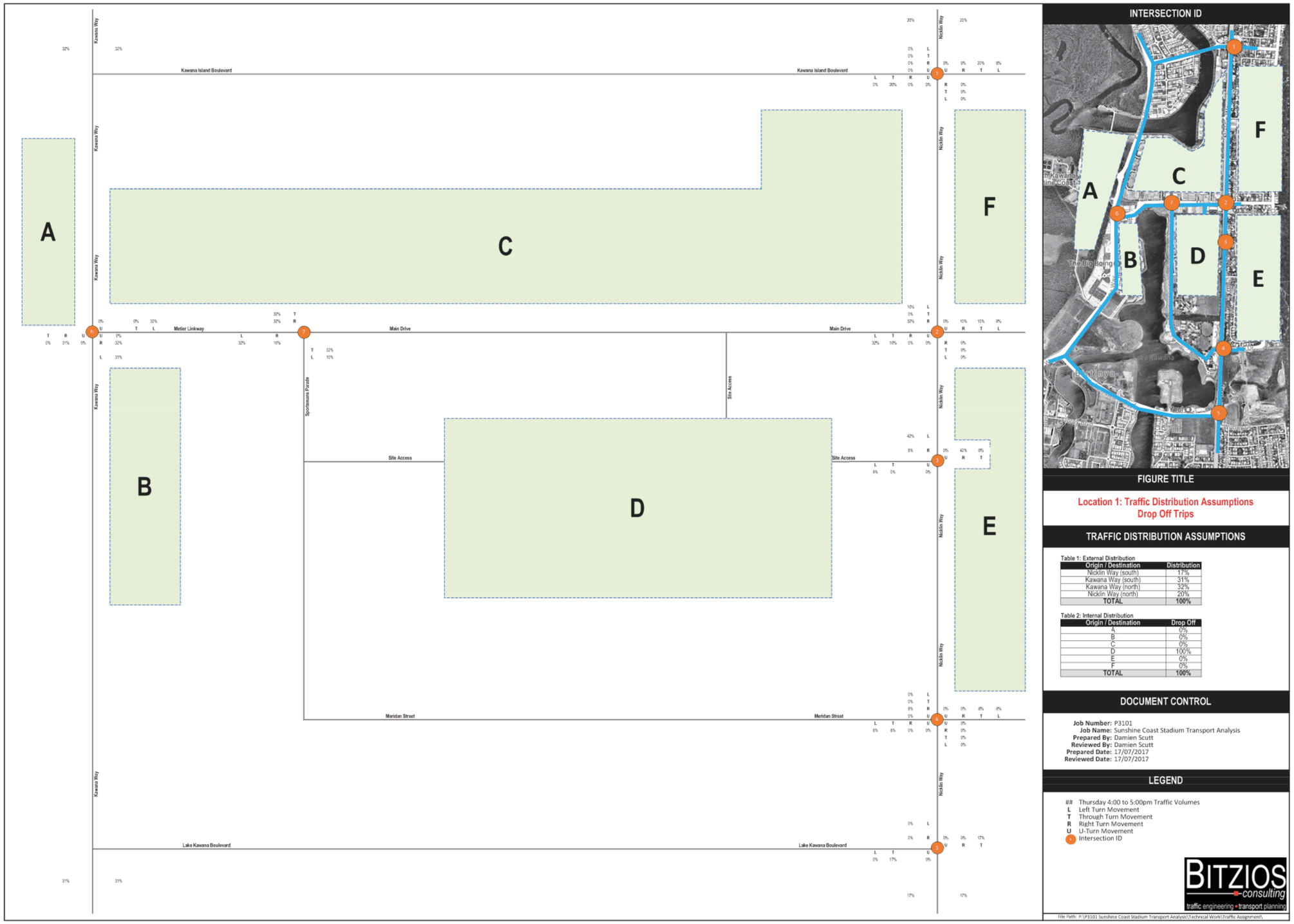
3	Currimundi - Aroona - Battery Hill - Dicky Beach	15,914	5.43%
4	Caloundra - Kings Beach - Moffat Beach - Shelly Beach	10,913	3.72%
5	Golden Beach	6,141	2.10%
6	Pelican Waters	5,699	1.95%
TOTAL		292,997	100%

ID	Suburbs	Population	%	INTERNAL	EXTERNAL		TOTAL
				78.0%	22%		100%
Red	Nicklin Way (south)	63,000	21.5%	16.8%			16.8%
Yellow	Kawana Way (south)	54,769	18.7%	14.6%	75.0%	16.5%	31.1%
Black	Kawana Way (north)	100,812	34.4%	26.8%	25.0%	5.5%	32.3%
Green	Nicklin Way (north)	74,416	25.4%	19.8%			19.8%
	TOTAL	292,997	100.0%	78.0%	100.0%	22.0%	100.0%


Kawana Way
Nicklin Way
Kawana Island Boulevard
Metier Linkway
Main Drive
Sportsmans Parade
Site Access
Meridan Street
Lake Kawana Boulevard
A
B
C
D
E
F
INTERSECTION ID
FIGURE TITLE
Location 1: Traffic Distribution Assumptions
Drop Off Trips
TRAFFIC DISTRIBUTION ASSUMPTIONS
Table 1: External Distribution
Origin / Destination | Distribution
Nicklin Way (south) | 17%
Kawana Way (south) | 31%
Kawana Way (north) | 32%
Nicklin Way (north) | 20%
TOTAL | 100%
Table 2: Internal Distribution
Origin / Destination | Drop Off
A | 0%
B | 0%
C | 0%
D | 100%
E | 0%
F | 0%
TOTAL | 100%
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
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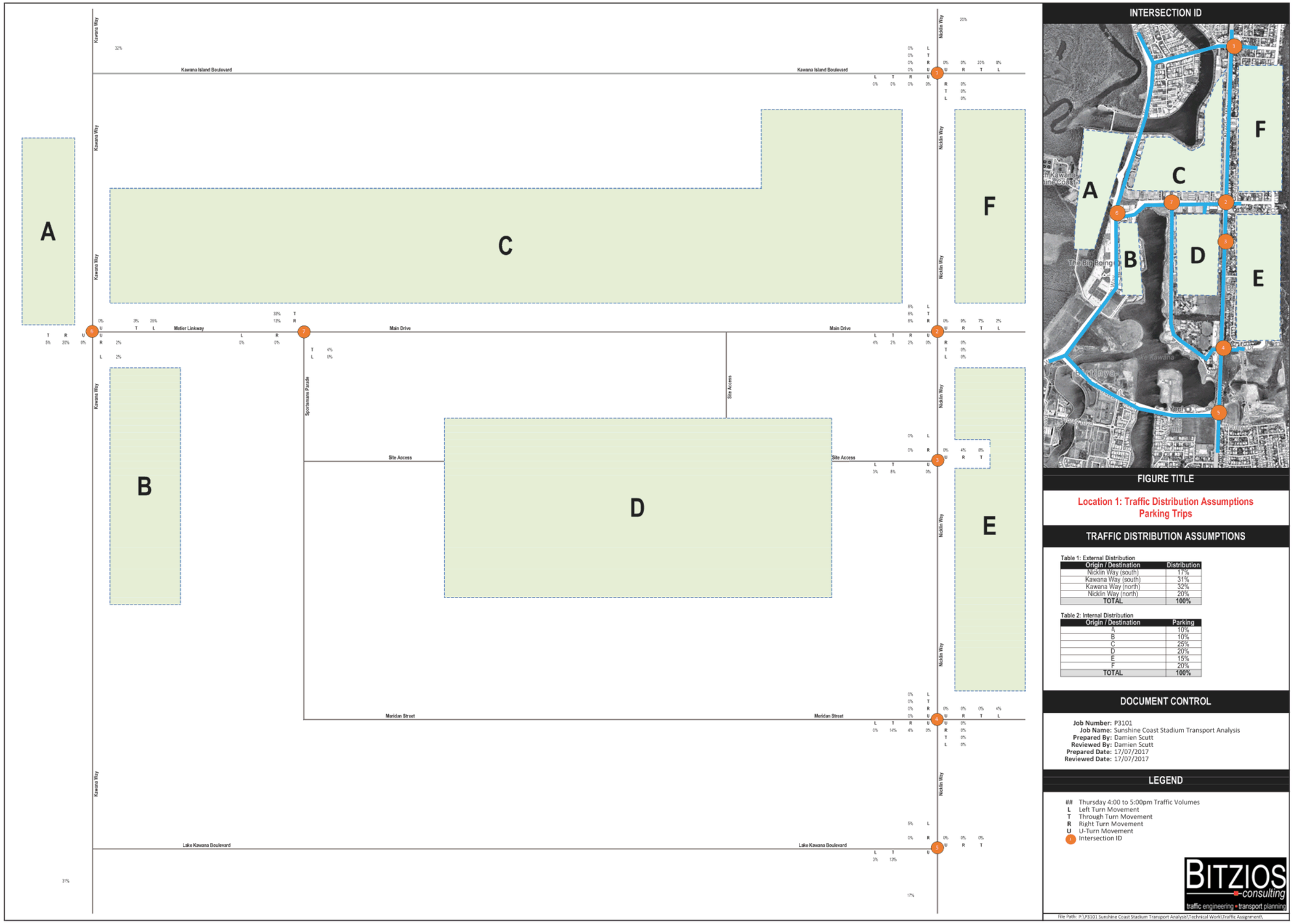
A
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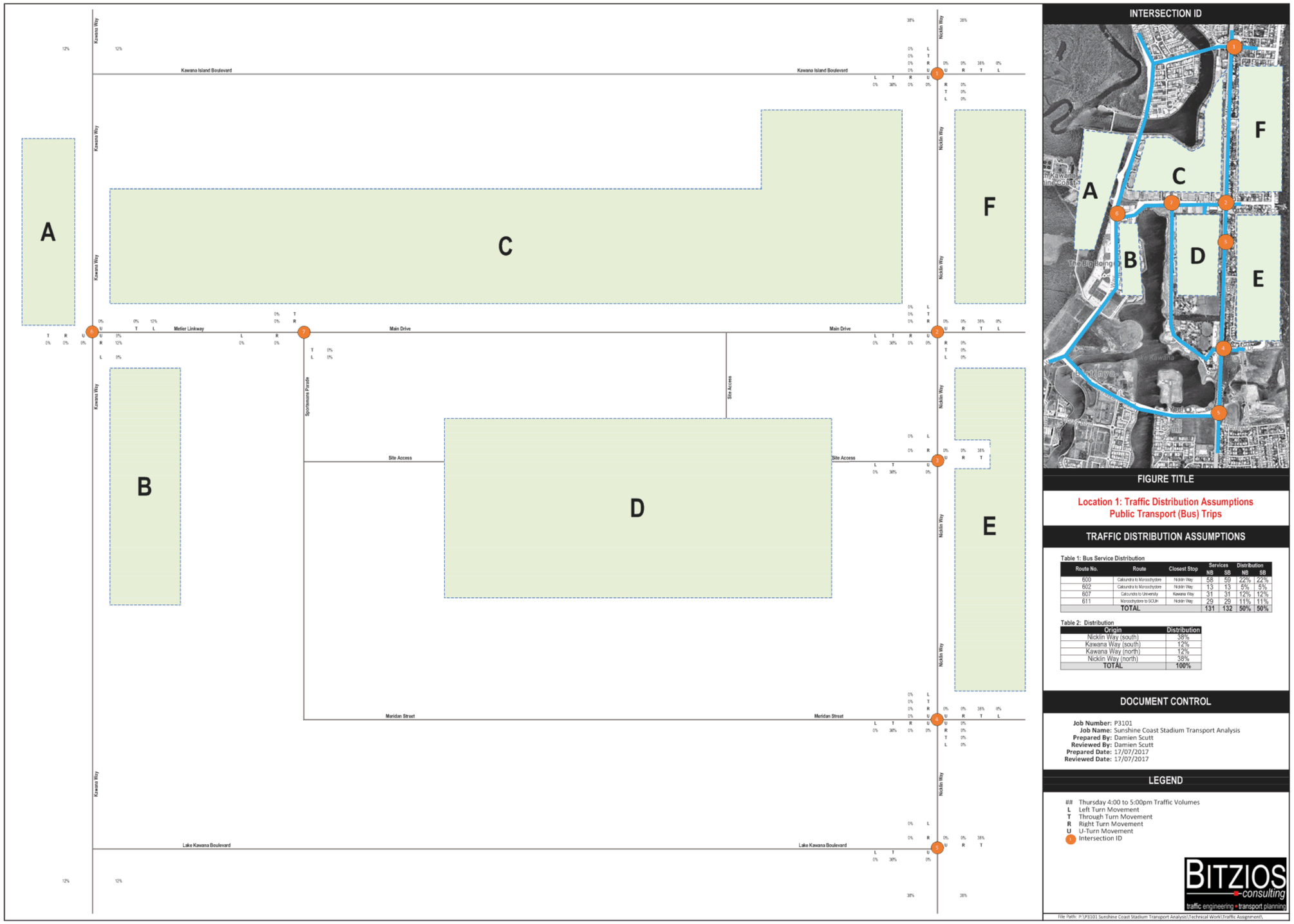
Kawana Way
Nicklin Way
Kawana Island Boulevard
Metier Linkway
Main Drive
Sportsmans Parade
Site Access
Meridan Street
Lake Kawana Boulevard
INTERSECTION ID
FIGURE TITLE
Location 1: Traffic Distribution Assumptions
Parking Trips
TRAFFIC DISTRIBUTION ASSUMPTIONS
Table 1: External Distribution
Origin / Destination | Distribution
Nicklin Way (south) | 17%
Kawana Way (south) | 31%
Kawana Way (north) | 32%
Nicklin Way (north) | 20%
TOTAL | 100%
Table 2: Internal Distribution
Origin / Destination | Parking
A | 10%
B | 10%
C | 25%
D | 20%
E | 15%
F | 20%
TOTAL | 100%
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\



INTERSECTION ID

FIGURE TITLE

Location 1: Traffic Distribution Assumptions
Public Transport (Bus) Trips

TRAFFIC DISTRIBUTION ASSUMPTIONS

Table 1: Bus Service Distribution

Route No.	Route	Closest Stop	Services NB	Services SB	Distribution NB	Distribution SB
600	Caloundra to Maroochydore	Nicklin Way	58	59	22%	22%
602	Caloundra to Maroochydore	Nicklin Way	13	13	5%	5%
607	Caloundra to University	Kawana Way	31	31	12%	12%
611	Maroochydore to SCUH	Nicklin Way	29	29	11%	11%
TOTAL			131	132	50%	50%

Table 2: Distribution

Origin	Distribution
Nicklin Way (south)	38%
Kawana Way (south)	12%
Kawana Way (north)	12%
Nicklin Way (north)	38%
TOTAL	100%

DOCUMENT CONTROL

Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017

LEGEND

Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
1 Intersection ID

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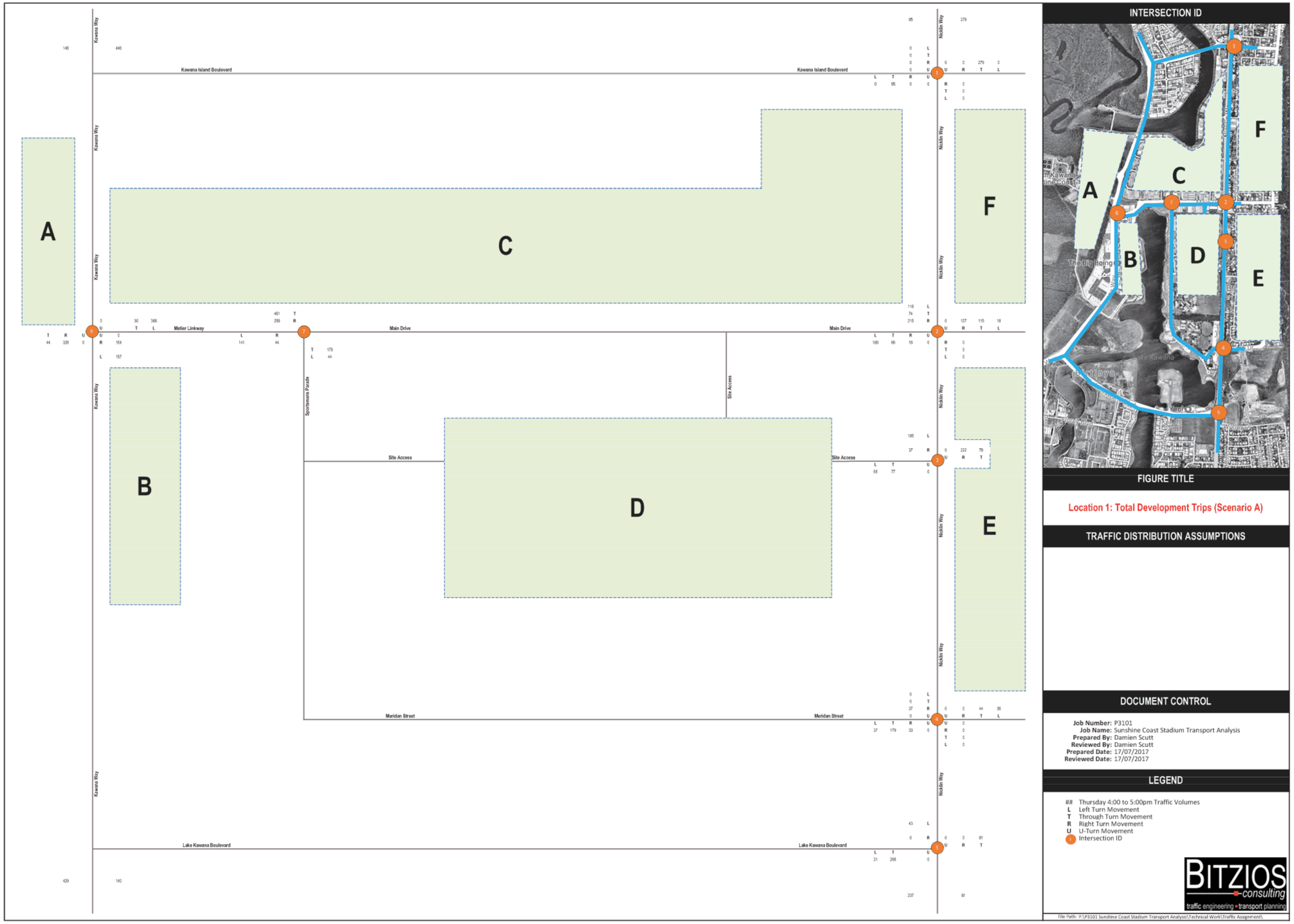
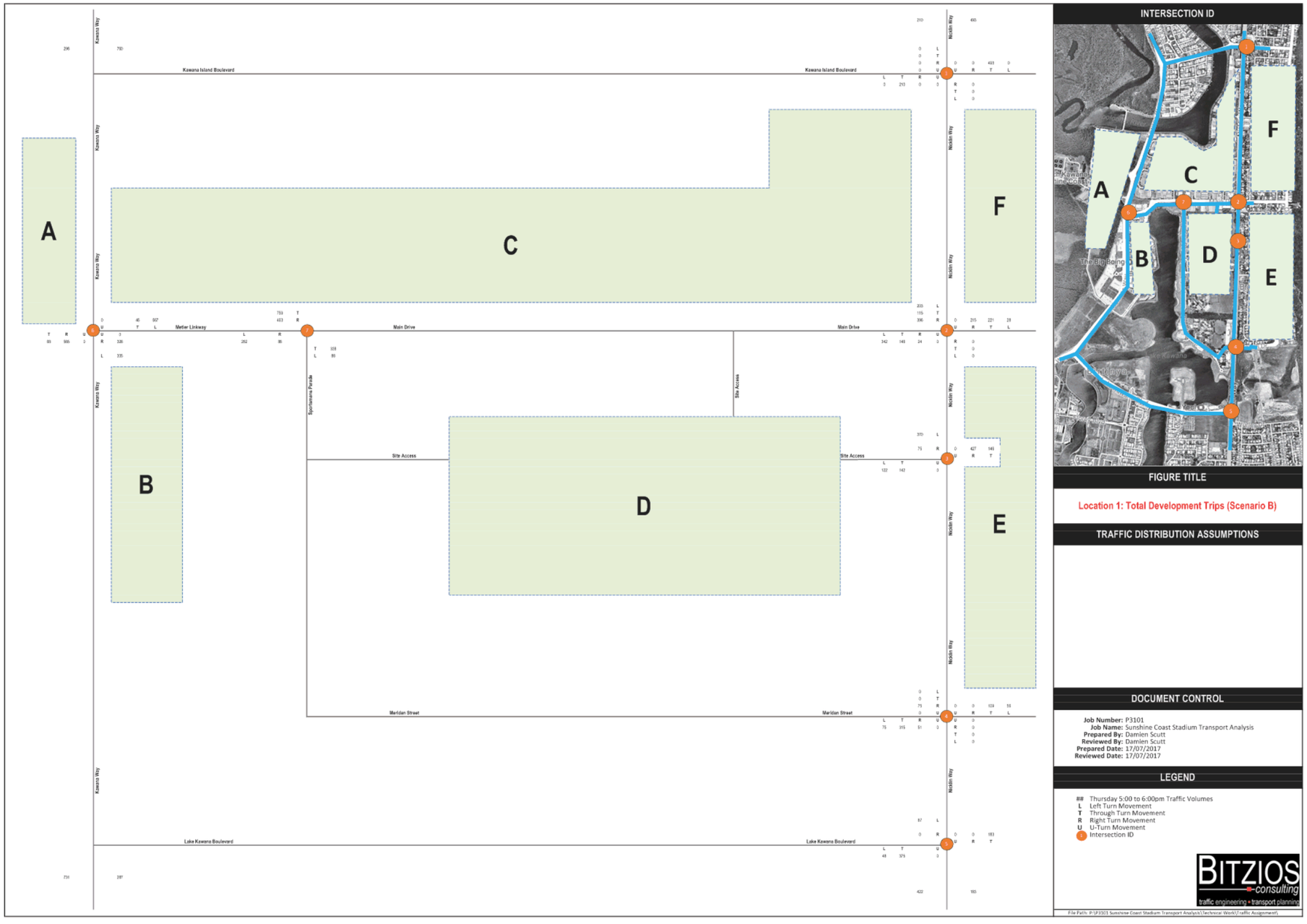
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


Kawana Way
Kawana Island Boulevard
Nicklin Way
Metier Linkway
Main Drive
Sportsmans Parade
Site Access
Meridan Street
Lake Kawana Boulevard
A
B
C
D
E
F
INTERSECTION ID
FIGURE TITLE
Location 1: Total Development Trips (Scenario A)
TRAFFIC DISTRIBUTION ASSUMPTIONS
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


Kawana Way
Kawana Island Boulevard
Nicklin Way
Metier Linkway
Main Drive
Sportsmans Parade
Site Access
Meridan Street
Lake Kawana Boulevard
A
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C
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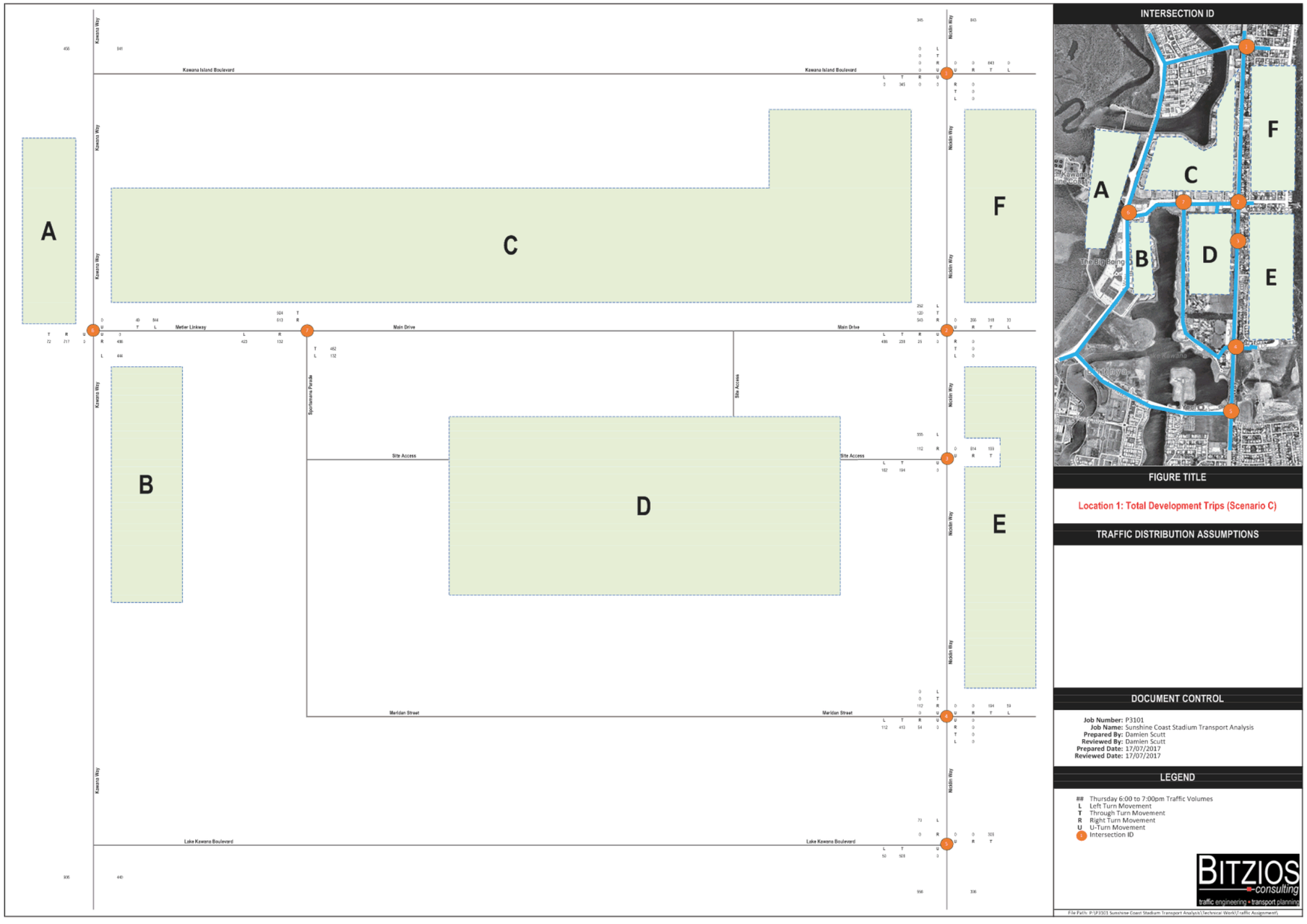
E
F
INTERSECTION ID
FIGURE TITLE
Location 1: Total Development Trips (Scenario B)
TRAFFIC DISTRIBUTION ASSUMPTIONS
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning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Kawana Way
Kawana Way
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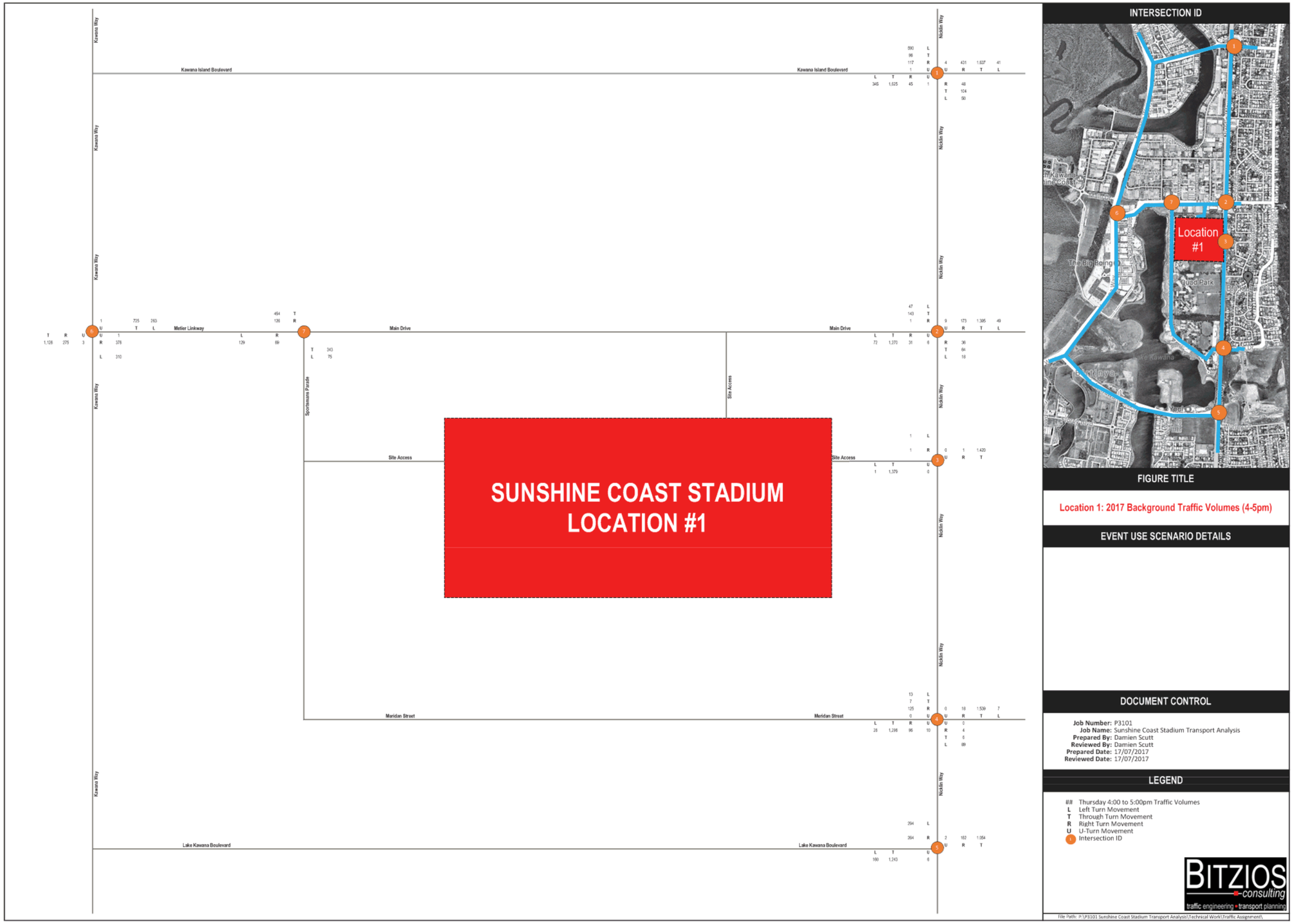
Nicklin Way
Nicklin Way
Nicklin Way
Nicklin Way
Nicklin Way
Metier Linkway
Main Drive
Main Drive
Sportsmans Parade
Site Access
Site Access
Site Access
Meridan Street
Meridan Street
Lake Kawana Boulevard
Lake Kawana Boulevard
INTERSECTION ID
FIGURE TITLE
Location 1: Total Development Trips (Scenario C)
TRAFFIC DISTRIBUTION ASSUMPTIONS
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 6:00 to 7:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\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Nicklin Way
Nicklin Way
Nicklin Way
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Nicklin Way
Metier Linkway
Main Drive
Main Drive
Sportsmans Parade
Site Access
Site Access
Site Access
Meridan Street
Meridan Street
Lake Kawana Boulevard
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
Quad Park
FIGURE TITLE
Location 1: 2017 Background Traffic Volumes (4-5pm)
EVENT USE SCENARIO DETAILS
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
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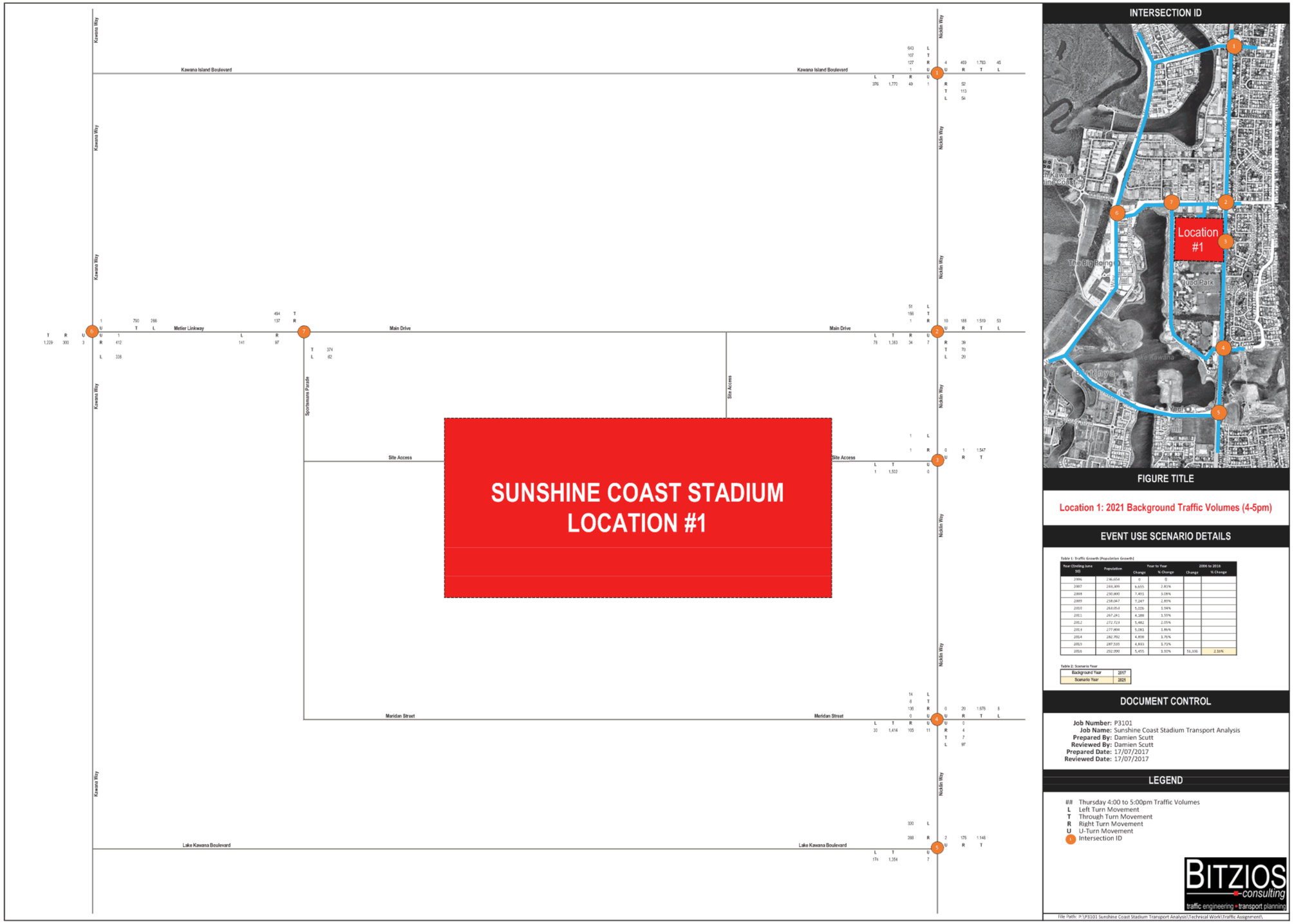
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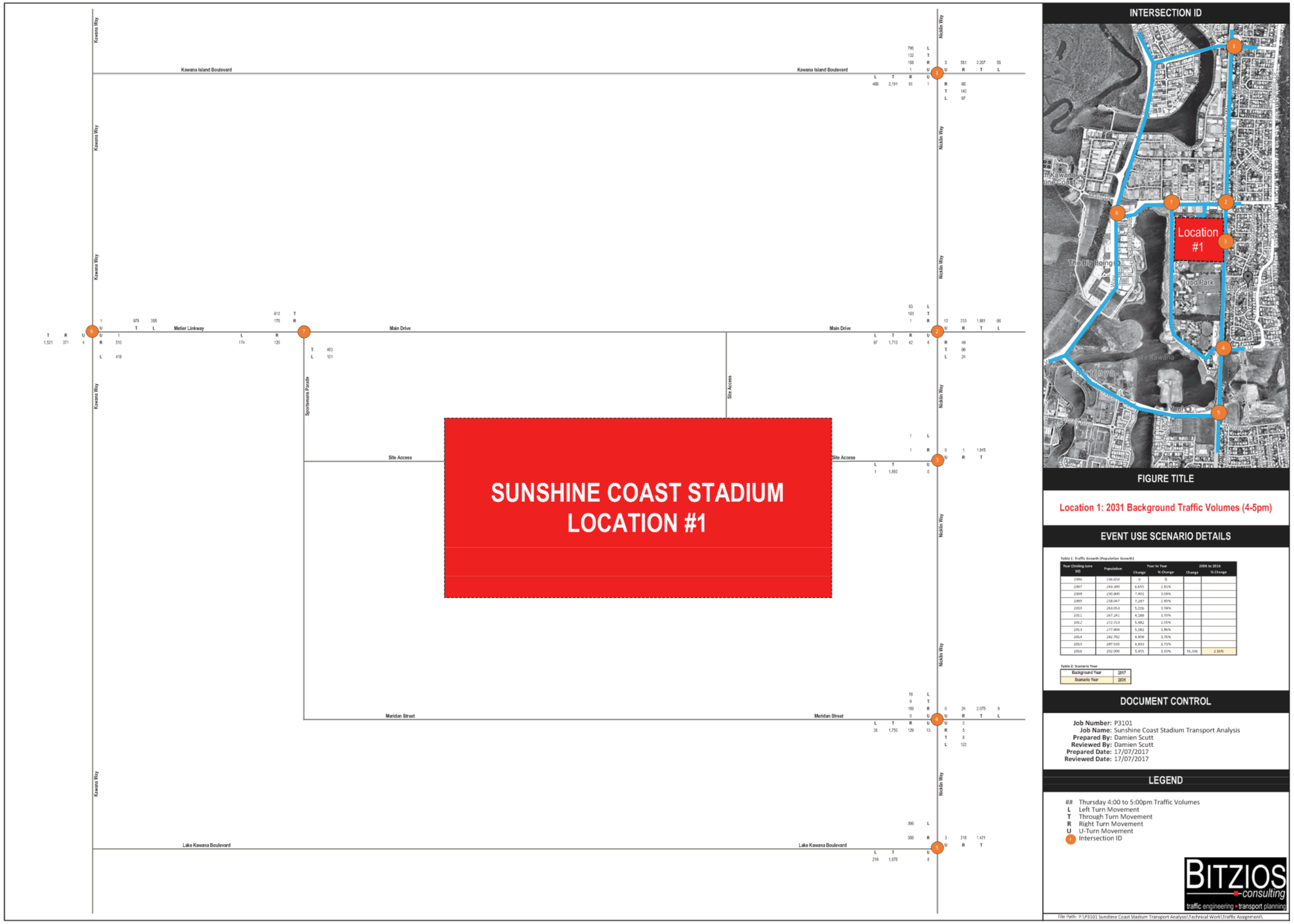
Kawana Island Boulevard
Kawana Way
Nicklin Way
Metier Linkway
Main Drive
Main Drive
Sportsmans Parade
Site Access
Site Access
Meridan Street
Meridan Street
Lake Kawana Boulevard
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
FIGURE TITLE
Location 1: 2021 Background Traffic Volumes (4-5pm)
EVENT USE SCENARIO DETAILS
Table 1: Traffic Growth (Population Growth)
Year (Ending June 30)
Population
Year to Year
Change
% Change
2006 to 2016
Change
% Change
2006 286,654 0 0
2007 294,309 6,655 2.81%
2008 230,800 7,491 3.08%
2009 258,047 7,247 2.89%
2010 263,053 5,006 1.94%
2011 267,241 4,188 1.59%
2012 272,713 5,492 2.05%
2013 277,804 5,091 1.86%
2014 282,792 4,988 1.79%
2015 287,535 4,833 1.71%
2016 292,990 5,455 1.90% 16,336 2.36%
Table 2: Scenario Year
Background Year 2017
Scenario Year 2021
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
4 Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\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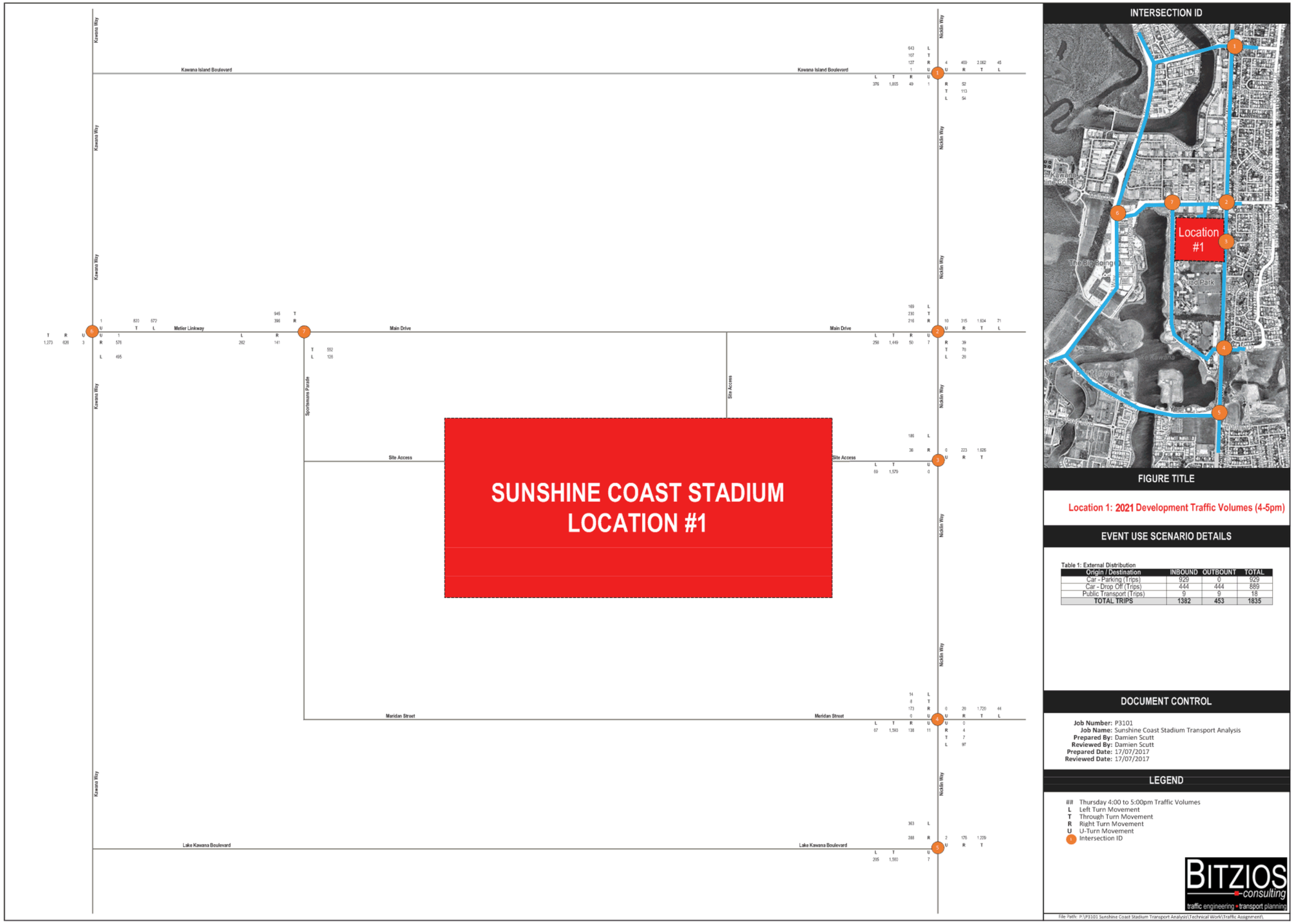
Kawana Island Boulevard
Kawana Way
Nicklin Way
Metier Linkway
Main Drive
Main Drive
Sportsmans Parade
Site Access
Site Access
Meridan Street
Meridan Street
Lake Kawana Boulevard
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
Quad Park
FIGURE TITLE
Location 1: 2031 Background Traffic Volumes (4-5pm)
EVENT USE SCENARIO DETAILS
Table 1: Traffic Growth (Population Growth)
Year (Ending June SD)
Population
Year to Year Change
Year to Year % Change
2006 to 2016 Change
2006 to 2016 % Change
2006 246,654 0 0
2007 244,309 6,655 2.81%
2008 250,800 7,431 3.08%
2009 258,047 7,247 2.89%
2010 263,053 5,026 1.94%
2011 267,241 4,188 1.59%
2012 272,713 5,492 2.05%
2013 277,804 5,091 1.86%
2014 282,792 4,988 1.79%
2015 287,535 4,833 1.72%
2016 292,990 5,455 1.90% 46,336 2.26%
Table 2: Scenario Year
Background Year 2017
Scenario Year 2031
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
4 Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


Kawana Island Boulevard
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Kawana Way
Nicklin Way
Metier Linkway
Main Drive
Main Drive
Sportsmans Parade
Site Access
Site Access
Meridan Street
Meridan Street
Lake Kawana Boulevard
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
The Big Boing
Quad Park
FIGURE TITLE
Location 1: 2021 Development Traffic Volumes (4-5pm)
EVENT USE SCENARIO DETAILS
Table 1: External Distribution
Origin / Destination | INBOUND | OUTBOUNT | TOTAL
Car - Parking (Trips) | 929 | 0 | 929
Car - Drop Off (Trips) | 444 | 444 | 889
Public Transport (Trips) | 9 | 9 | 18
TOTAL TRIPS | 1382 | 453 | 1835
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
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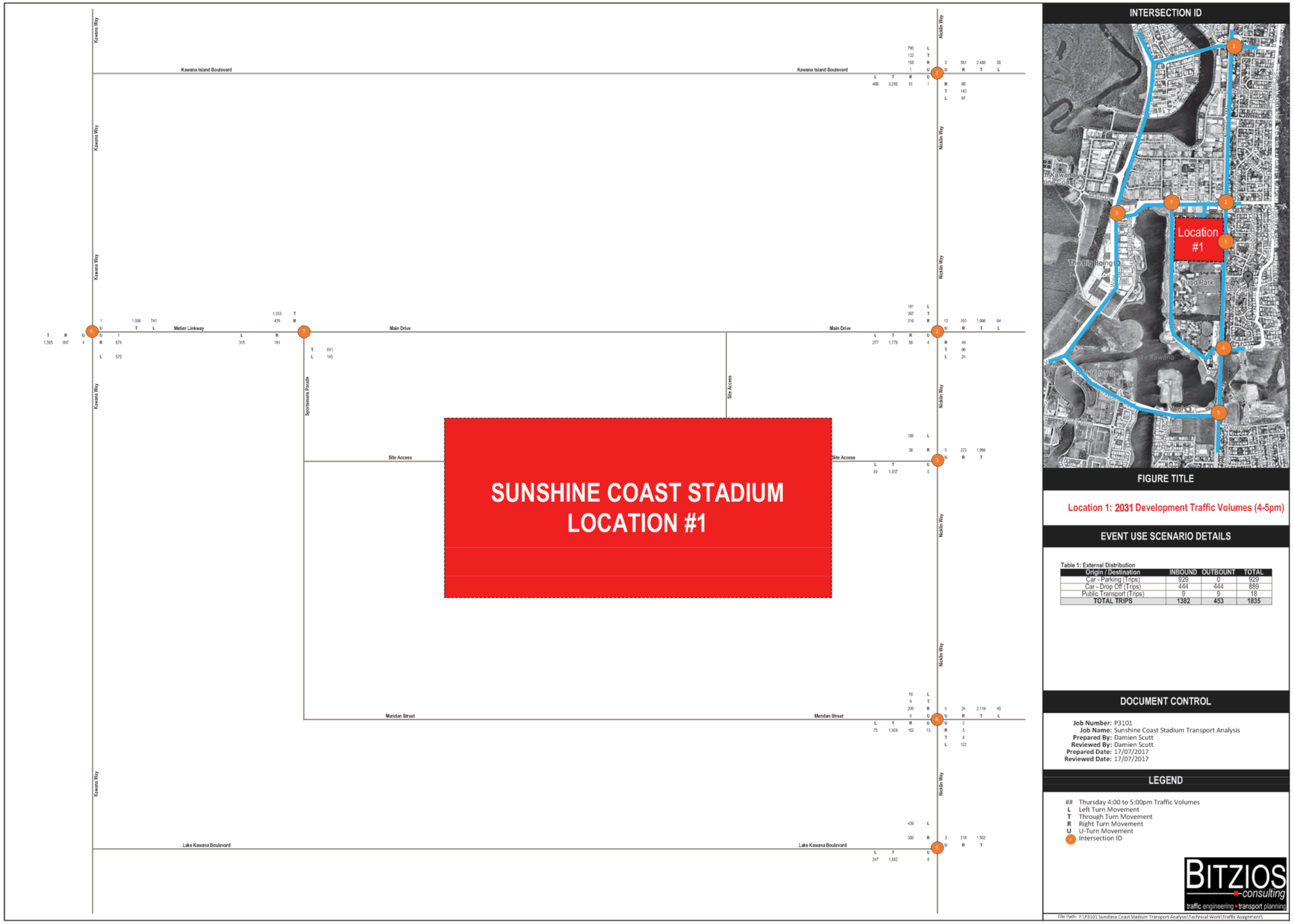
Kawana Way
Nicklin Way
Kawana Island Boulevard
Metier Linkway
Main Drive
Sportsmans Parade
Site Access
Meridan Street
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
Quad Park
The Big Boing
FIGURE TITLE
Location 1: 2031 Development Traffic Volumes (4-5pm)
EVENT USE SCENARIO DETAILS
Table 1: External Distribution
Origin / Destination | INBOUND | OUTBOUNT | TOTAL
Car - Parking (Trips) | 929 | 0 | 929
Car - Drop Off (Trips) | 444 | 444 | 889
Public Transport (Trips) | 9 | 9 | 18
TOTAL TRIPS | 1382 | 453 | 1835
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
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LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
4 Intersection ID
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traffic engineering • transport planning
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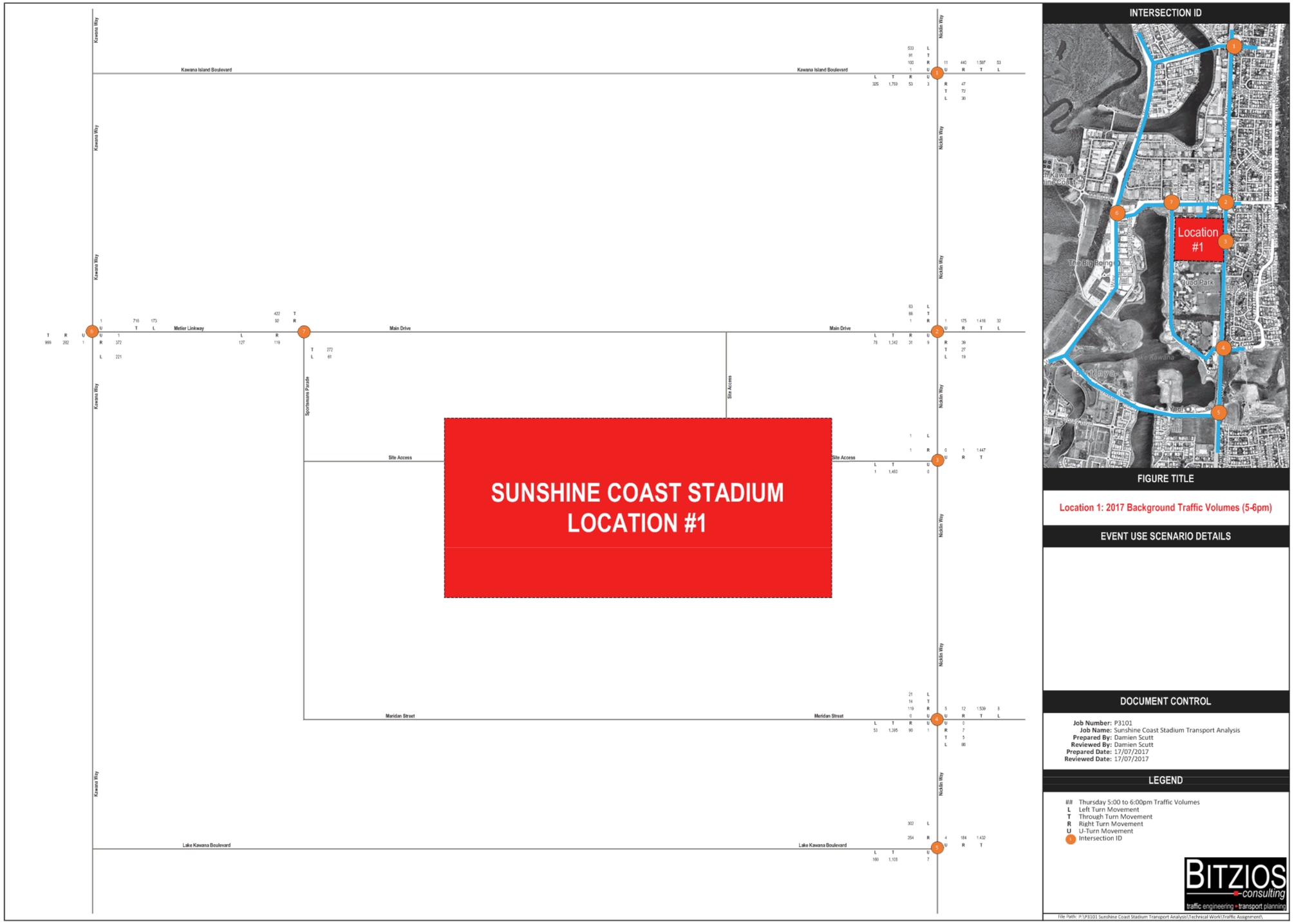
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Nicklin Way
Metier Linkway
Main Drive
Main Drive
Sportsmans Parade
Site Access
Site Access
Site Access
Meridan Street
Meridan Street
Lake Kawana Boulevard
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
The Big Boing
Quad Park
FIGURE TITLE
Location 1: 2017 Background Traffic Volumes (5-6pm)
EVENT USE SCENARIO DETAILS
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
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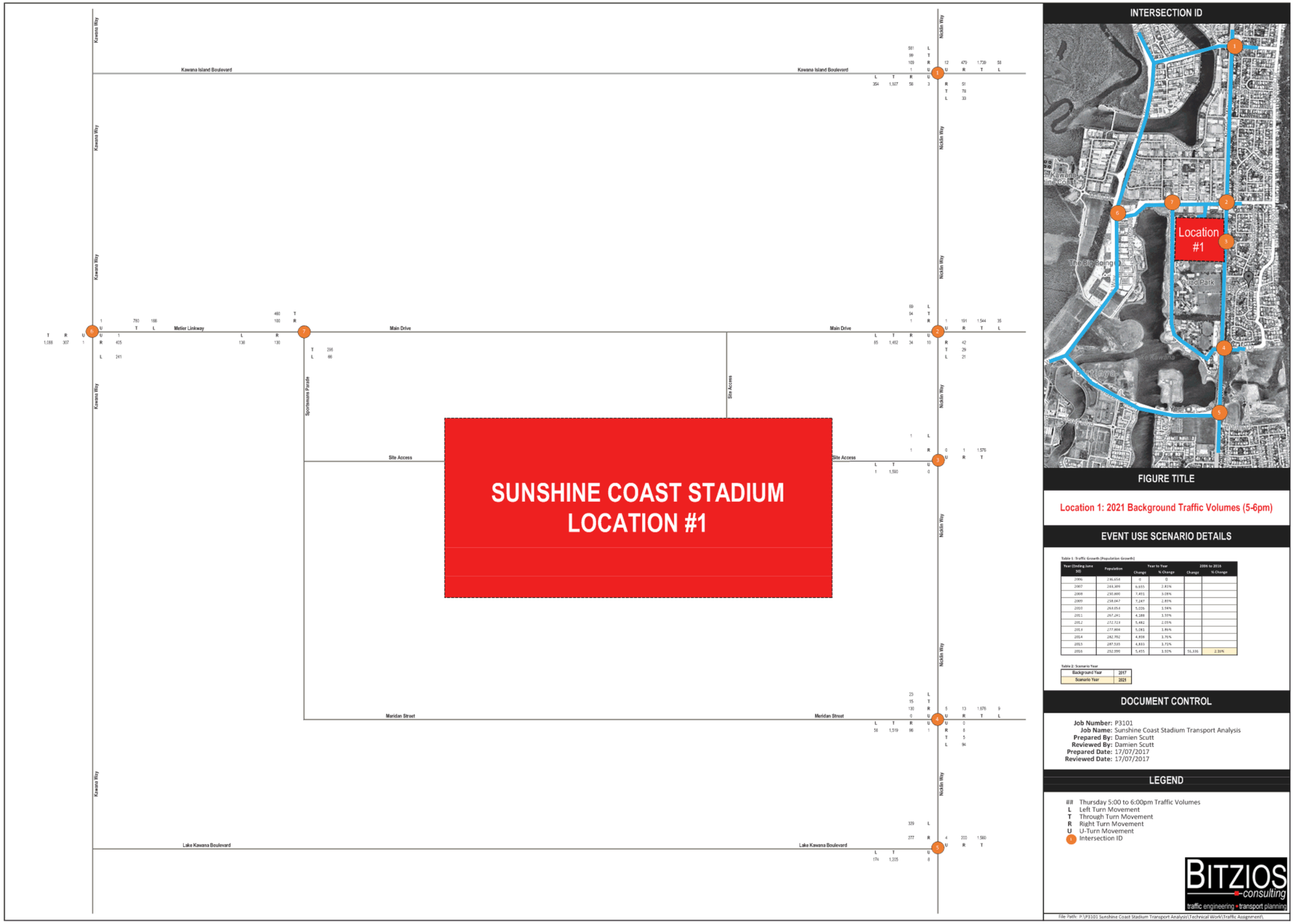

INTERSECTION ID

FIGURE TITLE

Location 1: 2021 Background Traffic Volumes (5-6pm)

EVENT USE SCENARIO DETAILS

Table 1: Traffic Growth (Population Growth)

Year (Ending June 30)	Population	Year to Year Change	Year to Year % Change	2006 to 2016 Change	2006 to 2016 % Change
2006	246,654	0	0		
2007	244,309	6,655	2.81%		
2008	250,800	7,433	3.08%		
2009	258,047	7,247	2.89%		
2010	263,053	5,026	1.94%		
2011	267,241	4,188	1.59%		
2012	272,713	5,492	2.05%		
2013	277,804	5,091	1.86%		
2014	282,792	4,988	1.79%		
2015	287,535	4,833	1.71%		
2016	292,990	5,455	1.90%	51,336	2.16%

Table 2: Scenario Year

Background Year	2017
Scenario Year	2021

DOCUMENT CONTROL

Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017

LEGEND

Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
(#) Intersection ID

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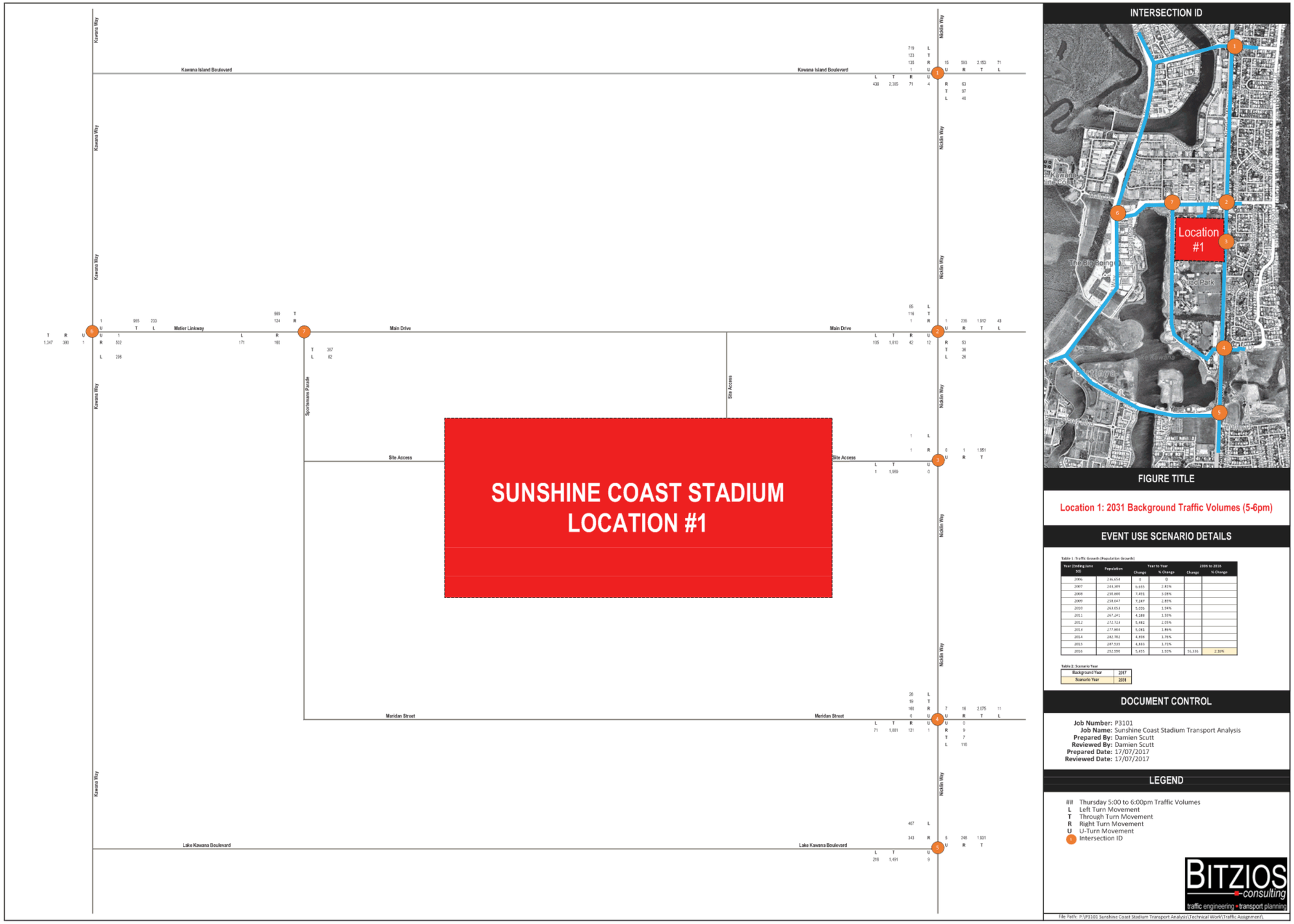
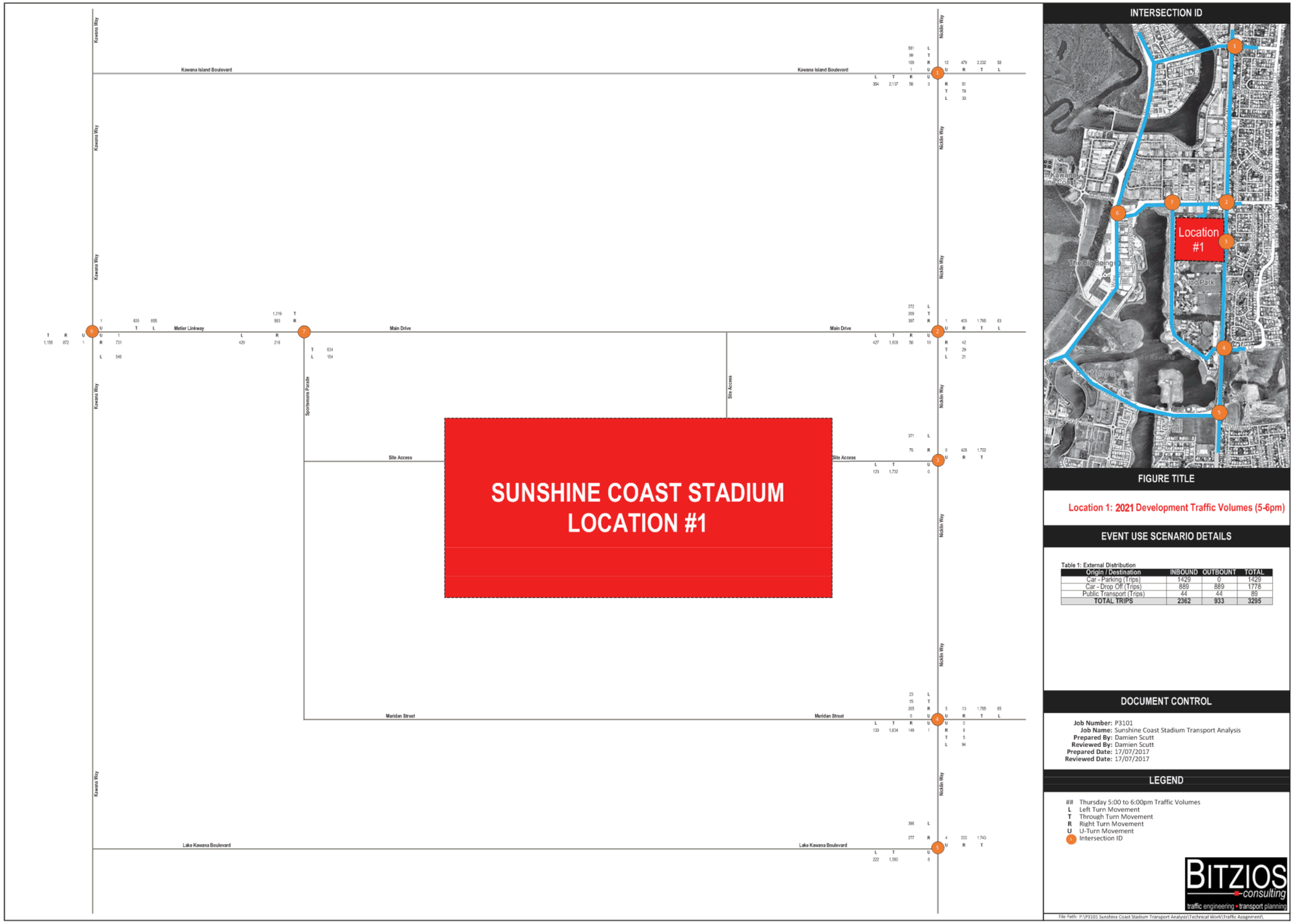
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


Kawana Way
Nicklin Way
Kawana Island Boulevard
Metier Linkway
Main Drive
Sportsmans Parade
Site Access
Meridan Street
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
Quad Park
FIGURE TITLE
Location 1: 2031 Background Traffic Volumes (5-6pm)
EVENT USE SCENARIO DETAILS
Table 1: Traffic Growth (Population Growth)
Year (Ending June SD)
Population
Year to Year Change
Year to Year % Change
2006 to 2016 Change
2006 to 2016 % Change
2006 246,654 0 0
2007 244,309 6,655 2.81%
2008 250,800 7,455 3.08%
2009 258,047 7,247 2.89%
2010 263,053 5,226 1.94%
2011 267,241 4,389 1.59%
2012 272,713 5,492 2.05%
2013 277,804 5,281 1.86%
2014 282,792 4,938 1.76%
2015 287,535 4,833 1.72%
2016 292,990 5,455 1.93% 46,336 2.26%
Table 2: Scenario Year
Background Year 2017
Scenario Year 2031
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
4 Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\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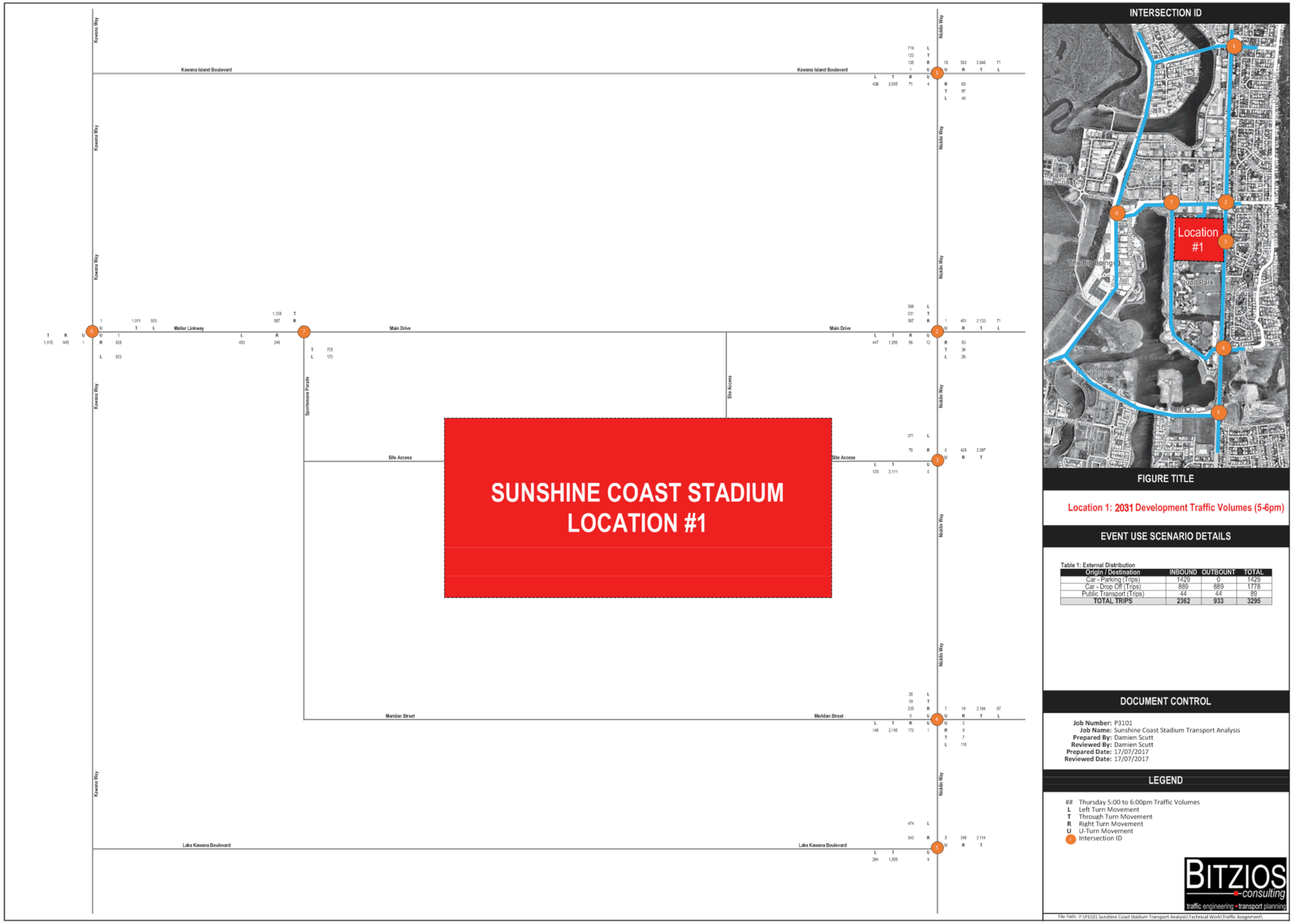
Kawana Way
Nicklin Way
Metier Linkway
Main Drive
Sportsmans Parade
Site Access
Meridan Street
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
Quad Park
The Big Boing
FIGURE TITLE
Location 1: 2021 Development Traffic Volumes (5-6pm)
EVENT USE SCENARIO DETAILS
Table 1: External Distribution
Origin / Destination | INBOUND | OUTBOUNT | TOTAL
Car - Parking (Trips) | 1429 | 0 | 1429
Car - Drop Off (Trips) | 889 | 889 | 1778
Public Transport (Trips) | 44 | 44 | 89
TOTAL TRIPS | 2362 | 933 | 3295
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
4 Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


Kawana Island Boulevard
Kawana Way
Nicklin Way
Metier Linkway
Main Drive
Sportsmans Parade
Site Access
Meridan Street
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
Quad Park
The Big Boing
FIGURE TITLE
Location 1: 2031 Development Traffic Volumes (5-6pm)
EVENT USE SCENARIO DETAILS
Table 1: External Distribution
Origin / Destination | INBOUND | OUTBOUNT | TOTAL
Car - Parking (Trips) | 1429 | 0 | 1429
Car - Drop Off (Trips) | 889 | 889 | 1778
Public Transport (Trips) | 44 | 44 | 89
TOTAL TRIPS | 2362 | 933 | 3295
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
4 Intersection ID
BITZIOS consulting
traffic engineering • transport planning
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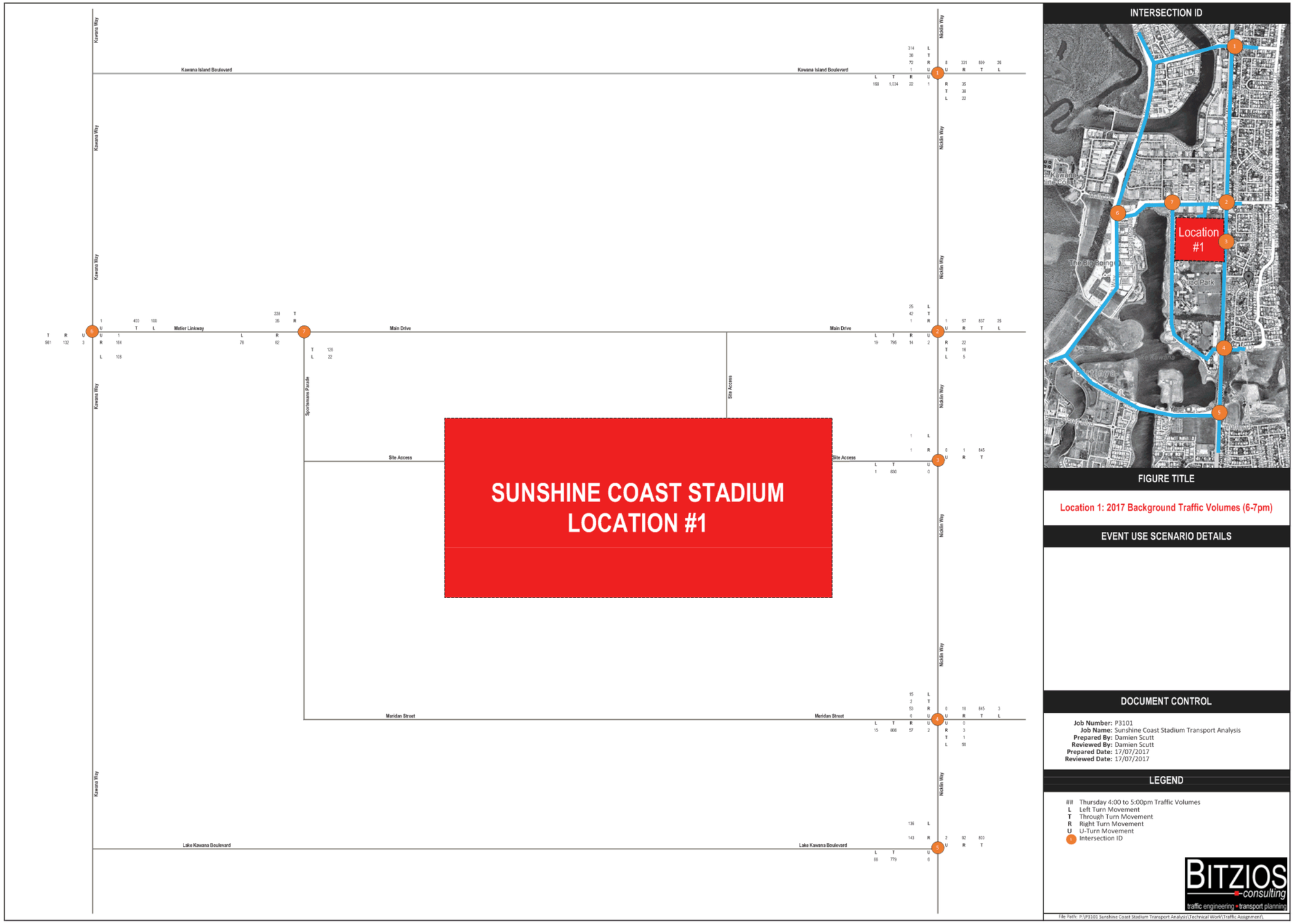
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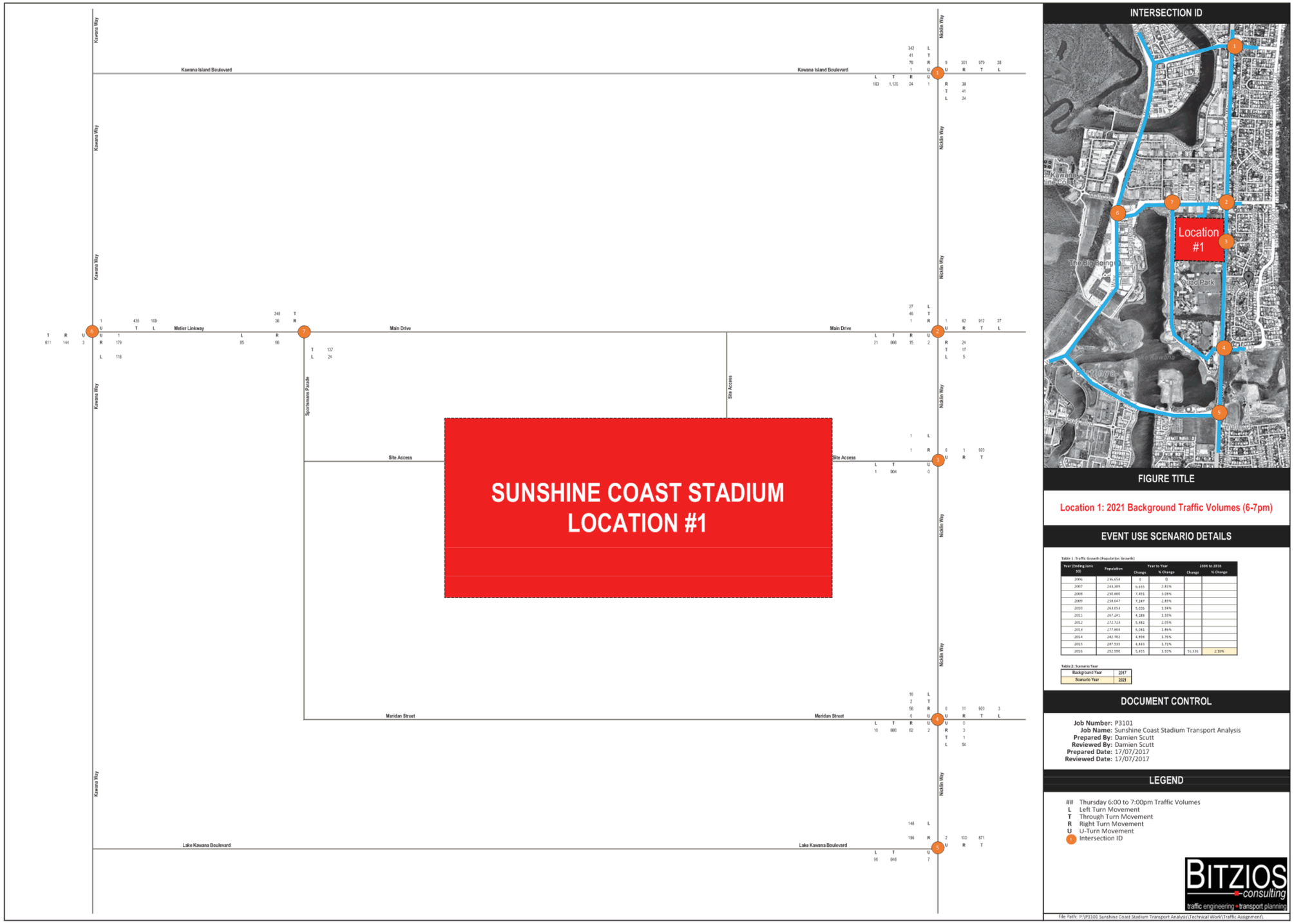
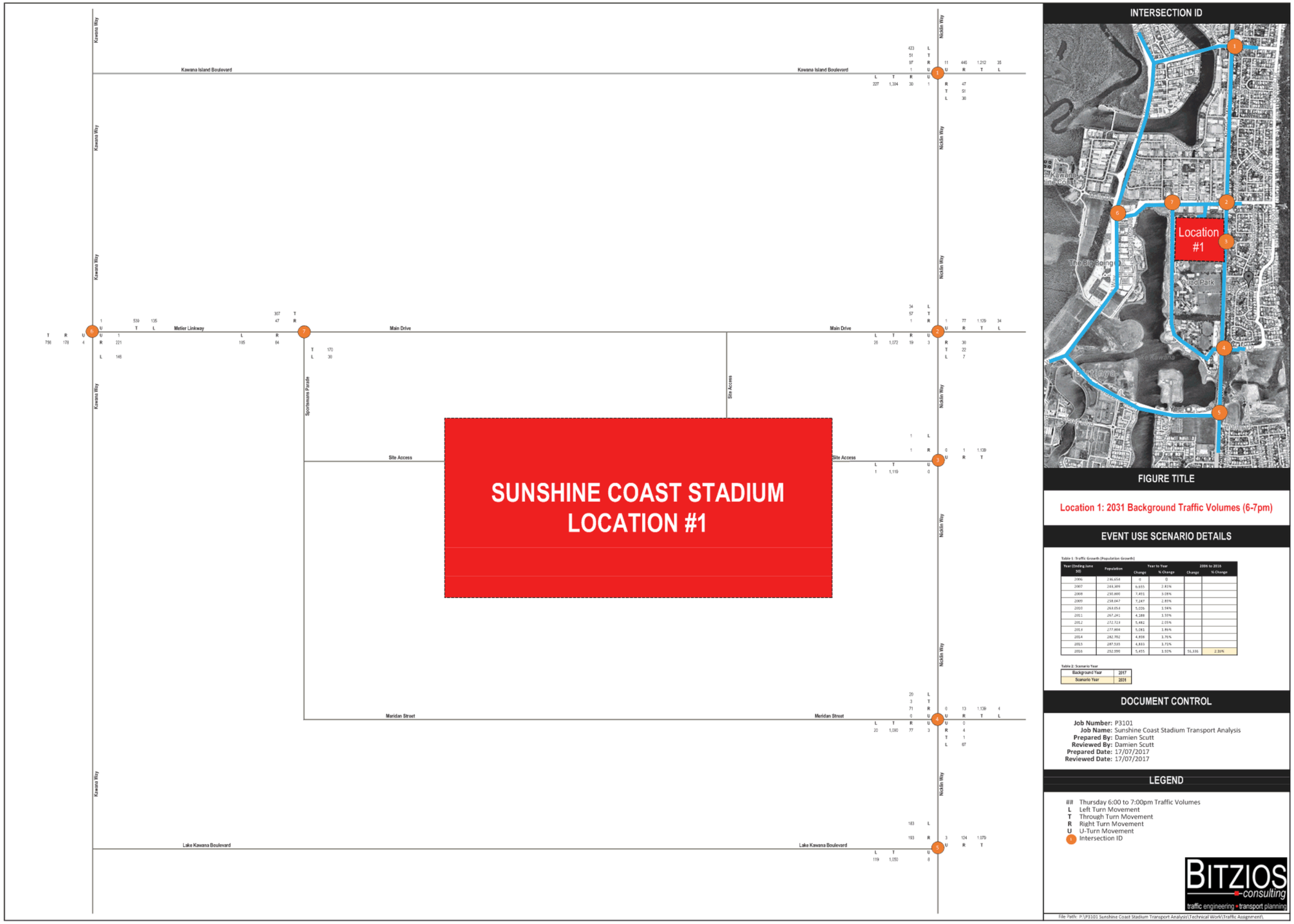
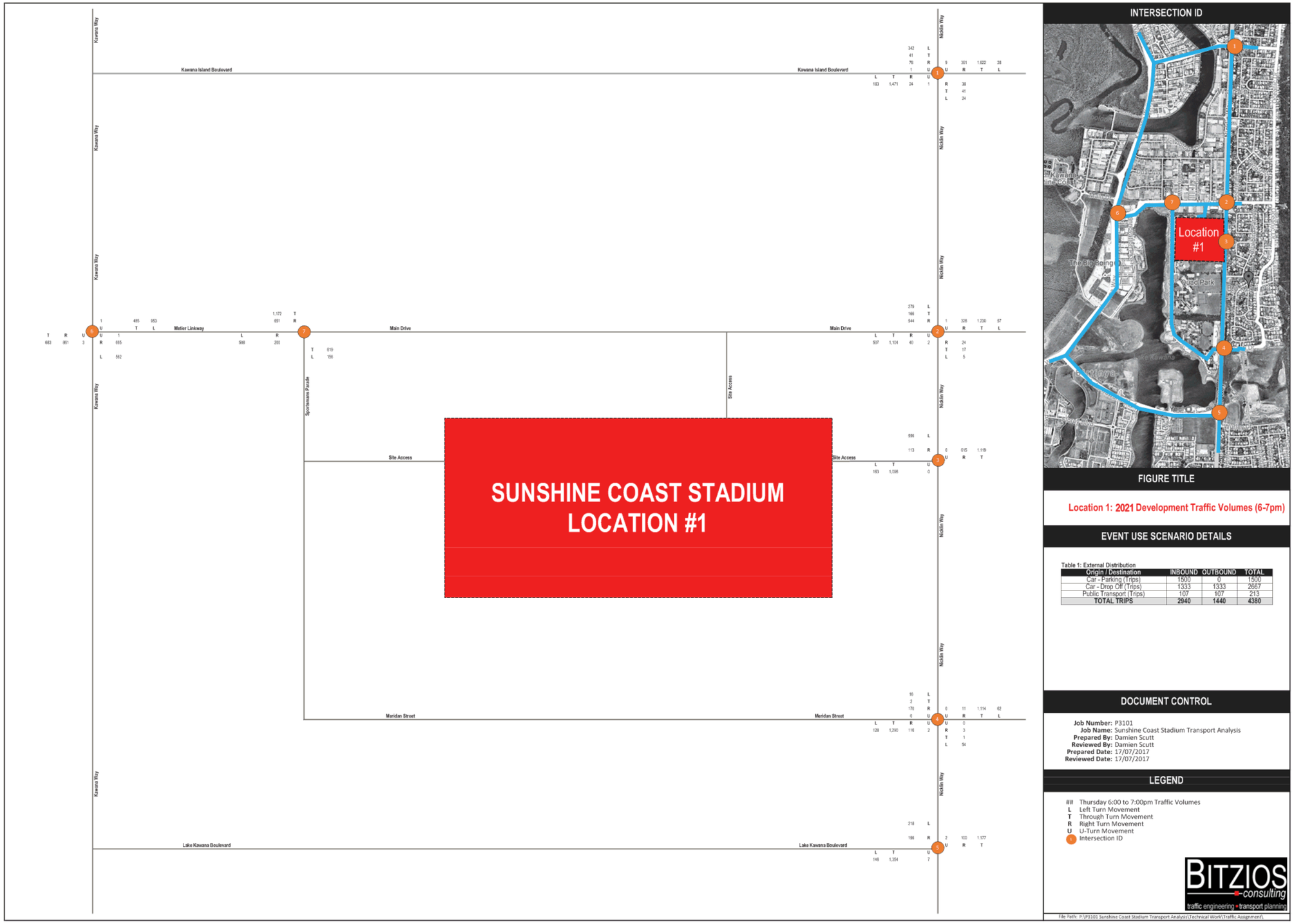
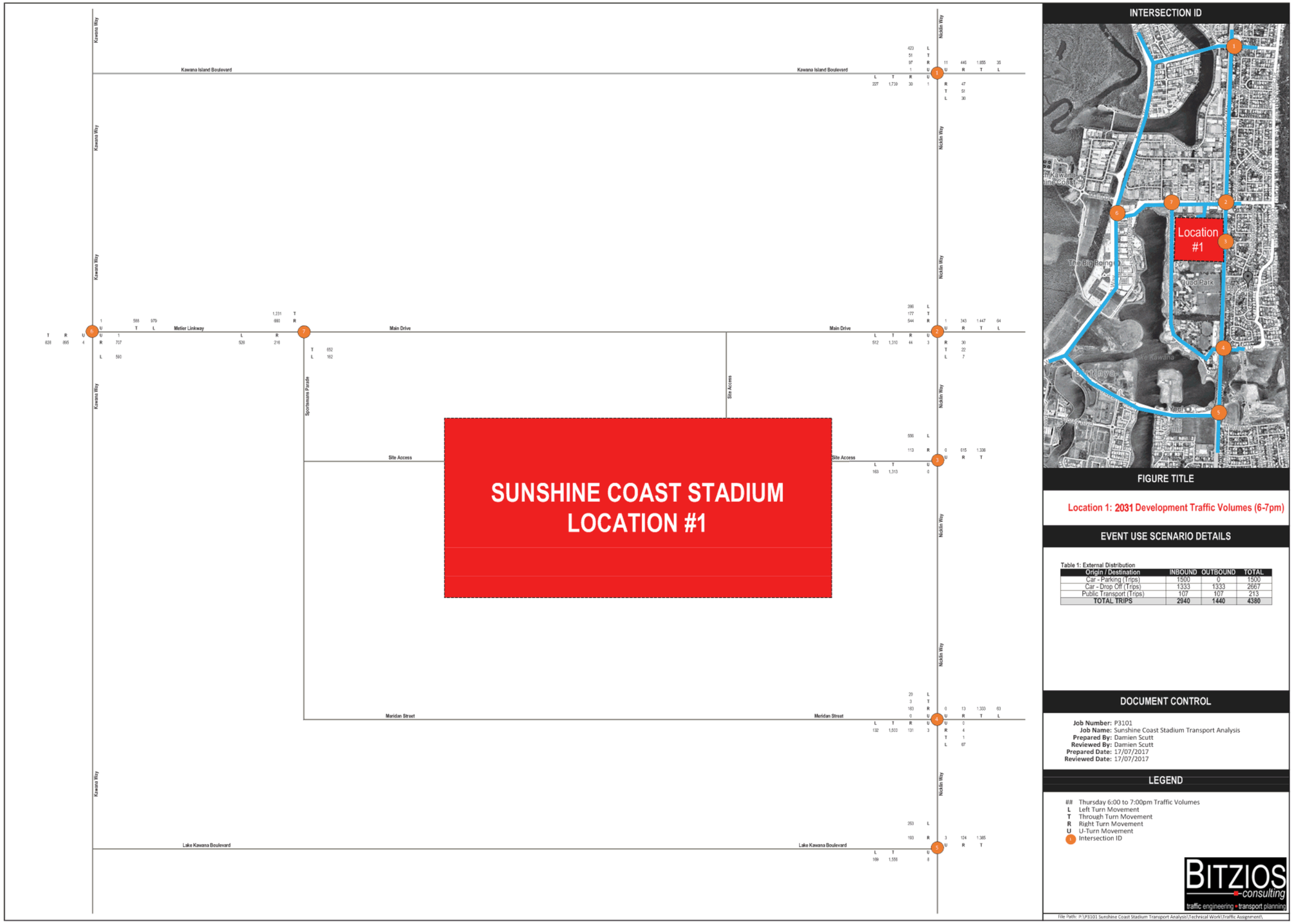
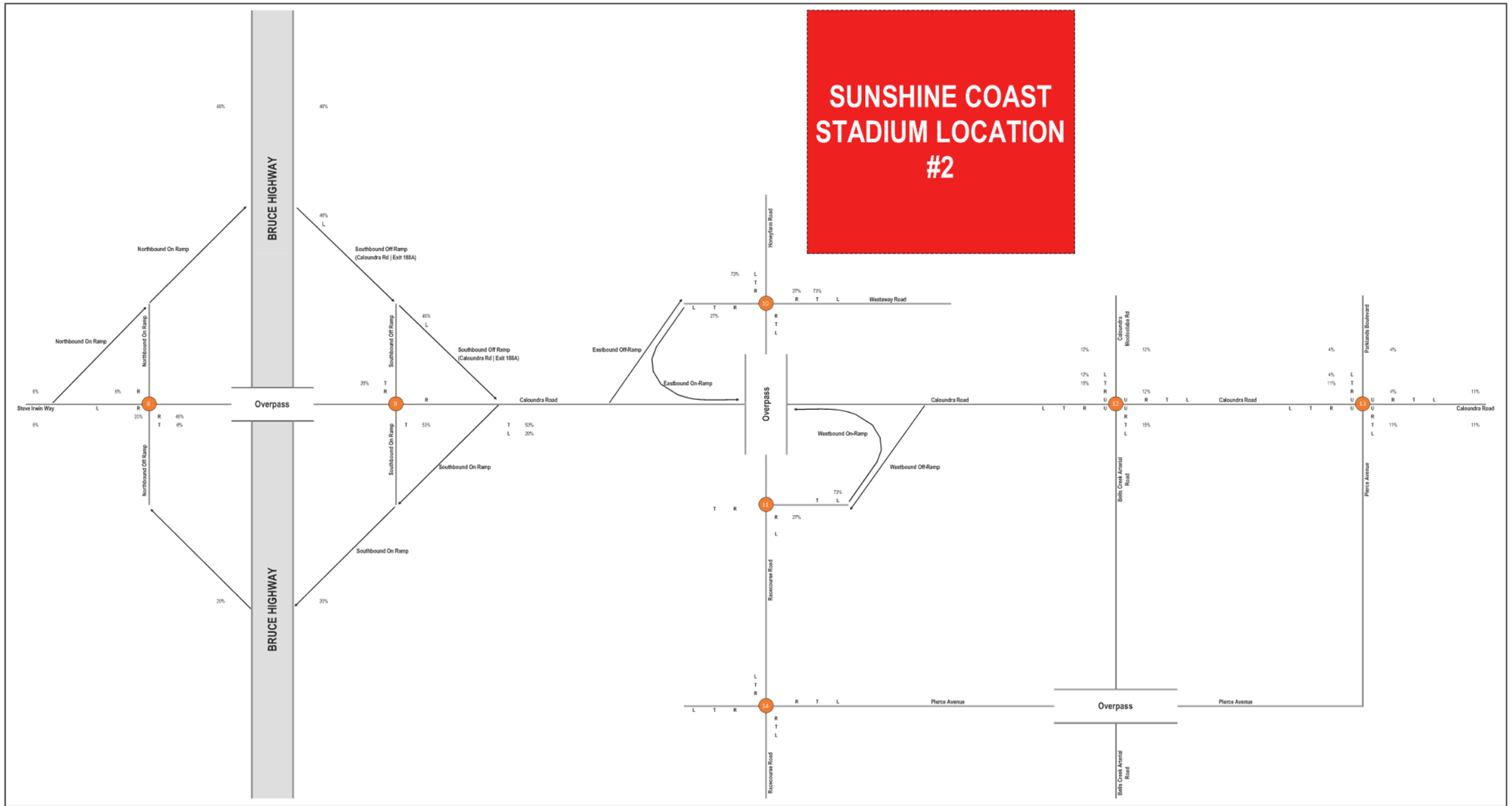
Kawana Island Boulevard
Kawana Way
Nicklin Way
Metier Linkway
Main Drive
Main Drive
Sportsmans Parade
Site Access
Site Access
Meridan Street
Meridan Street
Lake Kawana Boulevard
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
Quad Park
FIGURE TITLE
Location 1: 2017 Background Traffic Volumes (6-7pm)
EVENT USE SCENARIO DETAILS
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


Kawana Way
Nicklin Way
Kawana Island Boulevard
Metier Linkway
Main Drive
Sportsmans Parade
Site Access
Meridan Street
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
Quad Park
The Big Boing
FIGURE TITLE
Location 1: 2021 Background Traffic Volumes (6-7pm)
EVENT USE SCENARIO DETAILS
Table 1: Traffic Growth (Population Growth)
Year (Ending June SD)
Population
Year to Year
Change
% Change
2006 to 2016
Change
% Change
2006 286,654 0 0
2007 294,309 6,655 2.81%
2008 290,800 7,455 3.08%
2009 258,047 7,247 2.89%
2010 263,053 5,006 1.94%
2011 267,241 4,188 1.59%
2012 272,713 5,492 2.05%
2013 277,804 5,091 1.86%
2014 282,792 4,988 1.79%
2015 287,535 4,833 1.71%
2016 292,990 5,455 1.90% 16,336 2.36%
Table 2: Scenario Year
Background Year 2017
Scenario Year 2021
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 6:00 to 7:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


Kawana Island Boulevard
Kawana Island Boulevard
Nicklin Way
Kawana Way
Metier Linkway
Main Drive
Main Drive
Sportsmans Parade
Site Access
Site Access
Meridan Street
Meridan Street
Lake Kawana Boulevard
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
Quad Park
FIGURE TITLE
Location 1: 2031 Background Traffic Volumes (6-7pm)
EVENT USE SCENARIO DETAILS
Table 1: Traffic Growth (Population Growth)
Year (Ending June SD)
Population
Year to Year
Change
% Change
2006 to 2016
Change
% Change
2006 286,654 0 0
2007 294,309 6,655 2.81%
2008 290,800 7,455 2.98%
2009 298,047 7,247 2.89%
2010 263,053 5,006 1.94%
2011 267,241 4,188 1.59%
2012 272,713 5,492 2.05%
2013 277,804 5,091 1.86%
2014 282,792 4,988 1.79%
2015 287,535 4,833 1.72%
2016 292,990 5,455 1.90% 16,336 2.26%
Table 2: Scenario Year
Background Year 2017
Scenario Year 2031
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 6:00 to 7:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
4 Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


Kawana Island Boulevard
Kawana Island Boulevard
Kawana Way
Nicklin Way
Metier Linkway
Main Drive
Main Drive
Sportsmans Parade
Site Access
Site Access
Meridan Street
Meridan Street
Lake Kawana Boulevard
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
Quad Park
The Big Boing
FIGURE TITLE
Location 1: 2021 Development Traffic Volumes (6-7pm)
EVENT USE SCENARIO DETAILS
Table 1: External Distribution
Origin / Destination | INBOUND | OUTBOUND | TOTAL
Car - Parking (Trips) | 1500 | 0 | 1500
Car - Drop Off (Trips) | 1333 | 1333 | 2667
Public Transport (Trips) | 107 | 107 | 213
TOTAL TRIPS | 2940 | 1440 | 4380
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 6:00 to 7:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
4 Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


Kawana Way
Nicklin Way
Kawana Island Boulevard
Metier Linkway
Main Drive
Sportsmans Parade
Site Access
Meridan Street
Lake Kawana Boulevard
SUNSHINE COAST STADIUM
LOCATION #1
INTERSECTION ID
Location #1
The Big Boing
Quad Park
FIGURE TITLE
Location 1: 2031 Development Traffic Volumes (6-7pm)
EVENT USE SCENARIO DETAILS
Table 1: External Distribution
Origin / Destination | INBOUND | OUTBOUND | TOTAL
Car - Parking (Trips) | 1500 | 0 | 1500
Car - Drop Off (Trips) | 1333 | 1333 | 2667
Public Transport (Trips) | 107 | 107 | 213
TOTAL TRIPS | 2940 | 1440 | 4380
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 6:00 to 7:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
4 Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


SUNSHINE COAST STADIUM LOCATION #2
BRUCE HIGHWAY
Overpass
Northbound On Ramp
Northbound Off Ramp
Southbound Off Ramp (Caloundra Rd | Exit 188A)
Southbound On Ramp
Steve Irwin Way
Caloundra Road
Eastbound Off-Ramp
Eastbound On-Ramp
Westbound On-Ramp
Westbound Off-Ramp
Honeyfarm Road
Racecourse Road
Westaway Road
Pierce Avenue
Caloundra Mooloolaba Rd
Balls Creek Arterial Road
Parklands Boulevard
INTERSECTION ID
Location #2
FIGURE TITLE
Location 2: Traffic Distribution Assumptions Drop Off Trips
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
EVENT USE SCENARIO DETAILS
Table 1: Location 2 - Distribution Assumptions
Catchment | Population | % | INTERNAL 78.0% | EXTERNAL 22% | TOTAL 100.0%
Caloundra Road (East) | 40,706 | 13.9% | 10.8% | 0.0% | 0.0% | 10.8%
Parklands Boulevard (East) | 15,554 | 5.4% | 4.2% | 0.0% | 0.0% | 4.2%
Caloundra-Mooloolaba Road (East) | 46,609 | 15.9% | 12.4% | 0.0% | 0.0% | 12.4%
Bruce Highway (North) | 152,052 | 52.2% | 40.7% | 25.5% | 5.5% | 46.2%
Steve Irwin Way (West) | 24,155 | 8.2% | 6.4% | 0.0% | 0.0% | 6.4%
Bruce Highway (South) | 12,661 | 4.3% | 3.4% | 75.5% | 16.5% | 19.9%
TOTAL | 292,937 | 100.0% | 78.0% | 100.0% | 22.0% | 100.0%
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\

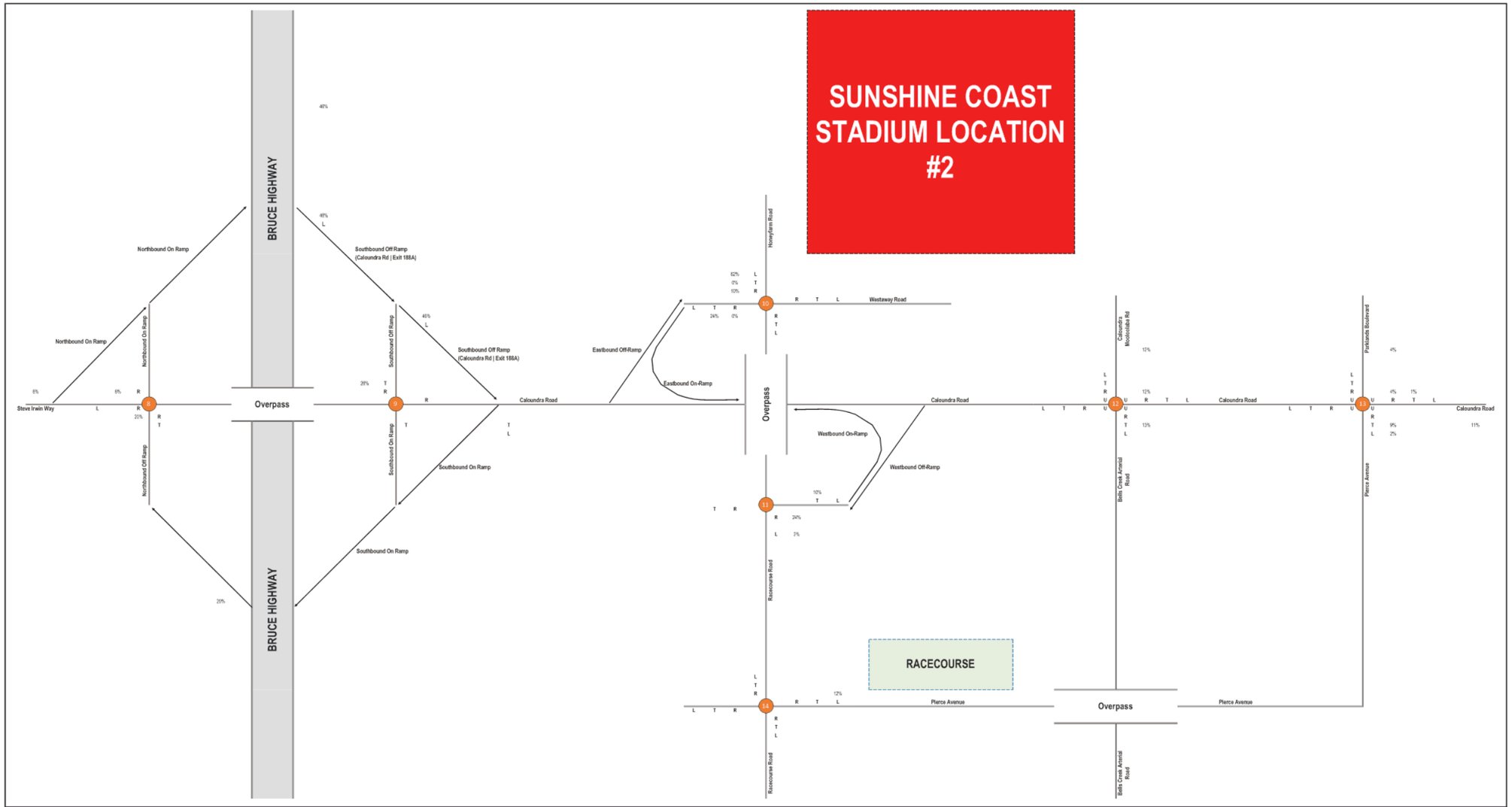
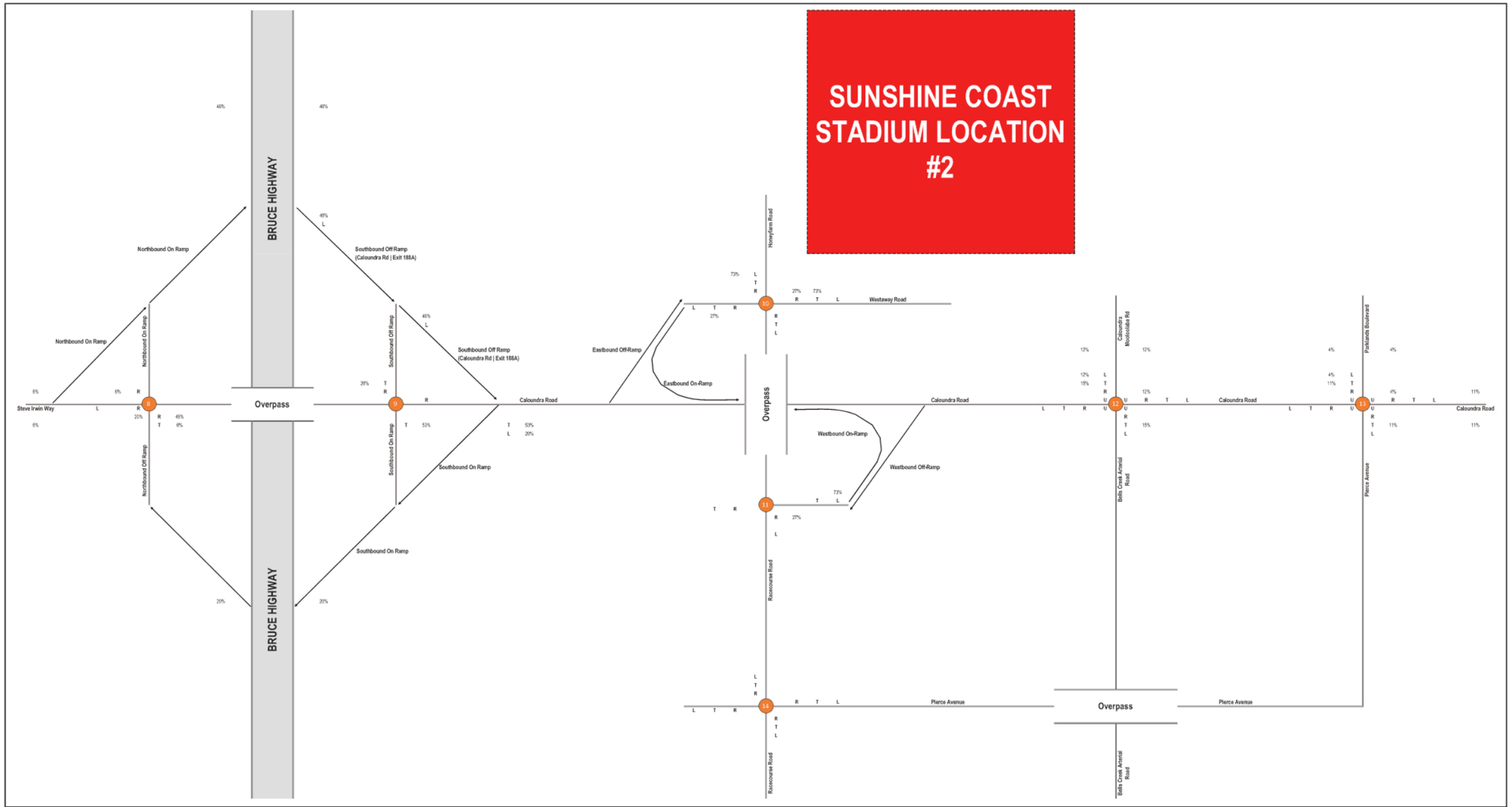


Table 1: Location 2 - Distribution Assumptions

Catchment	Population	%	INTERNAL	EXTERNAL		TOTAL
			78.0%	22%		100.0%
Caloundra Road (East)	40,706	13.9%	10.8%	0.0%	0.0%	10.8%
Parklands Boulevard (East)	15,934	5.4%	4.2%	0.0%	0.0%	4.2%
Caloundra-Mooloolaba Road (East)	46,609	15.9%	12.4%	0.0%	0.0%	12.4%
Bruce Highway (North)	152,052	52.2%	40.7%	25.0%	5.5%	46.2%
Steve Irwin Way (West)	24,155	8.2%	6.4%	0.0%	0.0%	6.4%
Bruce Highway (South)	12,661	4.3%	3.4%	75.0%	16.5%	19.9%
TOTAL	292,937	100.0%	78.0%	100.0%	22.0%	100.0%

Table 8: Location 2 - Internal Distribution (Parking)

Zone Name	Capacity	Vol. A	%	Vol. B	%	Vol. C	%
On-site (formal + informal)	1000	1000	86.2%	1000	56.0%	1000	53.5%
Nearby (surrounding streets)		0	0.0%	486	27.2%	575	30.7%
Racecourse	800	161	13.8%	300	16.8%	300	16.0%
TOTAL		1,161	100.0%	1,786	100.0%	1,875	100.0%



INTERSECTION ID

FIGURE TITLE

Location 2: Traffic Distribution Assumptions Public Transport (Bus) Trips

DOCUMENT CONTROL

Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017

EVENT USE SCENARIO DETAILS

Table 1: Location 2 - Distribution Assumptions

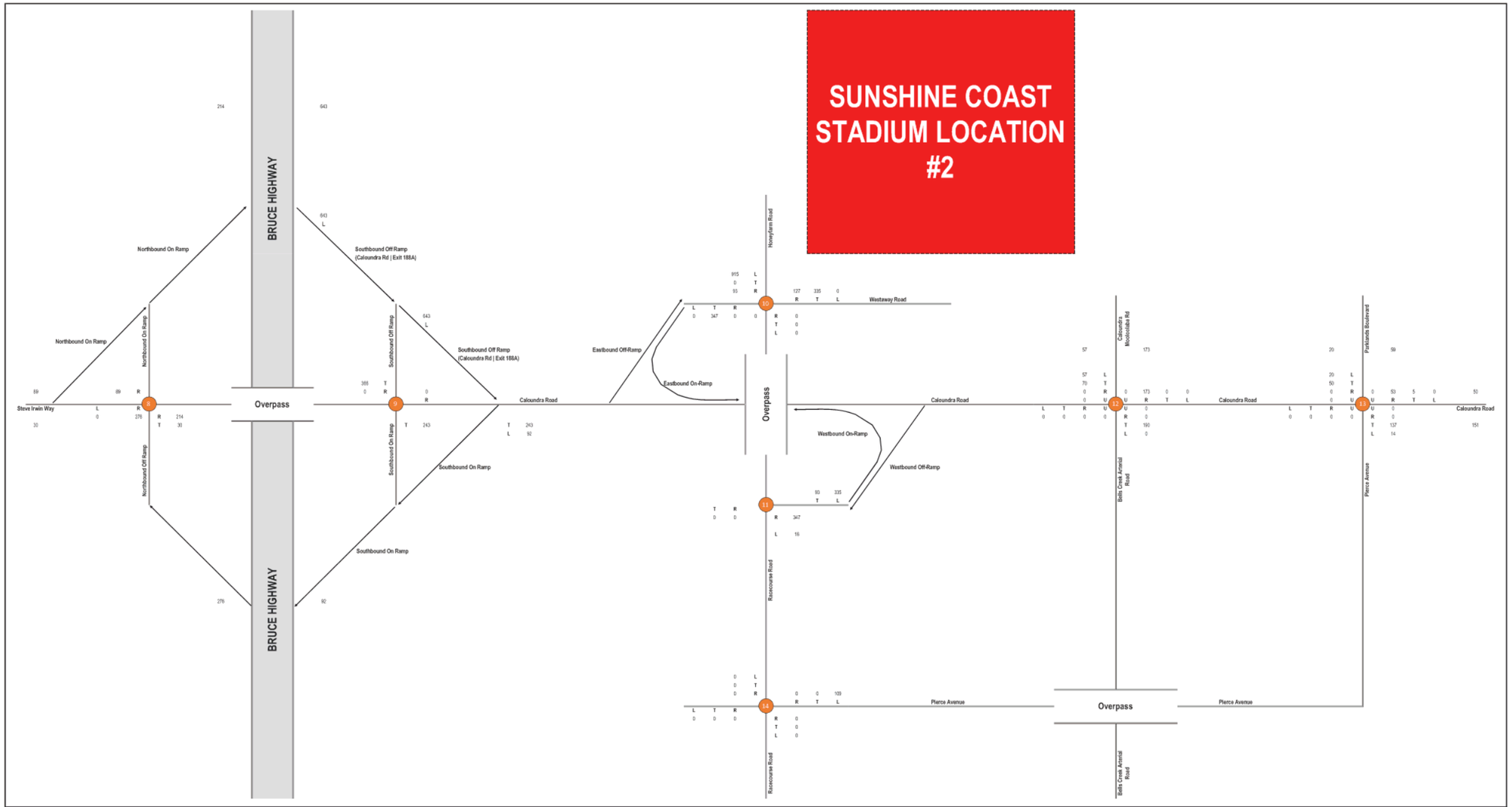
Catchment	Population	%	INTERNAL	EXTERNAL		TOTAL
			78.0%	22%		100.0%
Caloundra Road (East)	40,706	13.9%	10.8%	0.0%	0.0%	10.8%
Parklands Boulevard (East)	15,934	5.4%	4.2%	0.0%	0.0%	4.2%
Caloundra-Mooloolaba Road (East)	46,609	15.9%	12.4%	0.0%	0.0%	12.4%
Bruce Highway (North)	152,052	52.2%	40.7%	25.0%	5.5%	46.2%
Steve Irwin Way (West)	24,155	8.2%	6.4%	0.0%	0.0%	6.4%
Bruce Highway (South)	12,661	4.3%	3.4%	75.0%	16.5%	19.9%
TOTAL	292,937	100.0%	78.0%	100.0%	22.0%	100.0%

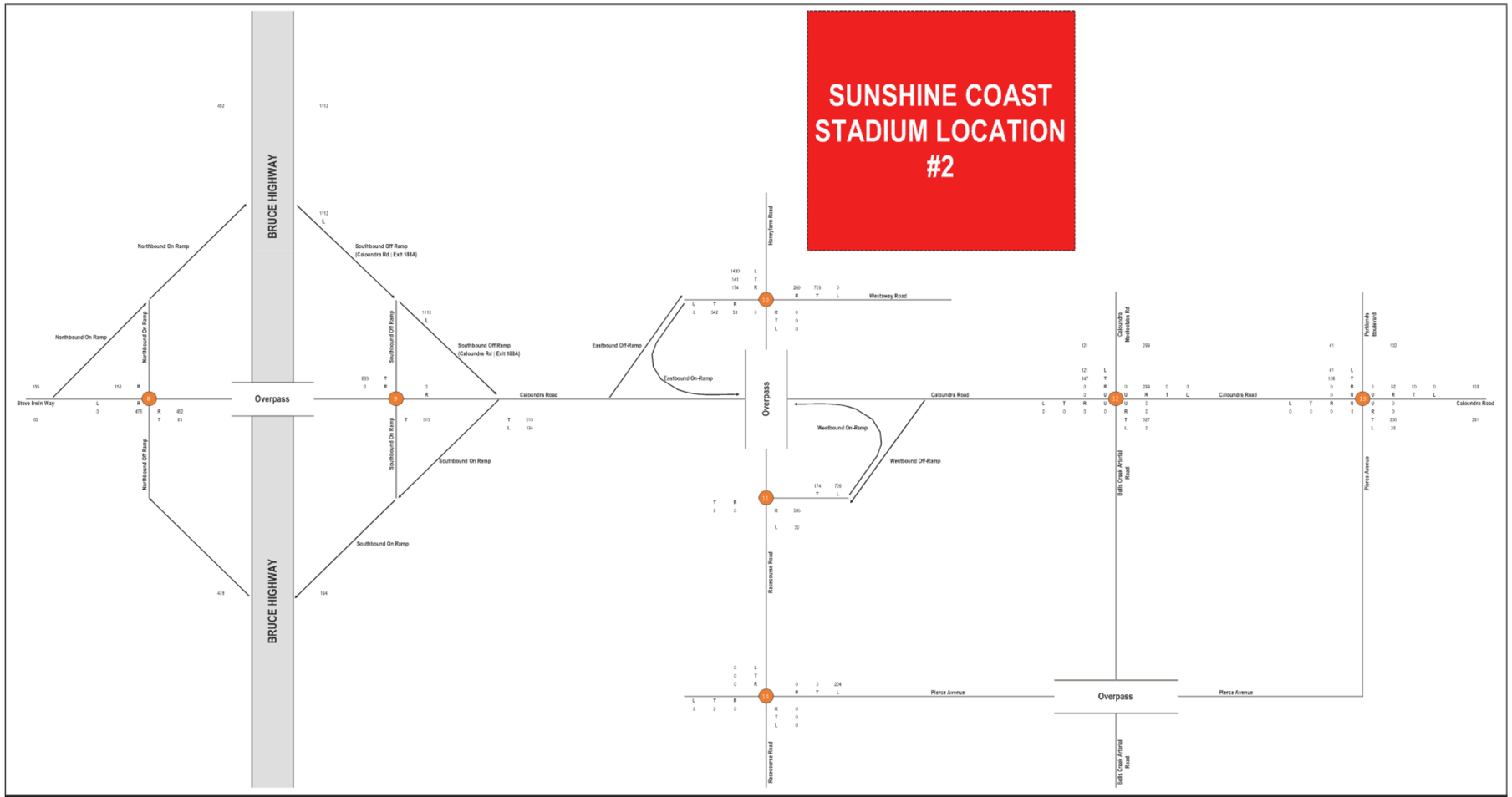
LEGEND

##
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID

BITZIOS consulting
traffic engineering • transport planning

File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


SUNSHINE COAST STADIUM LOCATION #2
BRUCE HIGHWAY
Overpass
Northbound On Ramp
Northbound Off Ramp
Southbound Off Ramp (Caloundra Rd | Exit 188A)
Southbound On Ramp
Steve Irwin Way
Caloundra Road
Eastbound Off-Ramp
Eastbound On-Ramp
Westbound On-Ramp
Westbound Off-Ramp
Honeyfarm Road
Rosecourse Road
Westaway Road
Caloundra Mooloolaba Rd
Bells Creek Arterial Road
Parklands Boulevard
Pierce Avenue
Location #2
INTERSECTION ID
FIGURE TITLE
Location 2: Total Development Trips (Scenario A)
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
EVENT USE SCENARIO DETAILS
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning



INTERSECTION ID

FIGURE TITLE

Location 2: Total Development Trips (Scenario B)

DOCUMENT CONTROL

Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017

EVENT USE SCENARIO DETAILS

Table 1: Location 2 - Distribution Assumptions

Catchment	Population	%	INTERNAL	EXTERNAL	TOTAL
			78.0%	4.2%	100.0%
Caloundra Road (East)	40,706	3.50%	10.8%	0.0%	10.8%
Parklands Boulevard (East)	35,958	5.4%	4.2%	0.0%	4.2%
Caloundra Road/Mooloolaba Road (East)	46,659	15.0%	12.4%	0.0%	12.4%
Bruce Highway (North)	152,052	52.2%	40.7%	25.0%	65.2%
Steve Irwin Way (West)	24,155	8.2%	6.4%	0.0%	6.4%
Bruce Highway (South)	32,661	4.8%	3.4%	75.0%	78.3%
TOTAL	292,207	100.0%	78.0%	100.0%	178.0%

Table 2: Location 2 - Volume Distribution

	Inbound	Outbound	TOTAL
Car - Parking (Trips)	920	0	920
Car - Drop Off (Trips)	444	446	890
Public Transport (Trips)	9	9	18
TOTAL TRIPS	1,382	453	1,835

LEGEND

Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
9 Intersection ID

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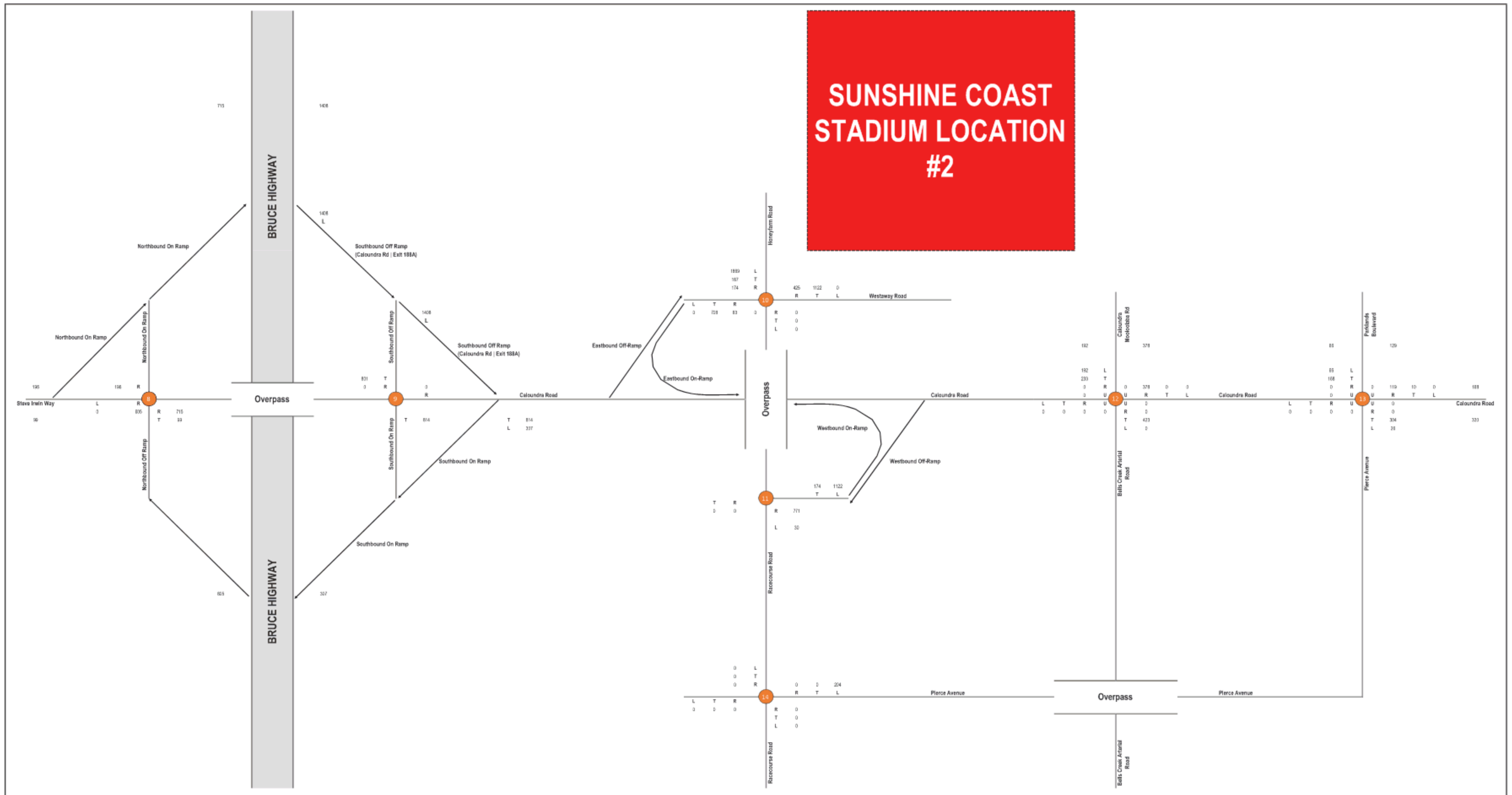


INTERSECTION ID

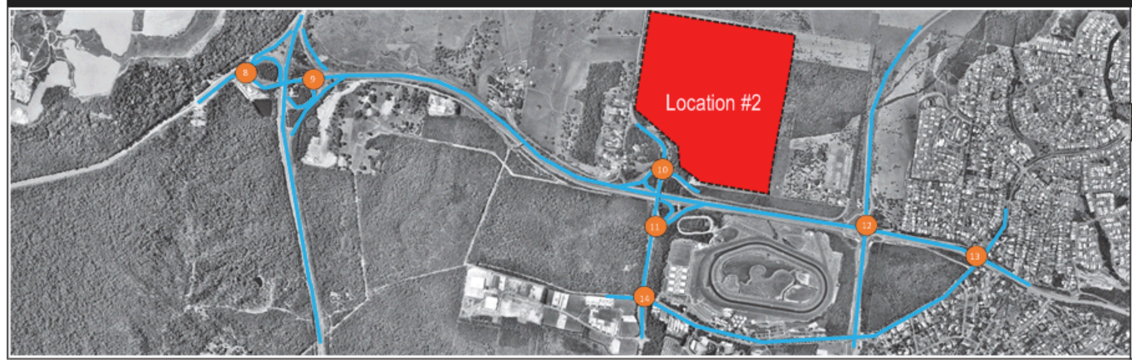


FIGURE TITLE

Location 2: Total Development Trips (Scenario C)

EVENT USE SCENARIO DETAILS

Table 1: Location 2 - Distribution Assumptions

Catchment	Population	%	INTERNAL	EXTERNAL		TOTAL
			78.0%	22%		100.0%
Caloundra Road (East)	40,706	13.9%	10.8%	0.0%	0.0%	10.8%
Parklands Boulevard (East)	15,934	5.4%	4.2%	0.0%	0.0%	4.2%
Caloundra-Mooloolaba Road (East)	46,609	15.9%	12.4%	0.0%	0.0%	12.4%
Bruce Highway (North)	152,952	52.2%	40.7%	25.0%	5.5%	46.2%
Steve Irwin Way (West)	24,155	8.2%	6.4%	0.0%	0.0%	6.4%
Bruce Highway (South)	12,661	4.3%	3.4%	75.0%	16.5%	19.9%
TOTAL	292,997	100.0%	78.0%	100.0%	22.0%	100.0%

Table 2: Location 2 - Volume Distribution

	Inbound	Outbound	TOTAL
Car - Parking (Trips)	929	0	929
Car - Drop Off (Trips)	444	444	888
Public Transport (Trips)	9	9	18
TOTAL TRIPS	1,382	453	1,835

DOCUMENT CONTROL

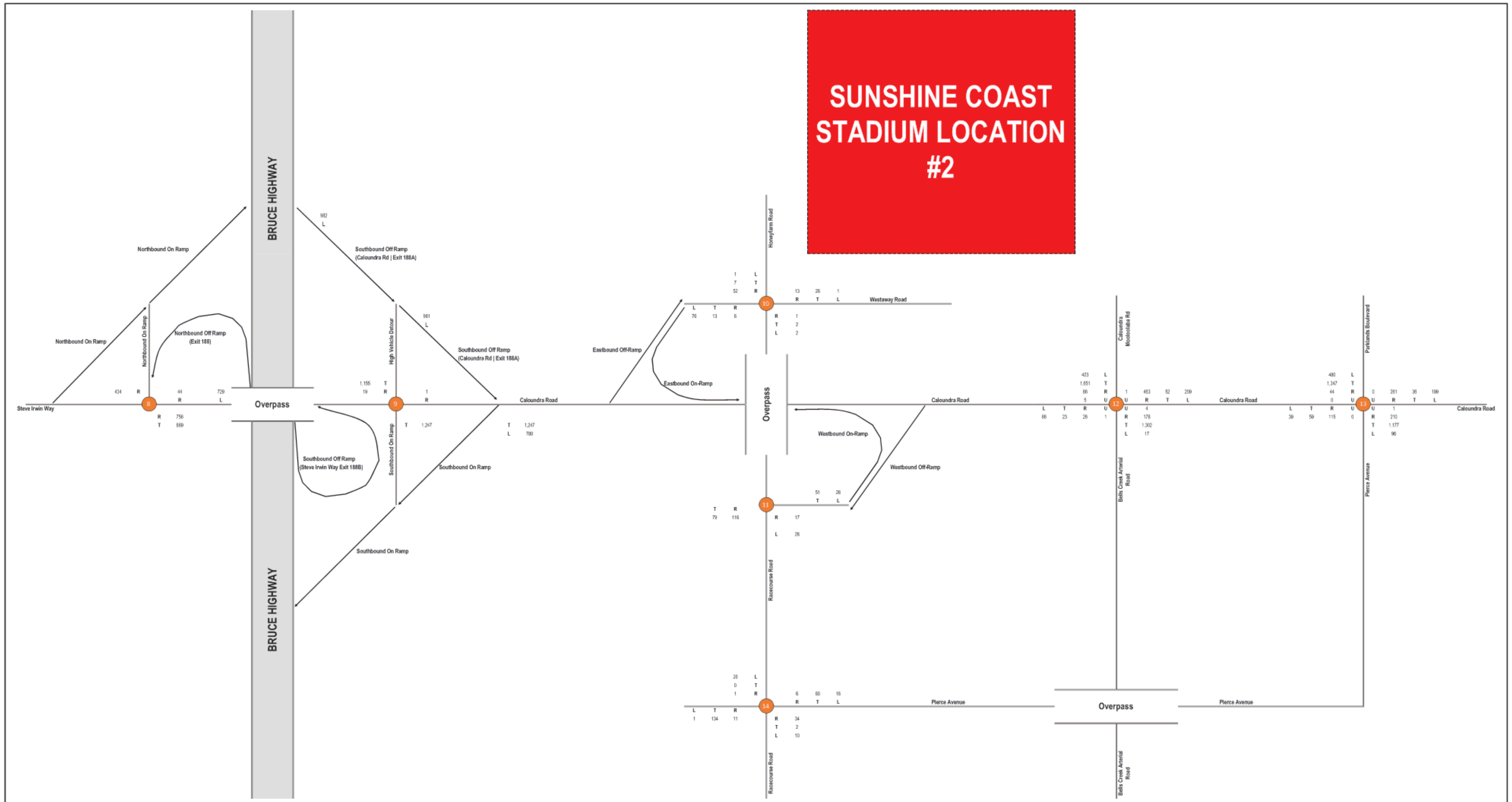
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017

LEGEND

- **##** Thursday 4:00 to 5:00pm Traffic Volumes
- **L** Left Turn Movement
- **T** Through Turn Movement
- **R** Right Turn Movement
- **U** U-Turn Movement
- Intersection ID

BITZIOS consulting – traffic engineering • transport planning

File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


SUNSHINE COAST STADIUM LOCATION #2
BRUCE HIGHWAY
BRUCE HIGHWAY
Overpass
Overpass
Overpass
Steve Irwin Way
Caloundra Road
Caloundra Road
Caloundra Road
Caloundra Road
Westaway Road
Pierce Avenue
Pierce Avenue
Northbound On Ramp
Northbound On Ramp
Southbound On Ramp
Southbound On Ramp
Eastbound Off-Ramp
Eastbound On-Ramp
Westbound On-Ramp
Westbound Off-Ramp

INTERSECTION ID

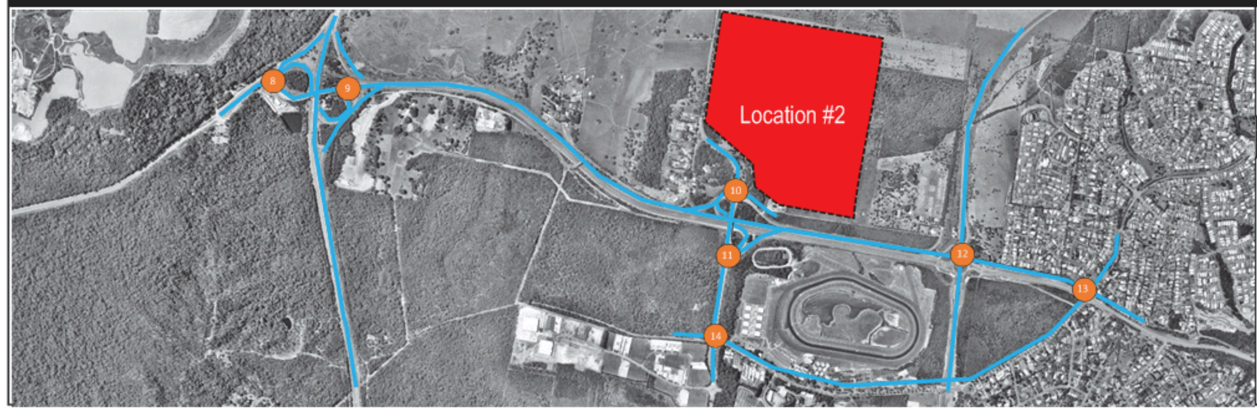


FIGURE TITLE

Location 2: 2017 Background Traffic Volumes (4-5pm)

DOCUMENT CONTROL

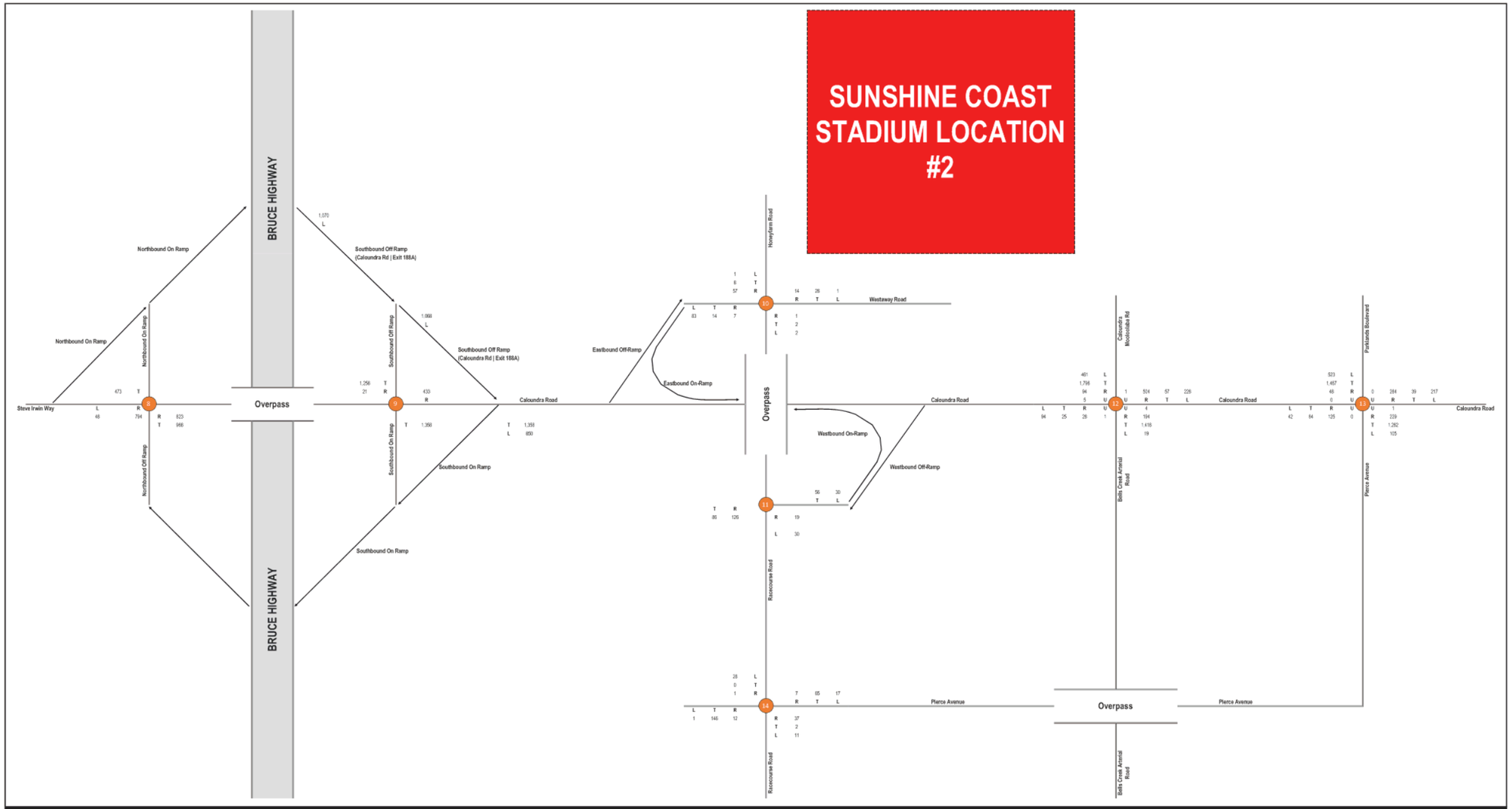
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017

EVENT USE SCENARIO DETAILS

LEGEND

- ## Thursday 4:00 to 5:00pm Traffic Volumes
- L Left Turn Movement
- T Through Turn Movement
- R Right Turn Movement
- U U-Turn Movement
- Intersection ID

BITZIOS consulting — traffic engineering • transport planning



INTERSECTION ID

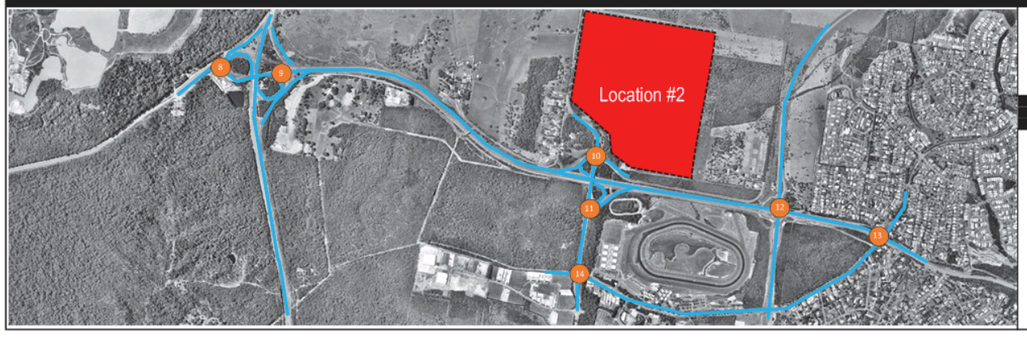


FIGURE TITLE

Location 2: 2021 Background Traffic Volumes (4-5pm)

DOCUMENT CONTROL

Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017

EVENT USE SCENARIO DETAILS

Table 1: Traffic Growth (Population Growth)

Year (Ending June 30)	Population	Year to Year Change	Year to Year % Change	2006 to 2016 Change	2006 to 2016 % Change
2006	236,654	0	0		
2007	243,309	6,655	2.81%		
2008	250,800	7,491	3.08%		
2009	258,047	7,247	2.89%		
2010	263,053	5,006	1.94%		
2011	267,241	4,188	1.59%		
2012	272,723	5,482	2.05%		
2013	277,804	5,081	1.86%		
2014	282,702	4,898	1.76%		
2015	287,535	4,833	1.71%		
2016	292,930	5,455	1.90%	56,336	2.16%

Table 2: Scenario Year

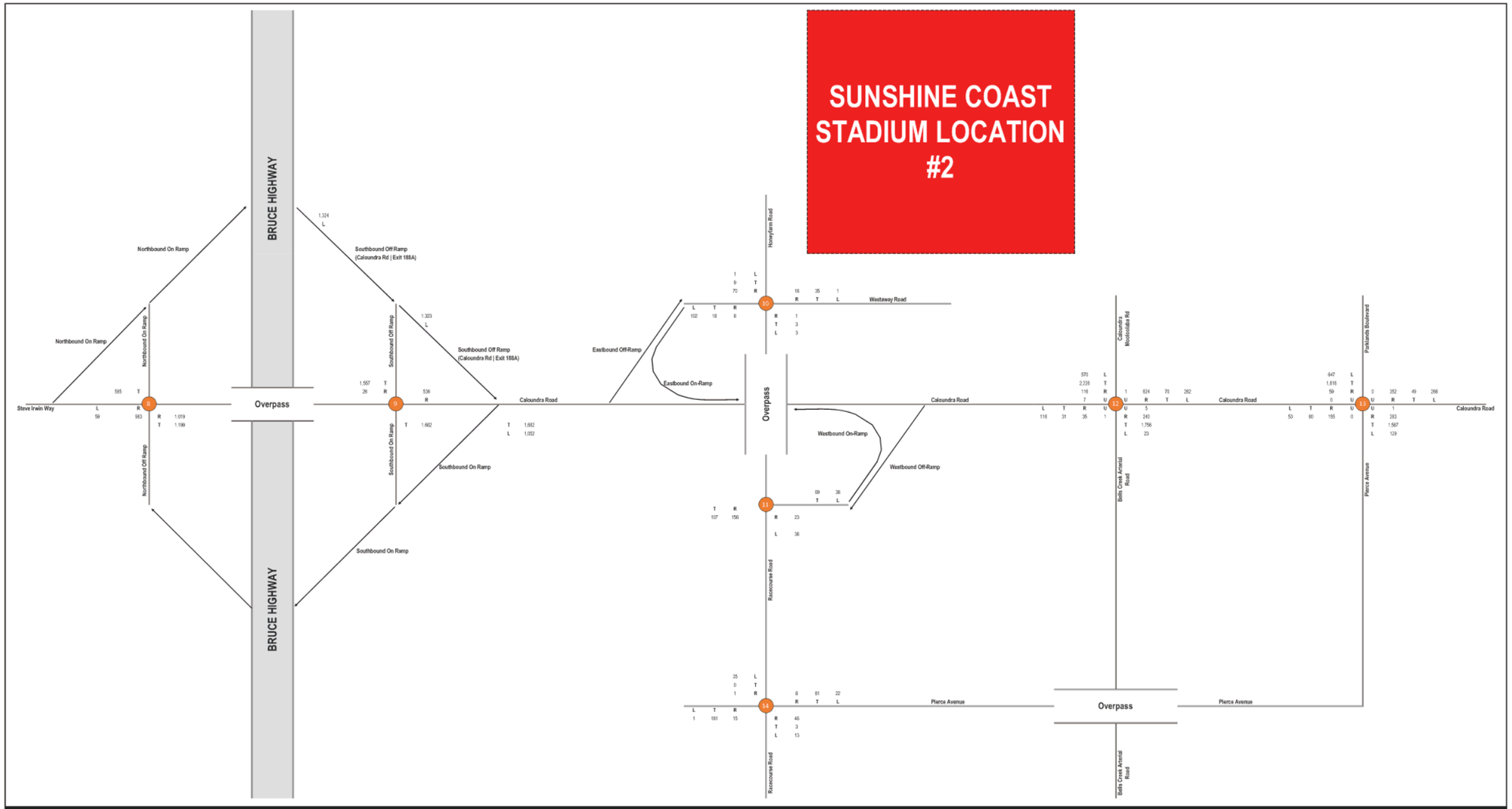
Background Year	2017
Scenario Year	2021

LEGEND

Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
(8) Intersection ID

BITZIOS consulting
traffic engineering • transport planning

File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\



INTERSECTION ID

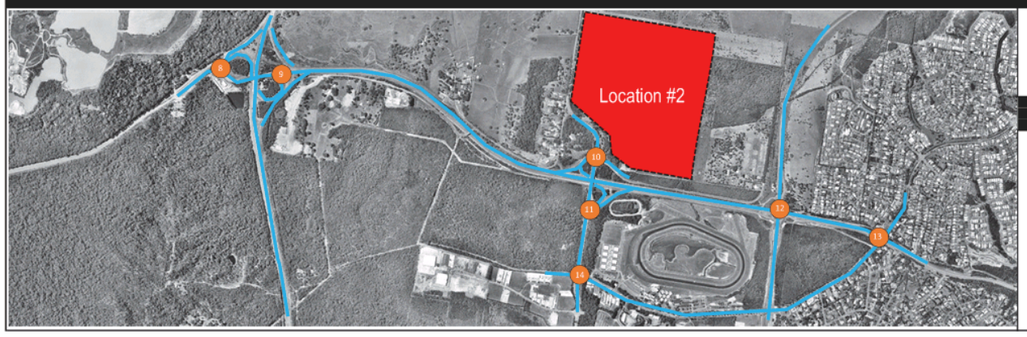


FIGURE TITLE

Location 2: 2031 Background Traffic Volumes (4-5pm)

DOCUMENT CONTROL

Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017

EVENT USE SCENARIO DETAILS

Table 1: Traffic Growth (Population Growth)

Year (Ending June 30)	Population	Year to Year Change	Year to Year % Change	2006 to 2036 Change	2006 to 2036 % Change
2006	236,654	0	0		
2007	243,303	6,655	2.81%		
2008	250,800	7,491	3.08%		
2009	258,047	7,247	2.89%		
2010	263,053	5,006	1.94%		
2011	267,243	4,190	1.59%		
2012	272,723	5,482	2.05%		
2013	277,804	5,081	1.86%		
2014	282,702	4,898	1.76%		
2015	287,535	4,833	1.71%		
2016	292,990	5,455	1.90%	56,336	2.36%

Table 2: Scenario Year

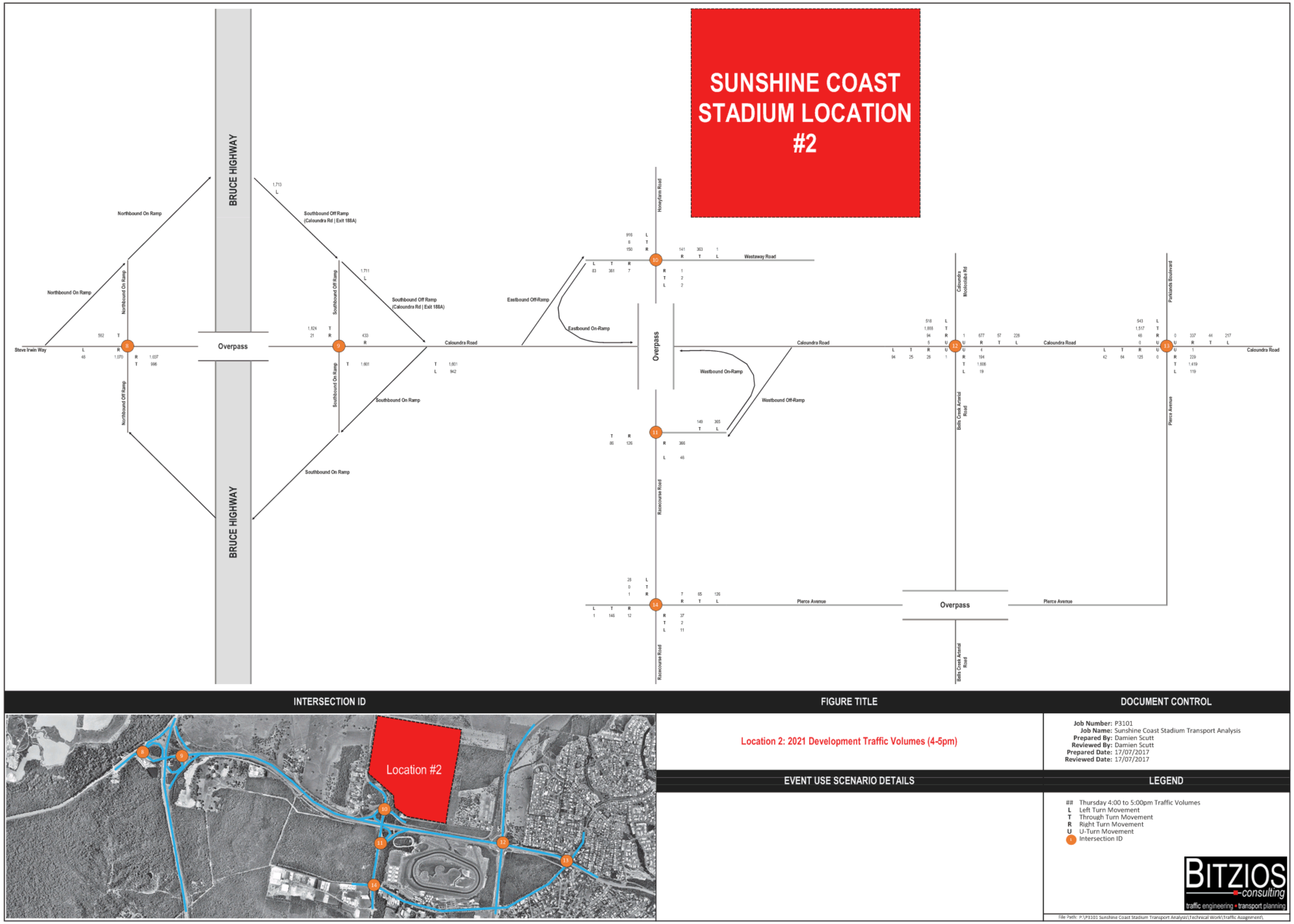
Background Year	2017
Scenario Year	2031

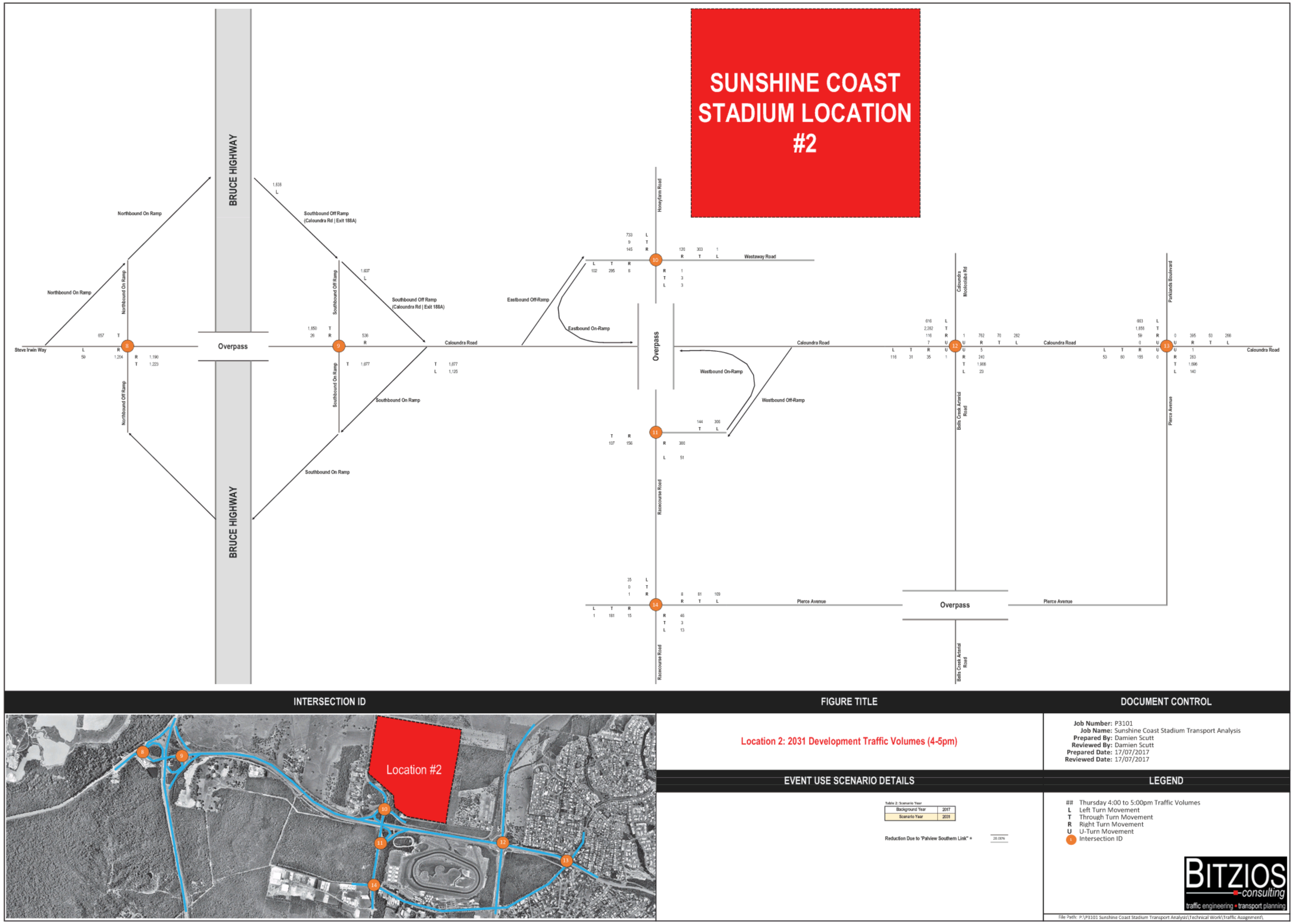
LEGEND

Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
(L) Intersection ID

BITZIOS consulting
traffic engineering • transport planning

File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


SUNSHINE COAST STADIUM LOCATION #2
BRUCE HIGHWAY
Overpass
Caloundra Road
Pierce Avenue
INTERSECTION ID
Location #2
FIGURE TITLE
Location 2: 2021 Development Traffic Volumes (4-5pm)
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
EVENT USE SCENARIO DETAILS
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning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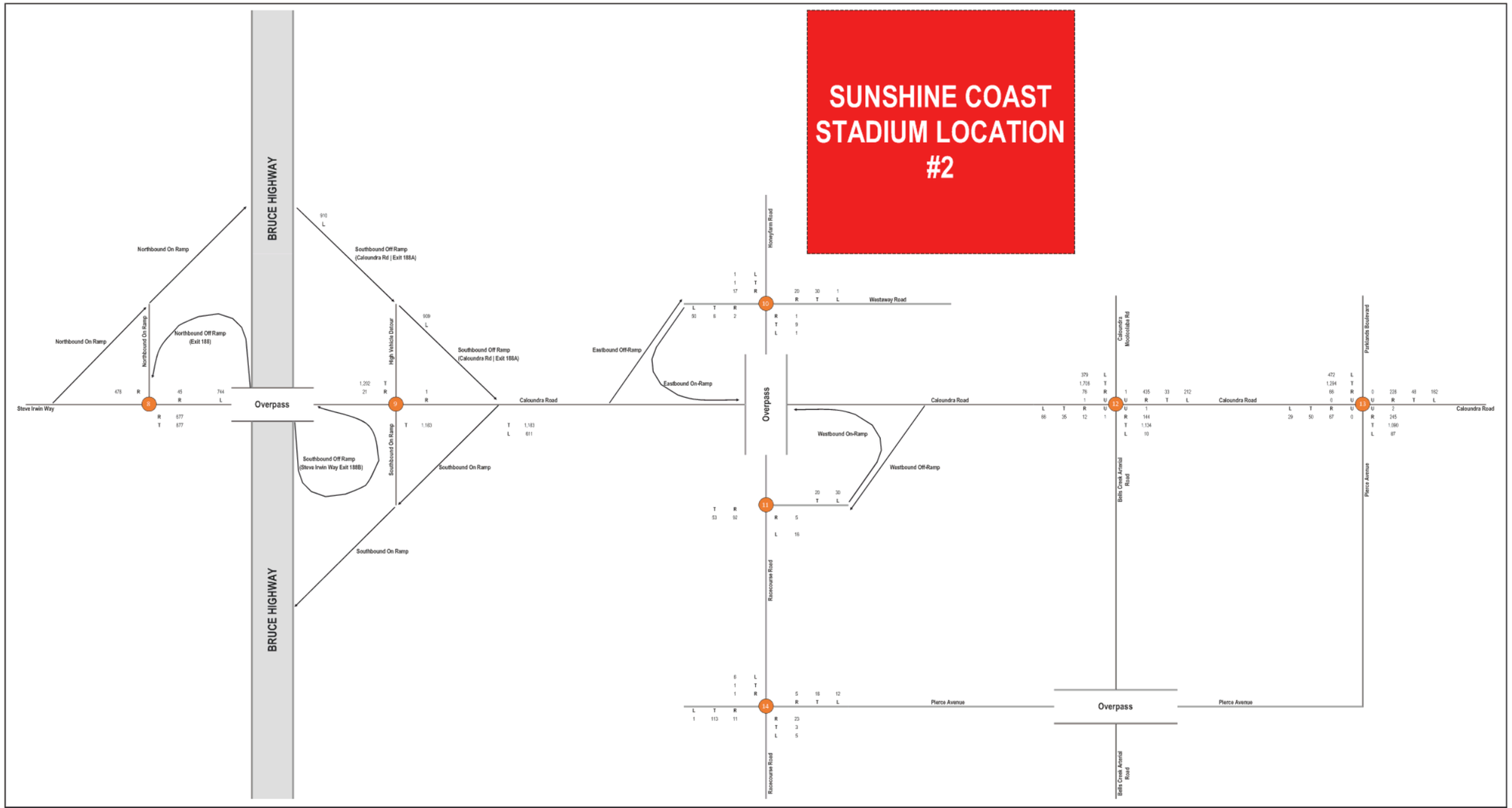
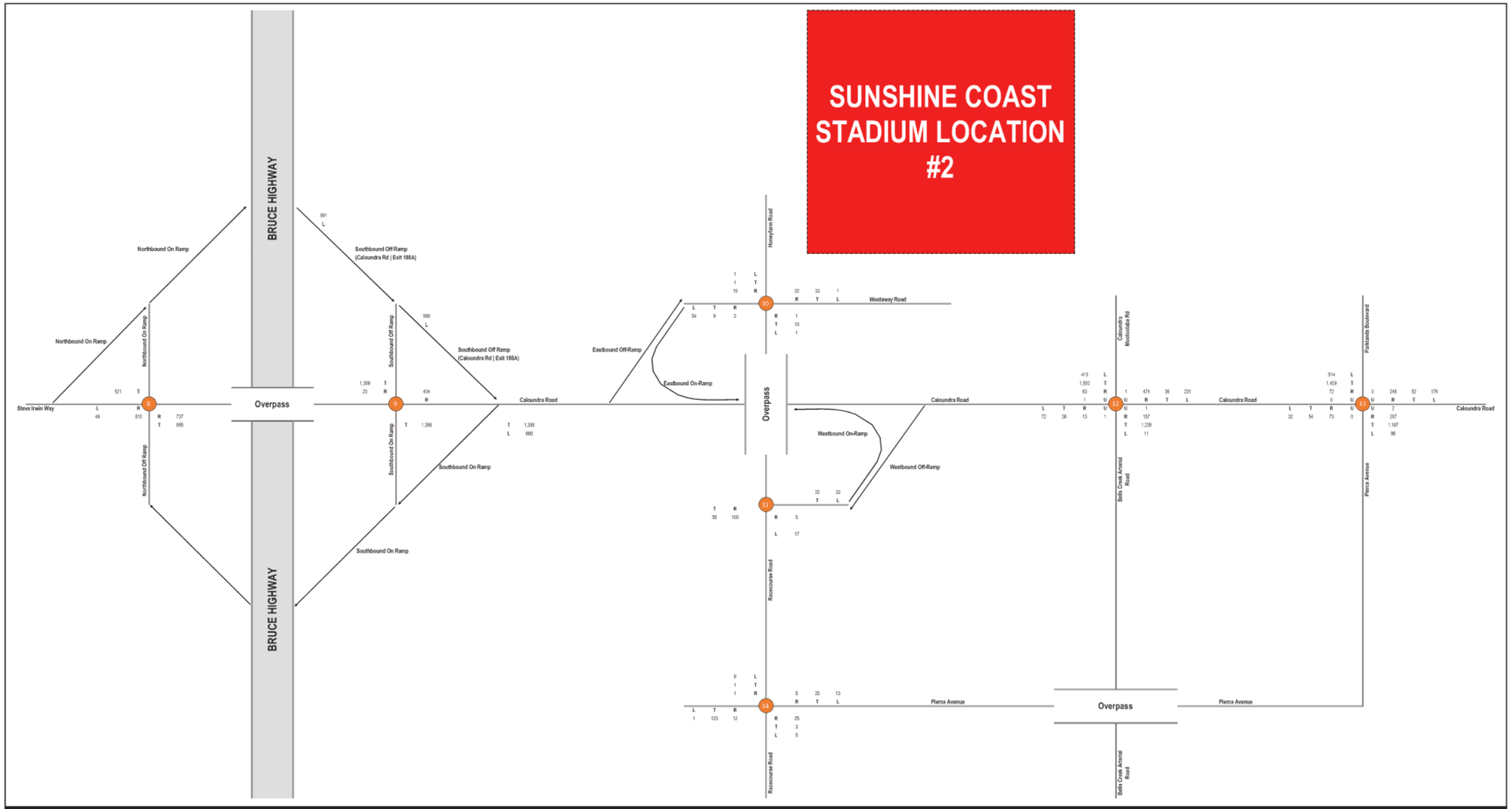
BRUCE HIGHWAY
Overpass
Caloundra Road
Pierce Avenue
INTERSECTION ID
Location #2
FIGURE TITLE
Location 2: 2031 Development Traffic Volumes (4-5pm)
EVENT USE SCENARIO DETAILS
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 4:00 to 5:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning


SUNSHINE COAST STADIUM LOCATION #2
BRUCE HIGHWAY
Northbound On Ramp
Northbound Off Ramp (Exit 188)
Southbound Off Ramp (Caloundra Rd | Exit 188A)
Southbound Off Ramp (Steve Irwin Way Exit 188B)
Southbound On Ramp
High Vehicle Detour
Steve Irwin Way
Overpass
Caloundra Road
Eastbound Off-Ramp
Eastbound On-Ramp
Westbound On-Ramp
Westbound Off-Ramp
Ronayfarm Road
Westaway Road
Racecourse Road
Pierce Avenue
Caloundra Mooloolaba Rd
Balls Creek Arterial Road
Parklands Boulevard
INTERSECTION ID
Location #2
FIGURE TITLE
Location 2: 2017 Background Traffic Volumes (5-6pm)
EVENT USE SCENARIO DETAILS
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\



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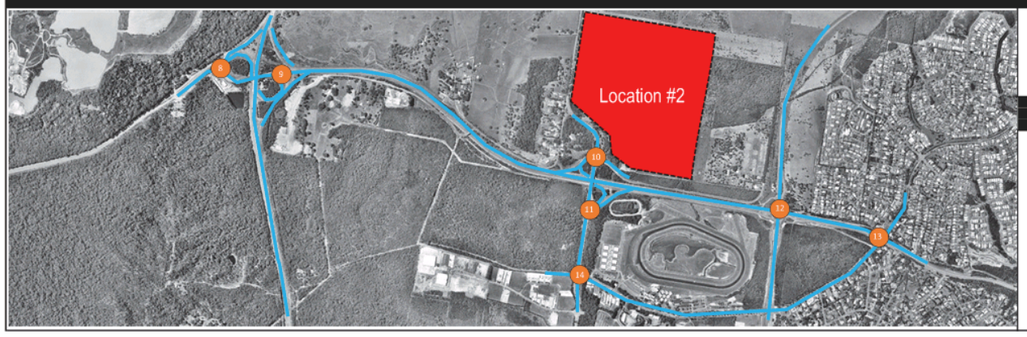


FIGURE TITLE

Location 2: 2021 Background Traffic Volumes (5-6pm)

DOCUMENT CONTROL

Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017

EVENT USE SCENARIO DETAILS

Table 1: Traffic Growth (Population Growth)

Year (Ending June 30)	Population	Year to Year Change	Year to Year % Change	2006 to 2016 Change	2006 to 2016 % Change
2006	236,654	0	0		
2007	243,303	6,655	2.81%		
2008	250,800	7,491	3.08%		
2009	258,047	7,247	2.89%		
2010	263,053	5,006	1.94%		
2011	267,243	4,190	1.59%		
2012	272,723	5,482	2.05%		
2013	277,804	5,081	1.86%		
2014	282,702	4,898	1.76%		
2015	287,535	4,833	1.71%		
2016	292,990	5,455	1.90%	56,336	2.38%

Table 2: Scenario Year

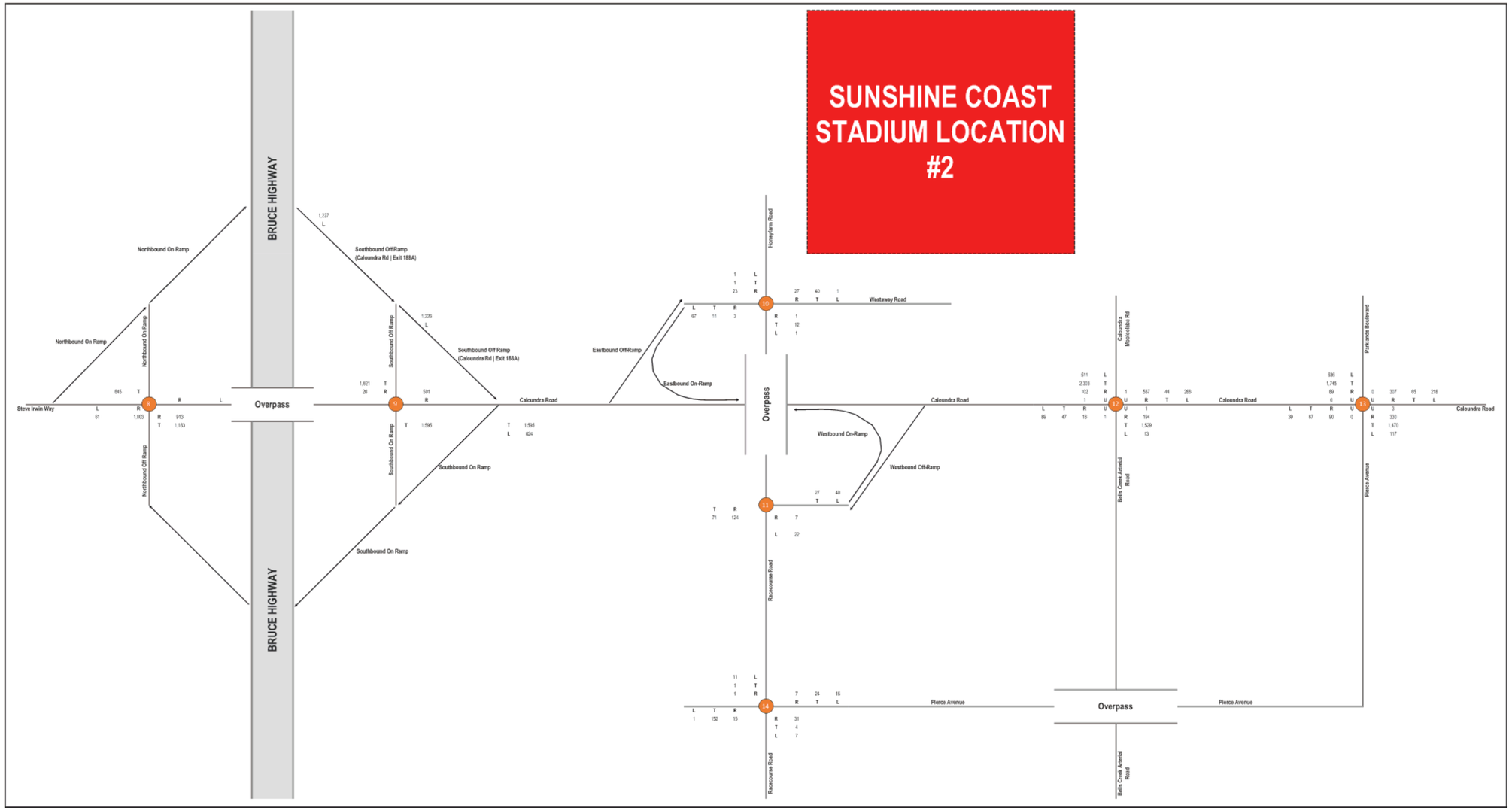
Background Year	2017
Scenario Year	2021

LEGEND

Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
(L) Intersection ID

BITZIOS consulting
traffic engineering • transport planning

File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\



INTERSECTION ID

FIGURE TITLE

Location 2: 2031 Background Traffic Volumes (5-6pm)

DOCUMENT CONTROL

Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017

EVENT USE SCENARIO DETAILS

Table 1: Traffic Growth (Population Growth)

Year (Ending June 30)	Population	Year to Year Change	Year to Year % Change	2006 to 2036 Change	2006 to 2036 % Change
2006	236,654	0	0		
2007	243,303	6,655	2.81%		
2008	250,800	7,491	3.08%		
2009	258,047	7,247	2.89%		
2010	263,053	5,006	1.94%		
2011	267,243	4,190	1.59%		
2012	272,723	5,482	2.05%		
2013	277,804	5,081	1.86%		
2014	282,702	4,898	1.76%		
2015	287,535	4,833	1.71%		
2036	292,930	5,455	1.90%	56,336	2.56%

Table 2: Scenario Year

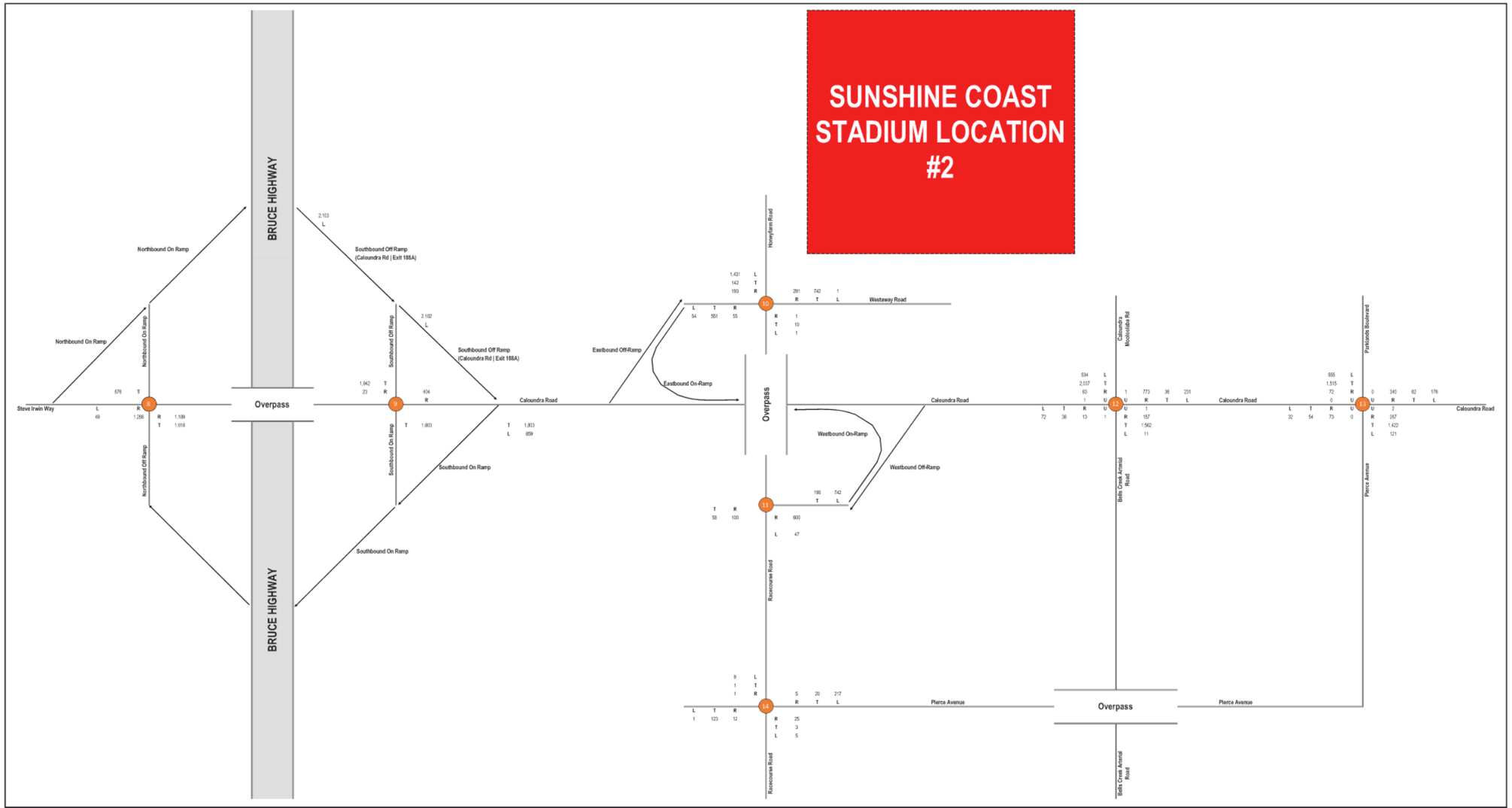
Background Year	2017
Scenario Year	2031

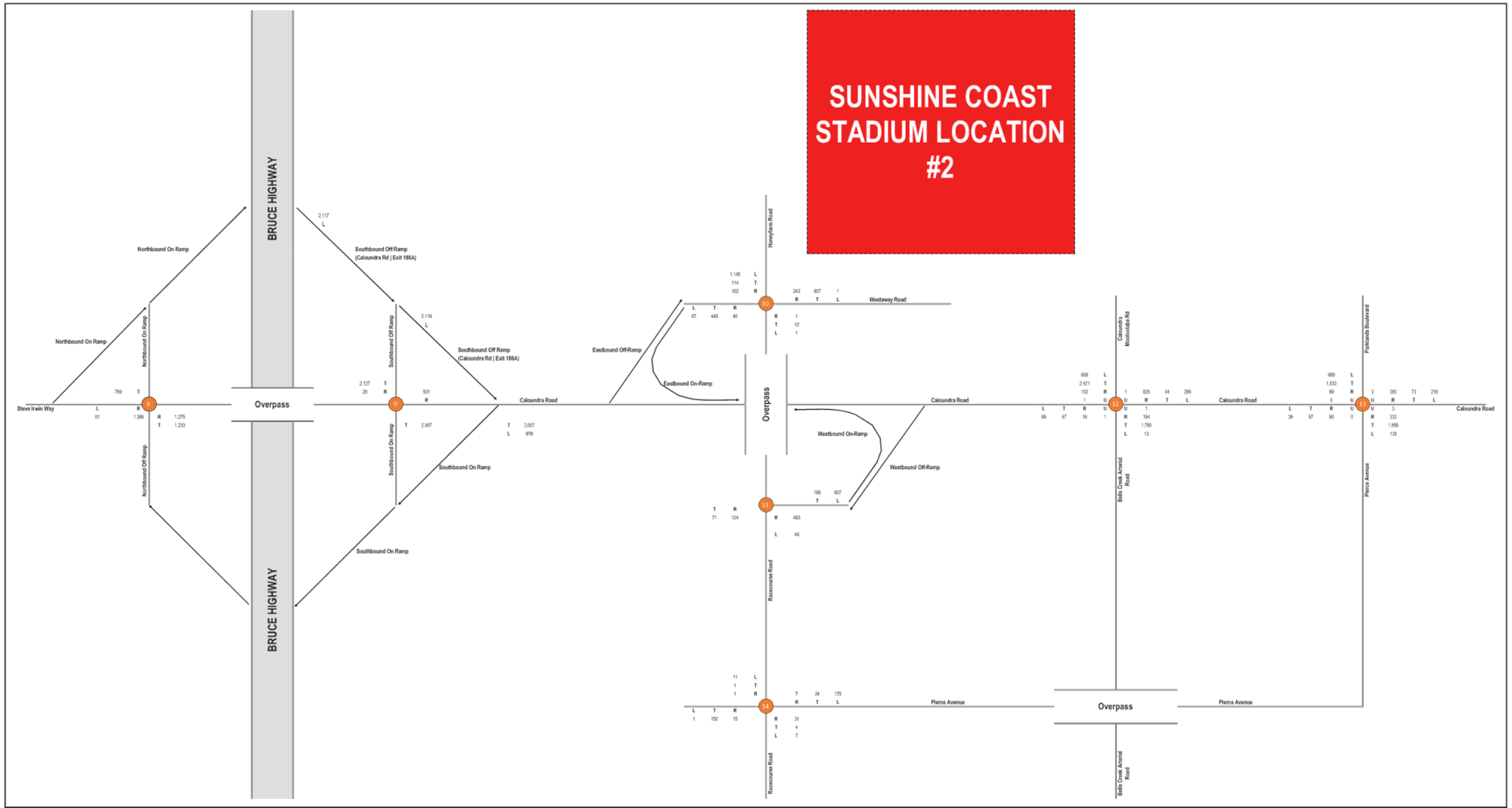
LEGEND

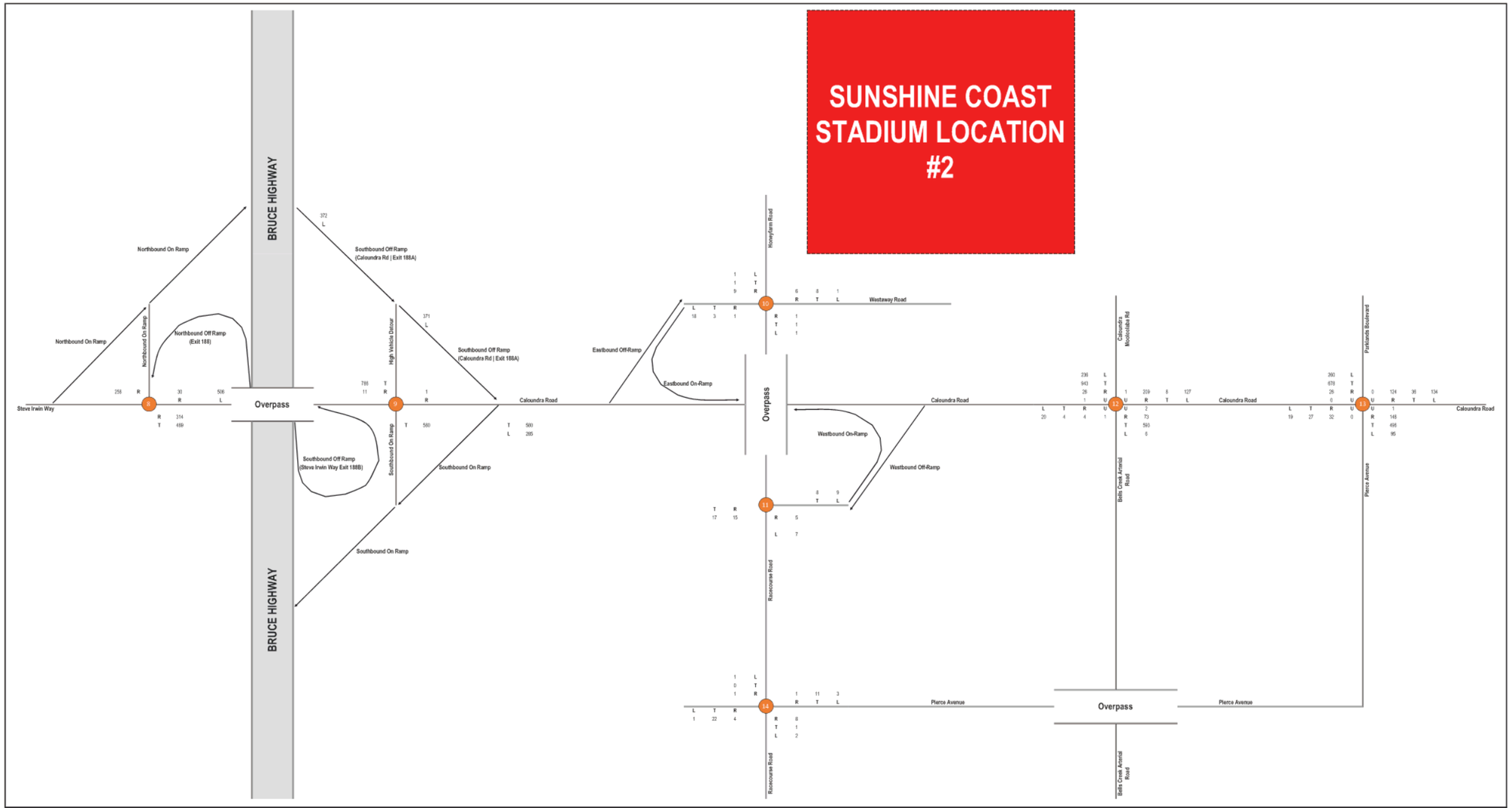
Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
(L) Intersection ID

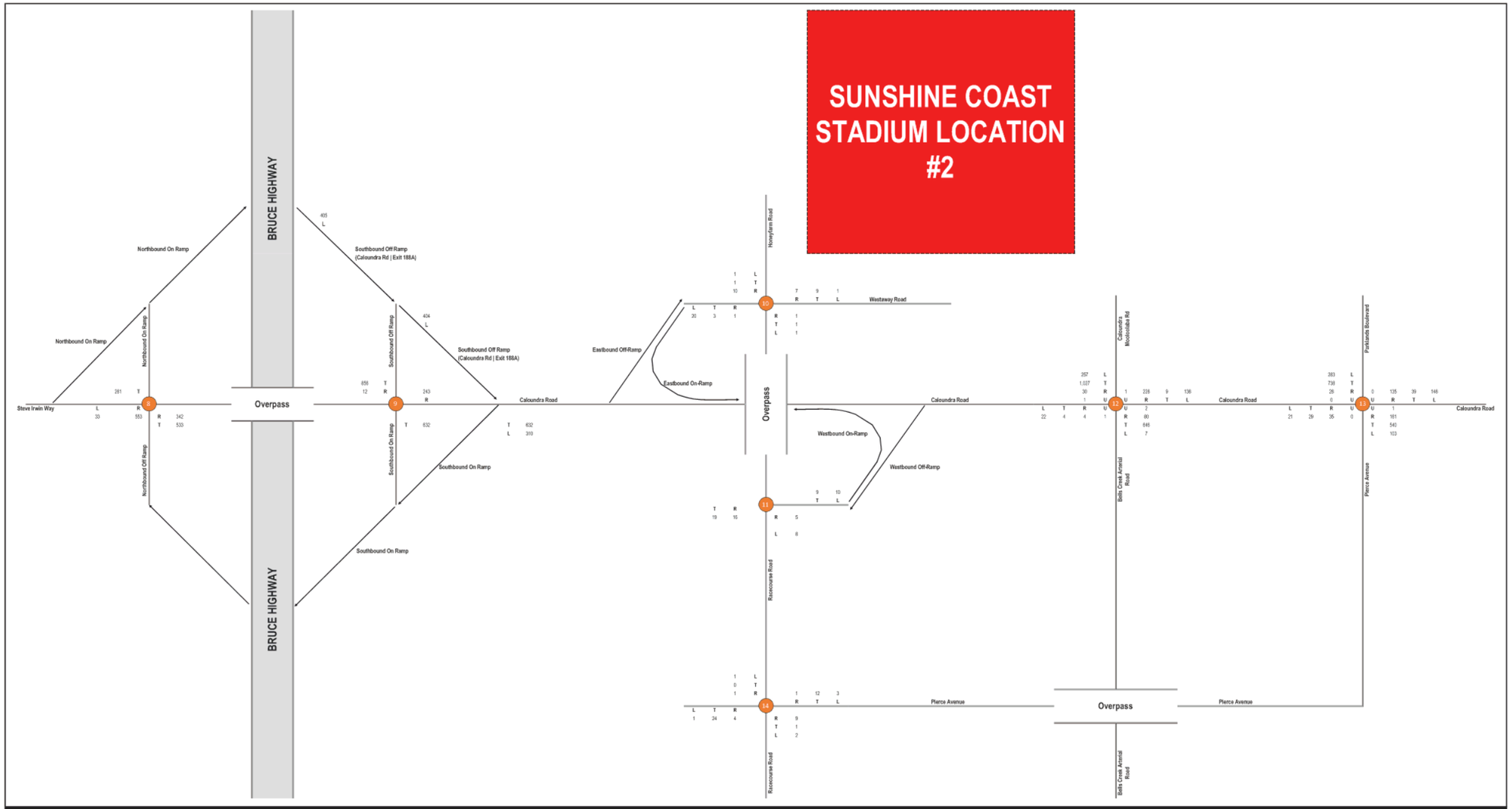
BITZIOS consulting
traffic engineering • transport planning

File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


SUNSHINE COAST STADIUM LOCATION #2
BRUCE HIGHWAY
Northbound On Ramp
Northbound On Ramp
Northbound On Ramp
Northbound Off Ramp
Southbound Off Ramp (Caloundra Rd | Exit 188A)
Southbound Off Ramp (Caloundra Rd | Exit 188A)
Southbound Off Ramp
Southbound On Ramp
Southbound On Ramp
Steve Irwin Way
Overpass
Caloundra Road
Honeyfarm Road
Westaway Road
Eastbound Off-Ramp
Eastbound On-Ramp
Overpass
Caloundra Road
Westbound On-Ramp
Westbound Off-Ramp
Racecourse Road
Caloundra Road
Caloundra Moodoolaba Rd
Parklands Boulevard
Balls Creek Arterial Road
Pierce Avenue
Caloundra Road
Pierce Avenue
Racecourse Road
Pierce Avenue
Overpass
Balls Creek Arterial Road
INTERSECTION ID
Location #2
FIGURE TITLE
Location 2: 2021 Development Traffic Volumes (5-6pm)
EVENT USE SCENARIO DETAILS
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


SUNSHINE COAST STADIUM LOCATION #2
BRUCE HIGHWAY
Northbound On Ramp
Northbound Off Ramp
Southbound Off Ramp (Caloundra Rd | Exit 188A)
Southbound On Ramp
Overpass
Steve Irwin Way
Caloundra Road
Honeyfarm Road
Eastbound Off-Ramp
Eastbound On-Ramp
Westbound On-Ramp
Westbound Off-Ramp
Westaway Road
Racecourse Road
Pierce Avenue
Caloundra Mooloolaba Rd
Balis Creek Arterial Road
Parklands Boulevard
INTERSECTION ID
Location #2
FIGURE TITLE
Location 2: 2031 Development Traffic Volumes (5-6pm)
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
EVENT USE SCENARIO DETAILS
Reduction Due to "Palview Southern Link" = -20.00%
LEGEND
Thursday 5:00 to 6:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


SUNSHINE COAST STADIUM LOCATION #2
BRUCE HIGHWAY
Northbound On Ramp
Northbound Off Ramp (Exit 188)
Southbound Off Ramp (Caloundra Rd | Exit 188A)
Southbound Off Ramp (Steve Irwin Way Exit 188B)
Southbound On Ramp
Steve Irwin Way
Overpass
Caloundra Road
High Vehicle Detour
Eastbound Off-Ramp
Eastbound On-Ramp
Westbound On-Ramp
Westbound Off-Ramp
Ronayfarm Road
Westaway Road
Racecourse Road
Pierce Avenue
Caloundra Mooloolaba Rd
Balls Creek Arterial Road
Parklands Boulevard
INTERSECTION ID
Location #2
FIGURE TITLE
Location 2: 2017 Background Traffic Volumes (6-7pm)
EVENT USE SCENARIO DETAILS
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 6:00 to 7:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\



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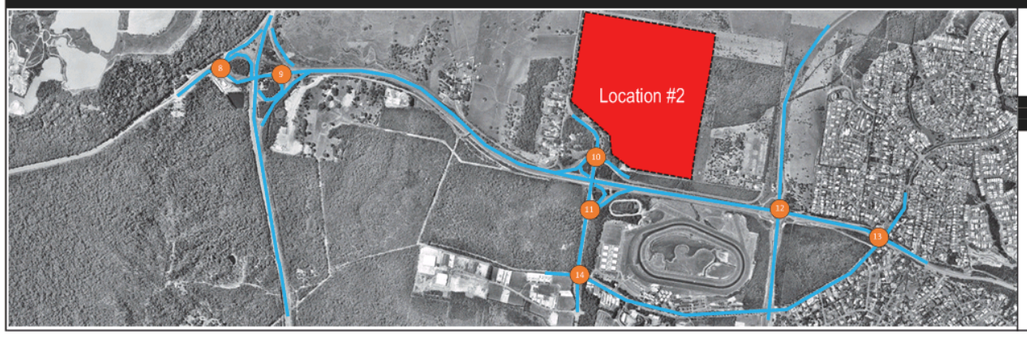

FIGURE TITLE

Location 2: 2021 Background Traffic Volumes (6-7pm)

DOCUMENT CONTROL

Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017

EVENT USE SCENARIO DETAILS

Table 1: Traffic Growth (Population Growth)

Year (Ending June 30)	Population	Year to Year Change	Year to Year % Change	2006 to 2036 Change	2006 to 2036 % Change
2006	236,654	0	0		
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2014	282,702	4,898	1.76%		
2015	287,535	4,833	1.71%		
2016	292,990	5,455	1.90%	56,336	2.56%

Table 2: Scenario Year

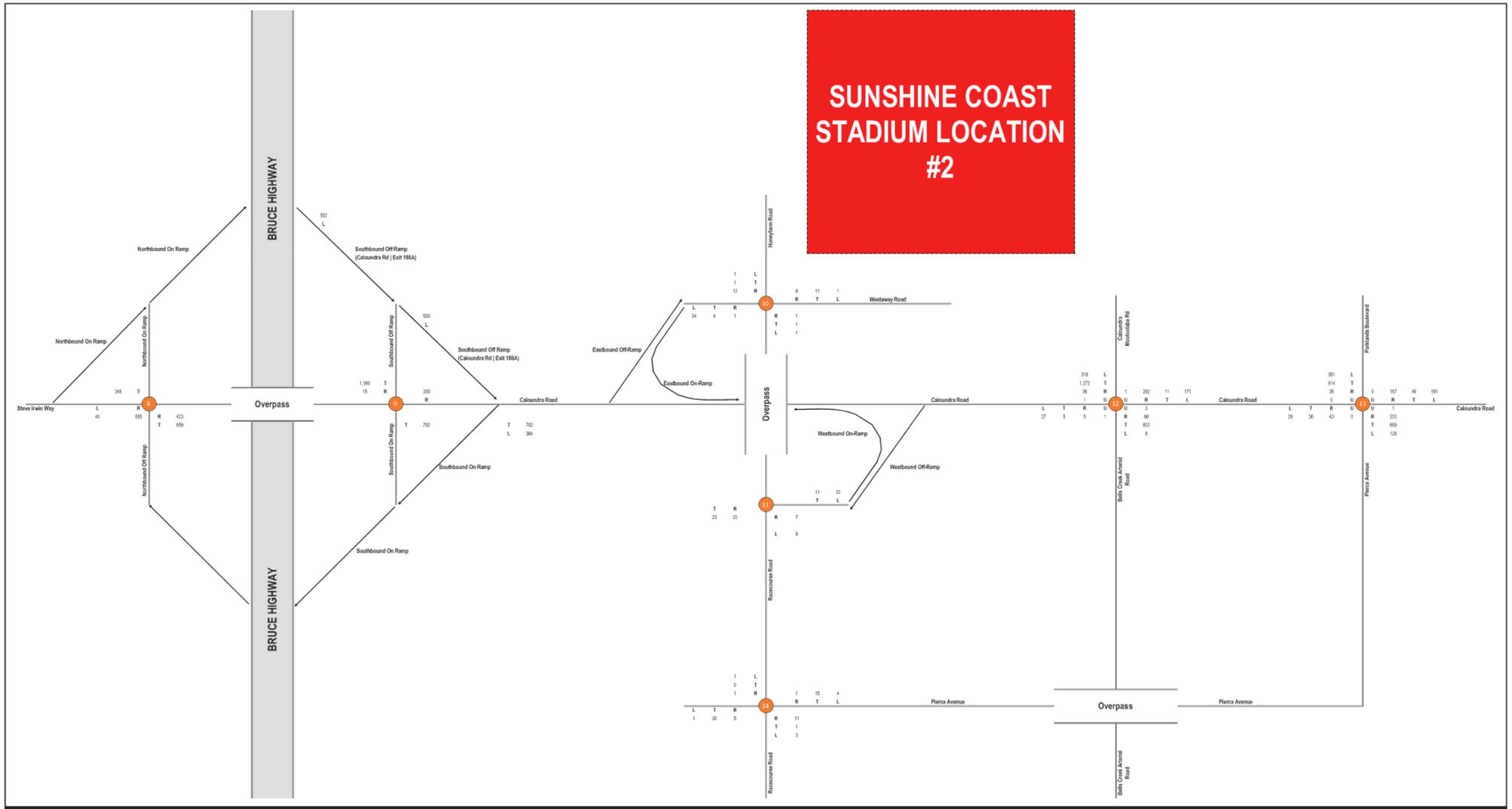
Background Year	2017
Scenario Year	2021

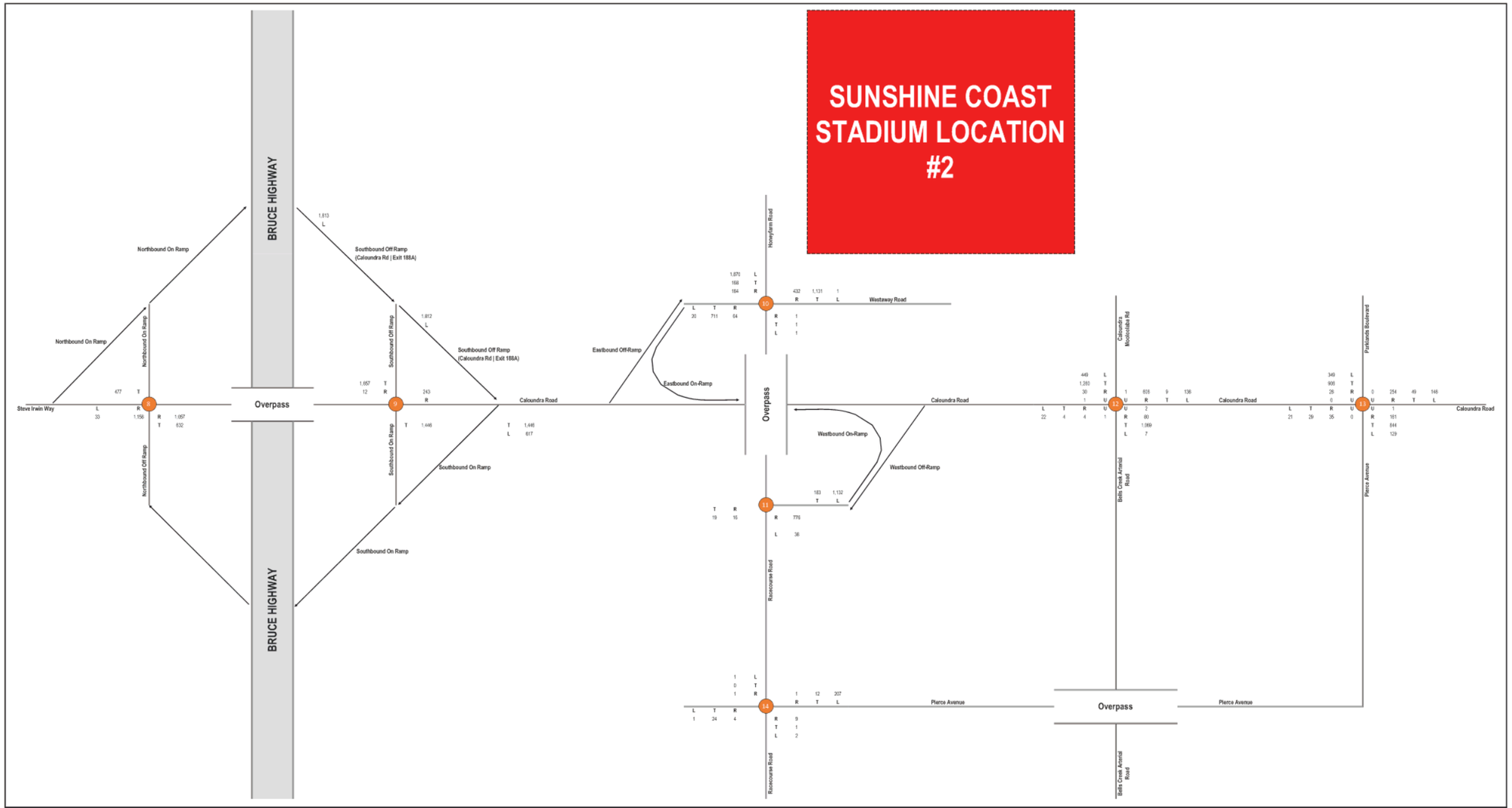
LEGEND

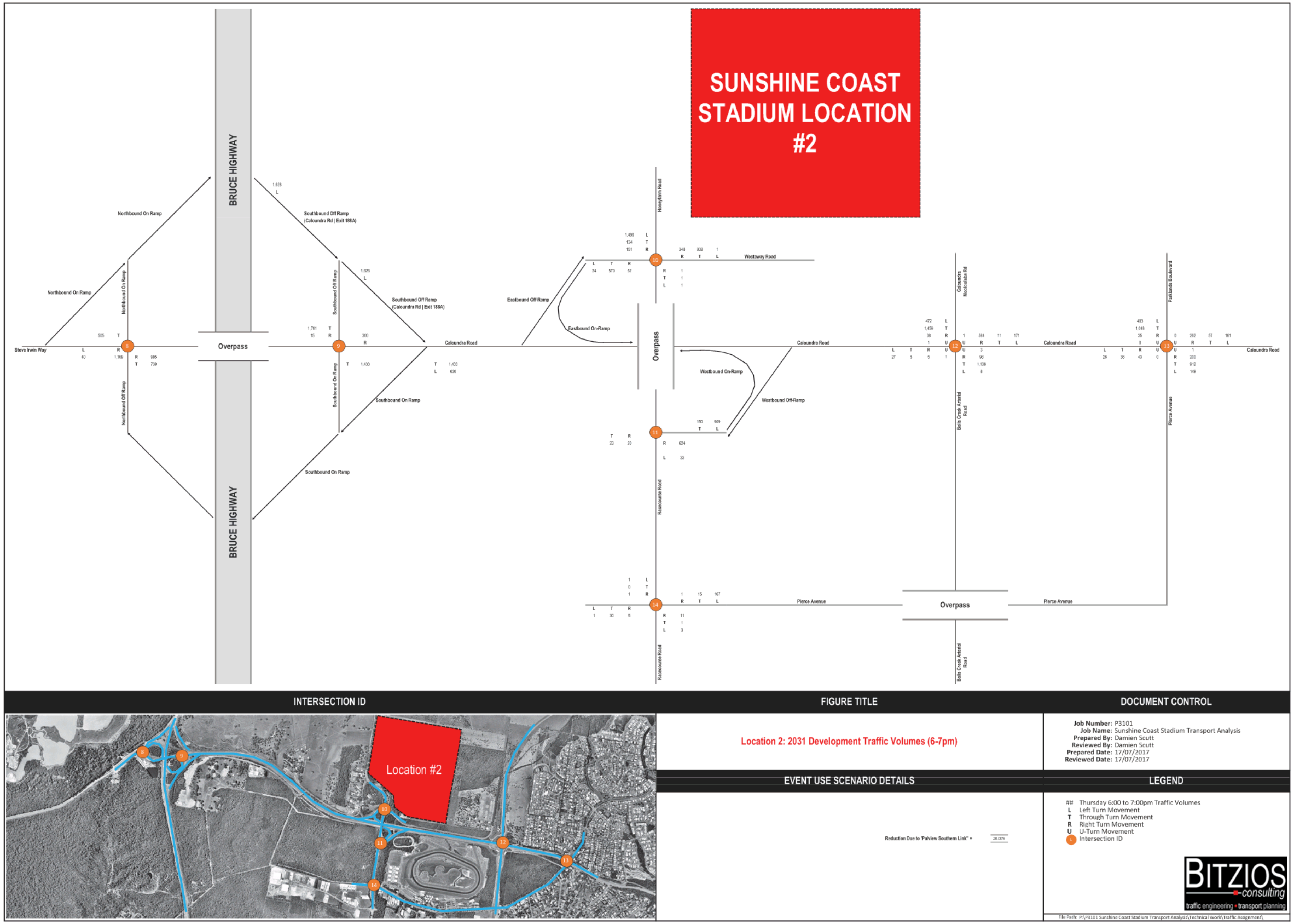
Thursday 6:00 to 7:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID

BITZIOS consulting
traffic engineering • transport planning

File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


SUNSHINE COAST STADIUM LOCATION #2
BRUCE HIGHWAY
Northbound On Ramp
Northbound On Ramp
Northbound On Ramp
Northbound Off Ramp
Southbound Off Ramp (Caloundra Rd | Exit 188A)
Southbound Off Ramp (Caloundra Rd | Exit 188A)
Southbound Off Ramp
Southbound On Ramp
Southbound On Ramp
Southbound On Ramp
Steve Irwin Way
Overpass
Caloundra Road
Caloundra Road
Honeyfarm Road
Westaway Road
Eastbound Off-Ramp
Eastbound On-Ramp
Overpass
Westbound On-Ramp
Westbound Off-Ramp
Caloundra Road
Caloundra Road
Caloundra Moodoolaba Rd
Parklands Boulevard
Balls Creek Arterial Road
Pierce Avenue
Racecourse Road
Racecourse Road
Pierce Avenue
Overpass
Pierce Avenue
Balls Creek Arterial Road
8
9
10
11
12
13
14
Location #2
INTERSECTION ID
FIGURE TITLE
Location 2: 2031 Background Traffic Volumes (6-7pm)
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
EVENT USE SCENARIO DETAILS
Table 1: Traffic Growth (Population Growth)
Year (Ending June 30)
Population
Year to Year Change
Year to Year % Change
2006 to 2016 Change
2006 to 2016 % Change
2006 236,654 9 0
2007 243,303 6,655 2.81%
2008 250,800 7,491 3.08%
2009 258,047 7,247 2.80%
2010 263,053 5,006 1.94%
2011 267,243 4,190 1.59%
2012 272,723 5,482 2.05%
2013 277,804 5,081 1.86%
2014 282,702 4,898 1.76%
2015 287,535 4,833 1.71%
2016 292,990 5,455 1.90%
56,336 23.8%
Table 2: Scenario Year
Background Year 2017
Scenario Year 2031
LEGEND
Thursday 6:00 to 7:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
(L) Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


SUNSHINE COAST STADIUM LOCATION #2
BRUCE HIGHWAY
Overpass
Northbound On Ramp
Northbound Off Ramp
Southbound Off Ramp (Caloundra Rd | Exit 188A)
Southbound On Ramp
Steve Irwin Way
Caloundra Road
Honeyfarm Road
Eastbound Off-Ramp
Eastbound On-Ramp
Westbound On-Ramp
Westbound Off-Ramp
Westaway Road
Racecourse Road
Pierce Avenue
Caloundra Mooloolaba Rd
Parklands Boulevard
Balls Creek Arterial Road
INTERSECTION ID
Location #2
FIGURE TITLE
Location 2: 2021 Development Traffic Volumes (6-7pm)
EVENT USE SCENARIO DETAILS
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
LEGEND
Thursday 6:00 to 7:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
U U-Turn Movement
Intersection ID
BITZIOS consulting
traffic engineering • transport planning
File Path: P:\P3101 Sunshine Coast Stadium Transport Analysis\Technical Work\Traffic Assignment\


SUNSHINE COAST STADIUM LOCATION #2
BRUCE HIGHWAY
Overpass
Caloundra Road
Pierce Avenue
INTERSECTION ID
Location #2
FIGURE TITLE
Location 2: 2031 Development Traffic Volumes (6-7pm)
DOCUMENT CONTROL
Job Number: P3101
Job Name: Sunshine Coast Stadium Transport Analysis
Prepared By: Damien Scutt
Reviewed By: Damien Scutt
Prepared Date: 17/07/2017
Reviewed Date: 17/07/2017
EVENT USE SCENARIO DETAILS
LEGEND
Thursday 6:00 to 7:00pm Traffic Volumes
L Left Turn Movement
T Through Turn Movement
R Right Turn Movement
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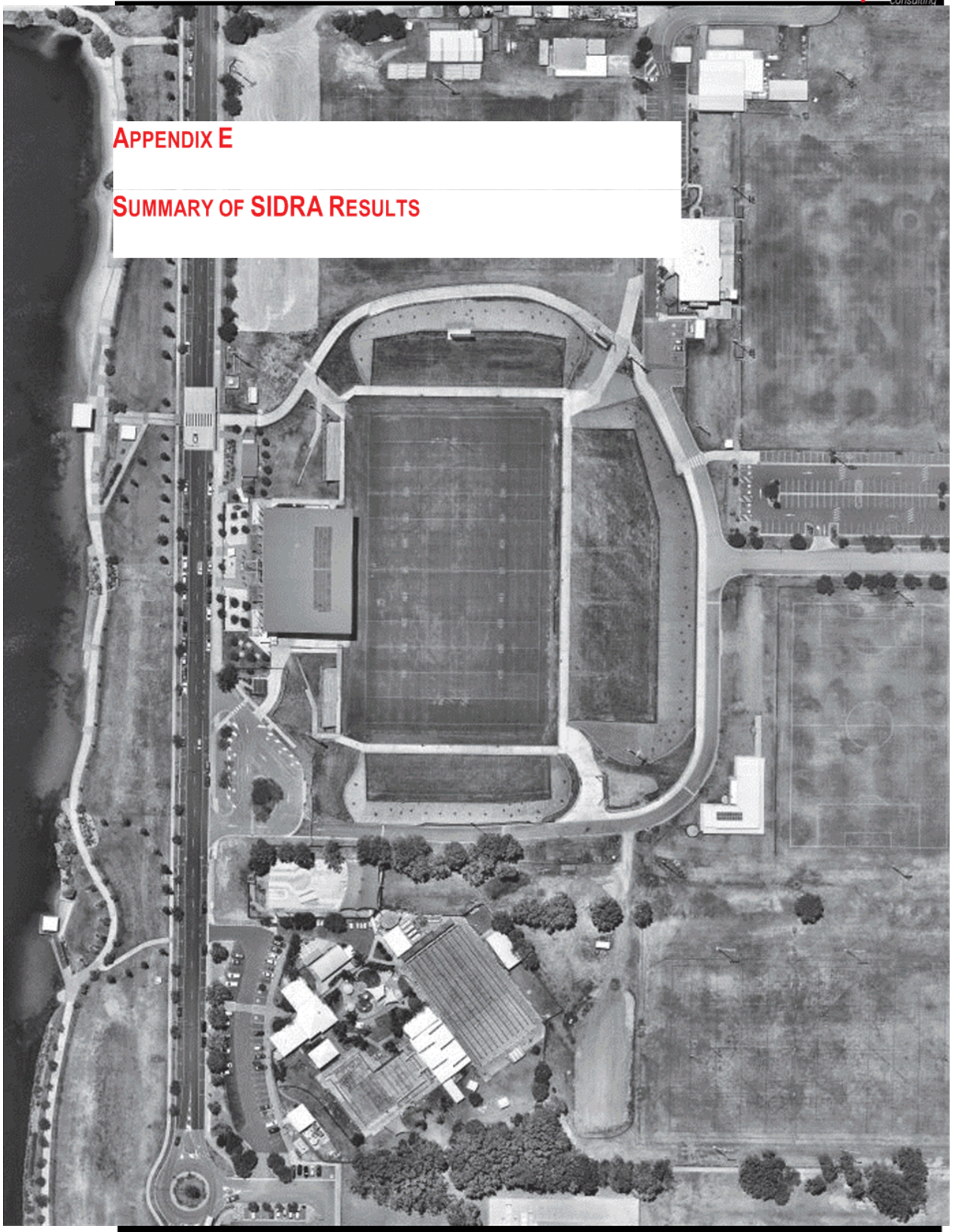
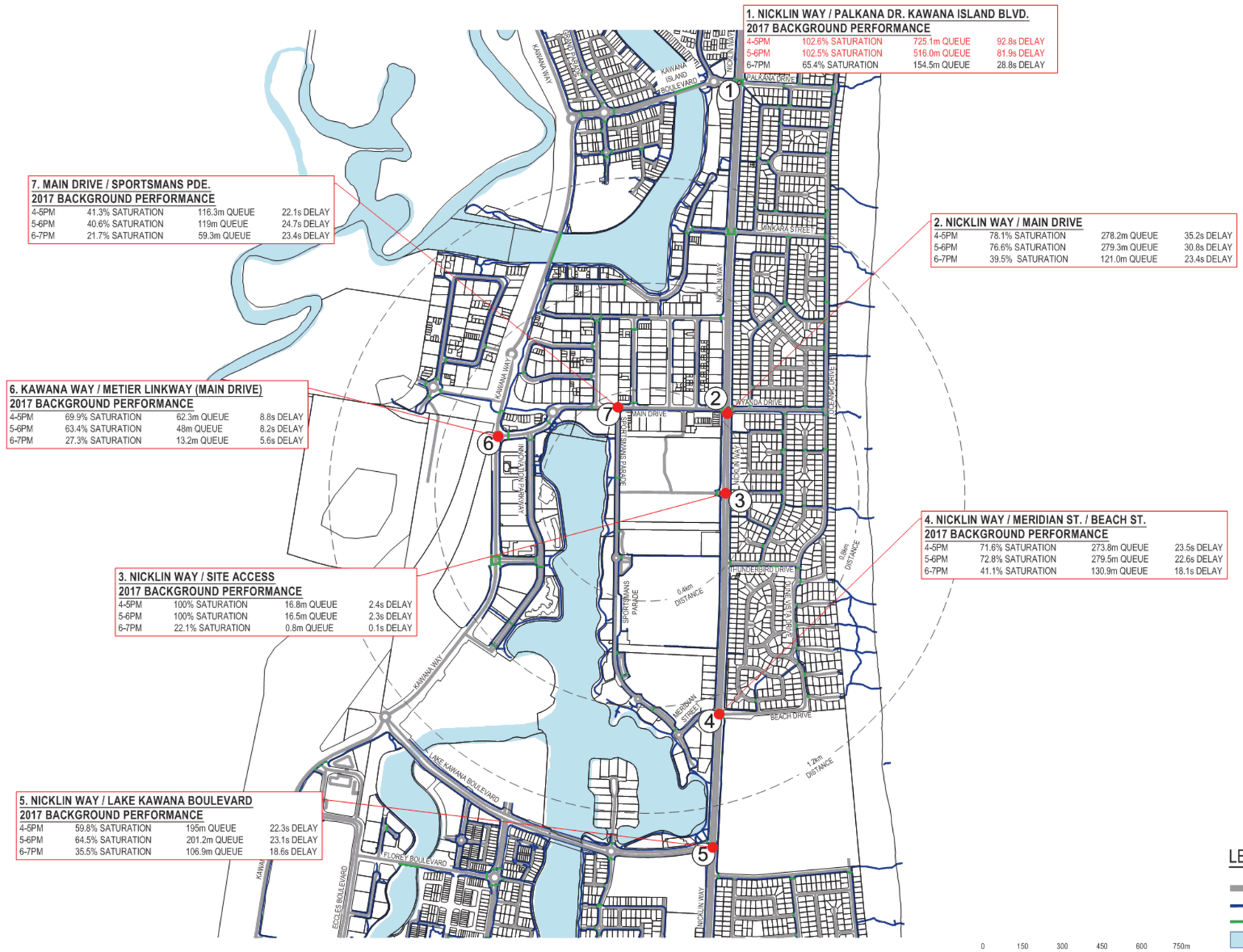
Intersection ID
BITZIOS consulting
traffic engineering • transport planning

BITZIOS consulting



APPENDIX E

SUMMARY OF SIDRA RESULTS



CONTOUR
A.B.N. 62 117 061 659
PO Box 474, Buddina 4575, Qld
6 Innovation Parkway, Kawana Waters 4575, Qld
Ph. (07) 5493 9777 Fax (07) 5493 6888
Website: www.ContourCE.com.au

Registered ISO 9001:2008 Quality Assured International 3rd Party Accredited 127

PLAN DETAILS:

Designed:	K.M.
Drawn:	K.M.
Checked:	C.D.F.
Datum:	AHD
Date:	12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked
A	17-07-17	MINOR AMENDMENTS	K.M.	C.D.F.

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:

EXISTING PERFORMANCE DURING DESIGN PERIODS

NOT FOR CONSTRUCTION

PLAN No: *1557 - SK102* REVISION: *A* SHEET: 1 OF 1

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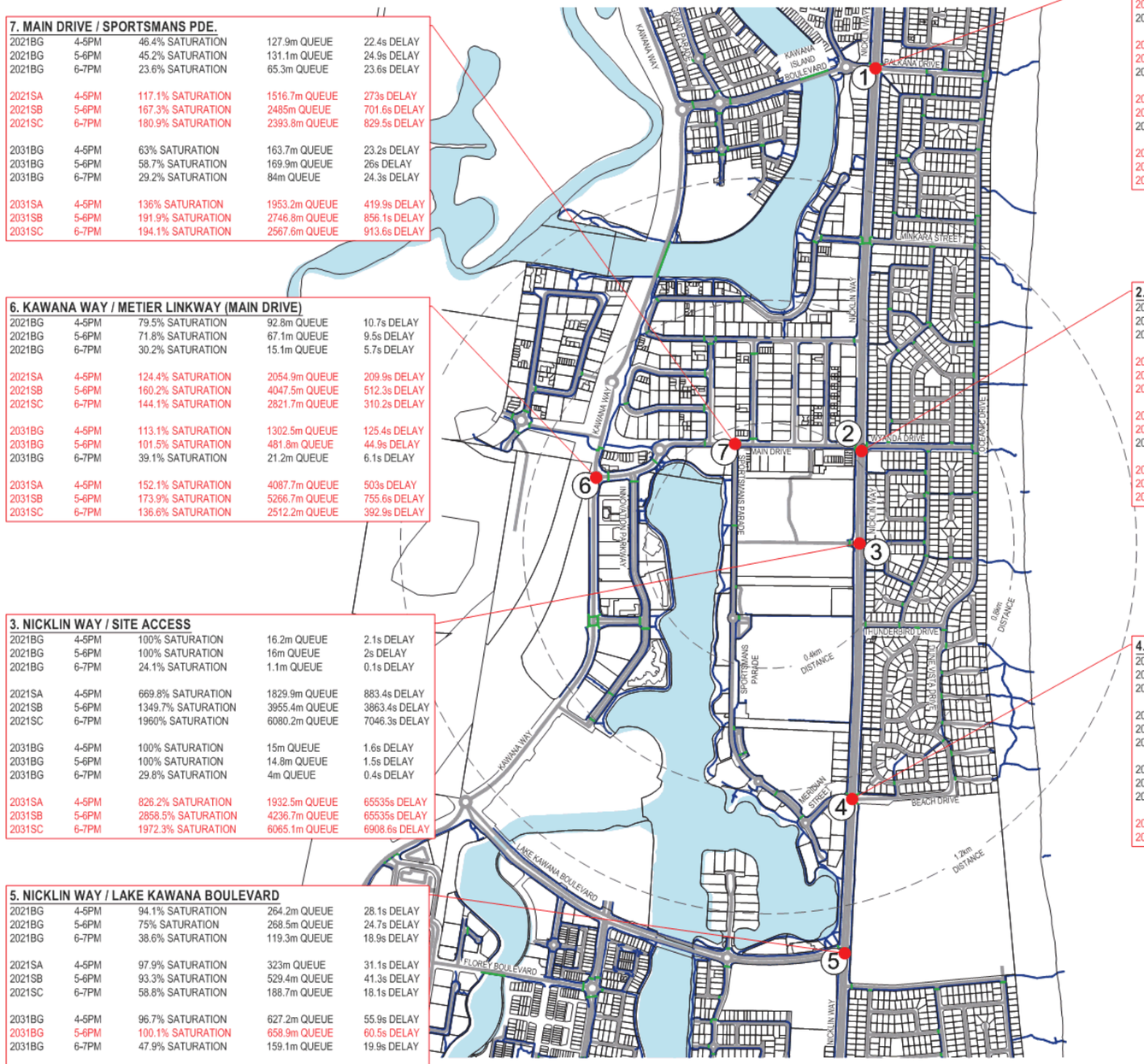

1. NICKLIN WAY / PALKANA DR. KAWANA ISLAND BLVD.

2021BG	4-5PM	111.7% SATURATION	1086.5m QUEUE	182.9s DELAY
2021BG	5-6PM	111.6% SATURATION	819.5m QUEUE	166.6s DELAY
2021BG	6-7PM	71.8% SATURATION	171.8m QUEUE	29.1s DELAY
2021SA	4-5PM	120.8% SATURATION	1822.7m QUEUE	298.8s DELAY
2021SB	5-6PM	123.4% SATURATION	2122.9m QUEUE	368s DELAY
2021SC	6-7PM	89.2% SATURATION	434.3m QUEUE	39.1s DELAY
2031BG	4-5PM	137% SATURATION	2545.9m QUEUE	557.8s DELAY
2031BG	5-6PM	138.3% SATURATION	2191.7m QUEUE	529.2s DELAY
2031BG	6-7PM	90.8% SATURATION	236.4m QUEUE	38.4s DELAY
2031SA	4-5PM	148.6% SATURATION	3223.4m QUEUE	667.1s DELAY
2031SB	5-6PM	147.6% SATURATION	3570.9m QUEUE	735.6s DELAY
2031SC	6-7PM	102.6% SATURATION	927.4m QUEUE	114s DELAY

2. NICKLIN WAY / MAIN DRIVE

2021BG	4-5PM	85.2% SATURATION	334.5m QUEUE	38.1s DELAY
2021BG	5-6PM	84% SATURATION	324.1m QUEUE	32.6s DELAY
2021BG	6-7PM	43.1% SATURATION	134.6m QUEUE	23.7s DELAY
2021SA	4-5PM	130.6% SATURATION	1615.1m QUEUE	312.5s DELAY
2021SB	5-6PM	162.2% SATURATION	2618.3m QUEUE	638s DELAY
2021SC	6-7PM	152.4% SATURATION	1820.3m QUEUE	557s DELAY
2031BG	4-5PM	105.9% SATURATION	943.4m QUEUE	108.2s DELAY
2031BG	5-6PM	103.4% SATURATION	900.3m QUEUE	88s DELAY
2031BG	6-7PM	53.6% SATURATION	179m QUEUE	24.9s DELAY
2031SA	4-5PM	149.9% SATURATION	2451.9m QUEUE	474.1s DELAY
2031SB	5-6PM	181.3% SATURATION	3609.1m QUEUE	827.9s DELAY
2031SC	6-7PM	159.9% SATURATION	2163.3m QUEUE	669.8s DELAY

3. NICKLIN WAY / SITE ACCESS

2021BG	4-5PM	100% SATURATION	16.2m QUEUE	2.1s DELAY
2021BG	5-6PM	100% SATURATION	16m QUEUE	2s DELAY
2021BG	6-7PM	24.1% SATURATION	1.1m QUEUE	0.1s DELAY
2021SA	4-5PM	669.8% SATURATION	1829.9m QUEUE	883.4s DELAY
2021SB	5-6PM	1349.7% SATURATION	3955.4m QUEUE	3863.4s DELAY
2021SC	6-7PM	1960% SATURATION	6080.2m QUEUE	7046.3s DELAY
2031BG	4-5PM	100% SATURATION	15m QUEUE	1.6s DELAY
2031BG	5-6PM	100% SATURATION	14.8m QUEUE	1.5s DELAY
2031BG	6-7PM	29.8% SATURATION	4m QUEUE	0.4s DELAY
2031SA	4-5PM	826.2% SATURATION	1932.5m QUEUE	65535s DELAY
2031SB	5-6PM	2858.5% SATURATION	4236.7m QUEUE	65535s DELAY
2031SC	6-7PM	1972.3% SATURATION	6065.1m QUEUE	6908.6s DELAY

4. NICKLIN WAY / MERIDIAN ST. / BEACH ST.

2021BG	4-5PM	78.1% SATURATION	313m QUEUE	24.7s DELAY
2021BG	5-6PM	79.4% SATURATION	320m QUEUE	23.9s DELAY
2021BG	6-7PM	44.8% SATURATION	146.1m QUEUE	18.5s DELAY
2021SA	4-5PM	86.8% SATURATION	382.2m QUEUE	30.8s DELAY
2021SB	5-6PM	91.9% SATURATION	474.4m QUEUE	43s DELAY
2021SC	6-7PM	66.9% SATURATION	231.9m QUEUE	24.8s DELAY
2031BG	4-5PM	95.8% SATURATION	624.1m QUEUE	44.3s DELAY
2031BG	5-6PM	94.2% SATURATION	566.7m QUEUE	46.3s DELAY
2031BG	6-7PM	55.8% SATURATION	195.7m QUEUE	19.8s DELAY
2031SA	4-5PM	103.5% SATURATION	987.5m QUEUE	137.4s DELAY
2031SB	5-6PM	110.6% SATURATION	1344.5m QUEUE	207.9s DELAY

5. NICKLIN WAY / LAKE KAWANA BOULEVARD

2021BG	4-5PM	94.1% SATURATION	264.2m QUEUE	28.1s DELAY
2021BG	5-6PM	75% SATURATION	268.5m QUEUE	24.7s DELAY
2021BG	6-7PM	38.6% SATURATION	119.3m QUEUE	18.9s DELAY
2021SA	4-5PM	97.9% SATURATION	323m QUEUE	31.1s DELAY
2021SB	5-6PM	93.3% SATURATION	529.4m QUEUE	41.3s DELAY
2021SC	6-7PM	58.8% SATURATION	188.7m QUEUE	18.1s DELAY
2031BG	4-5PM	96.7% SATURATION	627.2m QUEUE	55.9s DELAY
2031BG	5-6PM	100.1% SATURATION	658.9m QUEUE	60.5s DELAY
2031BG	6-7PM	47.9% SATURATION	159.1m QUEUE	19.9s DELAY
2031SA	4-5PM	101.9% SATURATION	872.1m QUEUE	83.2s DELAY
2031SB	5-6PM	118.2% SATURATION	878m QUEUE	152.8s DELAY
2031SC	6-7PM	68.6% SATURATION	272.3m QUEUE	20.6s DELAY

6. KAWANA WAY / METIER LINKWAY (MAIN DRIVE)

2021BG	4-5PM	79.5% SATURATION	92.8m QUEUE	10.7s DELAY
2021BG	5-6PM	71.8% SATURATION	67.1m QUEUE	9.5s DELAY
2021BG	6-7PM	30.2% SATURATION	15.1m QUEUE	5.7s DELAY
2021SA	4-5PM	124.4% SATURATION	2054.9m QUEUE	209.9s DELAY
2021SB	5-6PM	160.2% SATURATION	4047.5m QUEUE	512.3s DELAY
2021SC	6-7PM	144.1% SATURATION	2821.7m QUEUE	310.2s DELAY
2031BG	4-5PM	113.1% SATURATION	1302.5m QUEUE	125.4s DELAY
2031BG	5-6PM	101.5% SATURATION	481.8m QUEUE	44.9s DELAY
2031BG	6-7PM	39.1% SATURATION	21.2m QUEUE	6.1s DELAY
2031SA	4-5PM	152.1% SATURATION	4087.7m QUEUE	503s DELAY
2031SB	5-6PM	173.9% SATURATION	5266.7m QUEUE	755.6s DELAY
2031SC	6-7PM	136.6% SATURATION	2512.2m QUEUE	392.9s DELAY

7. MAIN DRIVE / SPORTSMANS PDE.

2021BG	4-5PM	46.4% SATURATION	127.9m QUEUE	22.4s DELAY
2021BG	5-6PM	45.2% SATURATION	131.1m QUEUE	24.9s DELAY
2021BG	6-7PM	23.6% SATURATION	65.3m QUEUE	23.6s DELAY
2021SA	4-5PM	117.1% SATURATION	1516.7m QUEUE	273s DELAY
2021SB	5-6PM	167.3% SATURATION	2485m QUEUE	701.6s DELAY
2021SC	6-7PM	180.9% SATURATION	2393.8m QUEUE	829.5s DELAY
2031BG	4-5PM	63% SATURATION	163.7m QUEUE	23.2s DELAY
2031BG	5-6PM	58.7% SATURATION	169.9m QUEUE	26s DELAY
2031BG	6-7PM	29.2% SATURATION	84m QUEUE	24.3s DELAY
2031SA	4-5PM	136% SATURATION	1953.2m QUEUE	419.9s DELAY
2031SB	5-6PM	191.9% SATURATION	2746.8m QUEUE	856.1s DELAY
2031SC	6-7PM	194.1% SATURATION	2567.6m QUEUE	913.6s DELAY

SIDRA CODE LEGEND:

2021BG / 2031BG - BACKGROUND PERFORMANCE FOR YEAR (NO STADIUM)

2021SA / 2031SA - STADIUM PERFORMANCE FOR YEAR, 5000 SPECTATOR EVENT

2021SB / 2031SB - STADIUM PERFORMANCE FOR YEAR, 10000 SPECTATOR EVENT

2021SC / 2031SC - STADIUM PERFORMANCE FOR YEAR, 15000 SPECTATOR EVENT

LEGEND

- ROAD NETWORK
- PATHWAYS
- PEDESTRIAN / PATHWAY CONNECTOR
- WATERBODY
- DCDB BOUNDARY

0 150 300 450 600 750m

SCALE 1:15000 A3

CONTOUR
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Registered ISO 9001:2008 Quality Assured International 3rd Party Accredited

PLAN DETAILS:

Designed:	K.M.
Drawn:	K.M.
Checked:	C.D.F.
Datum:	AHD
Date:	12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked
A	17-07-17	MINOR AMENDMENTS	K.M.	C.D.F.

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:

EXISTING PERFORMANCE DURING DESIGN PERIODS

NOT FOR CONSTRUCTION

PLAN No: *1557 - SK106* REVISION: *A* SHEET: 1 OF 1

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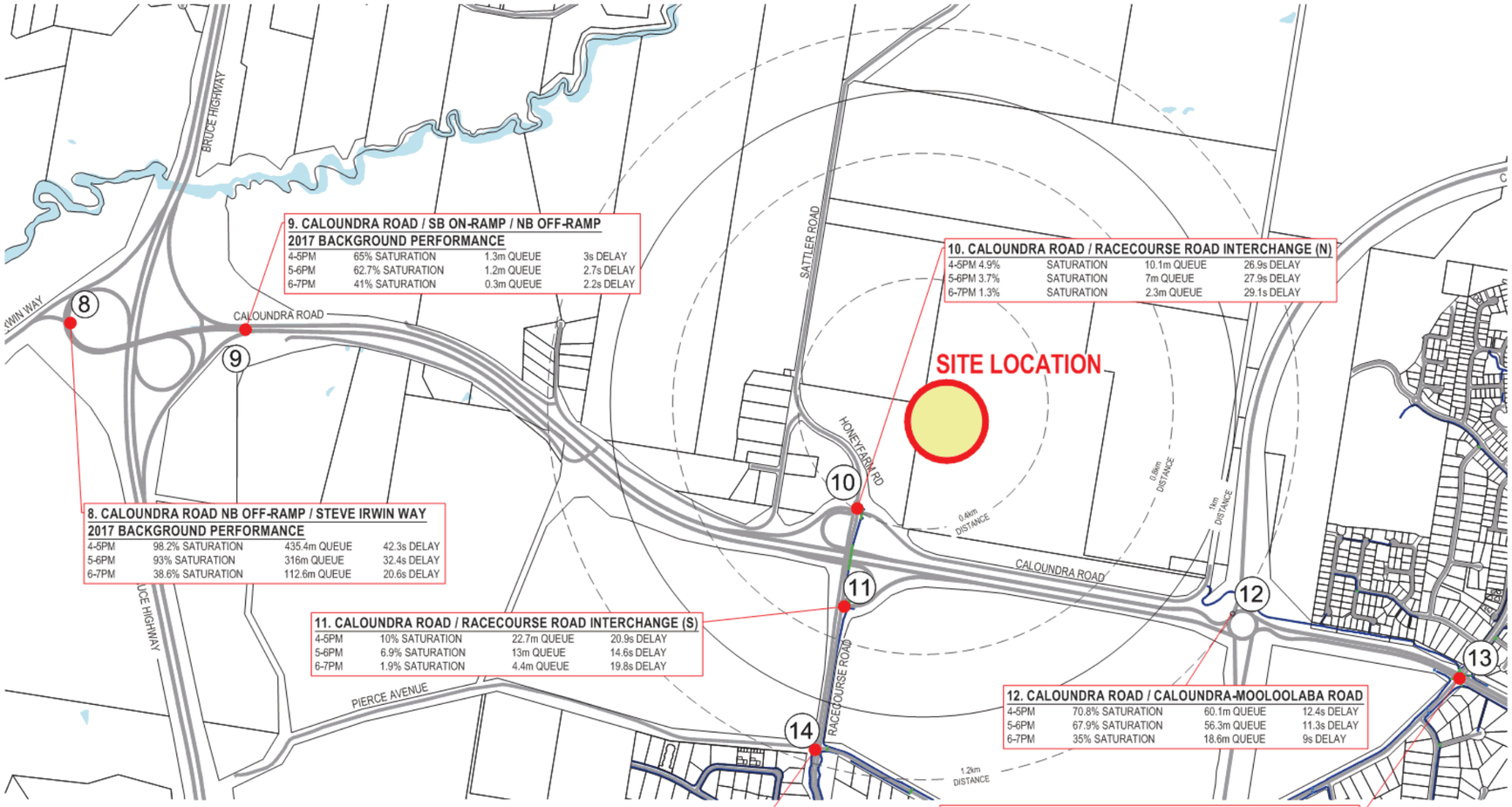

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Date: 12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked
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SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
EXISTING PERFORMANCE DURING DESIGN PERIODS
NOT FOR CONSTRUCTION
PLAN No: 1557 - SK202 REVISION: A SHEET: 1 OF 1
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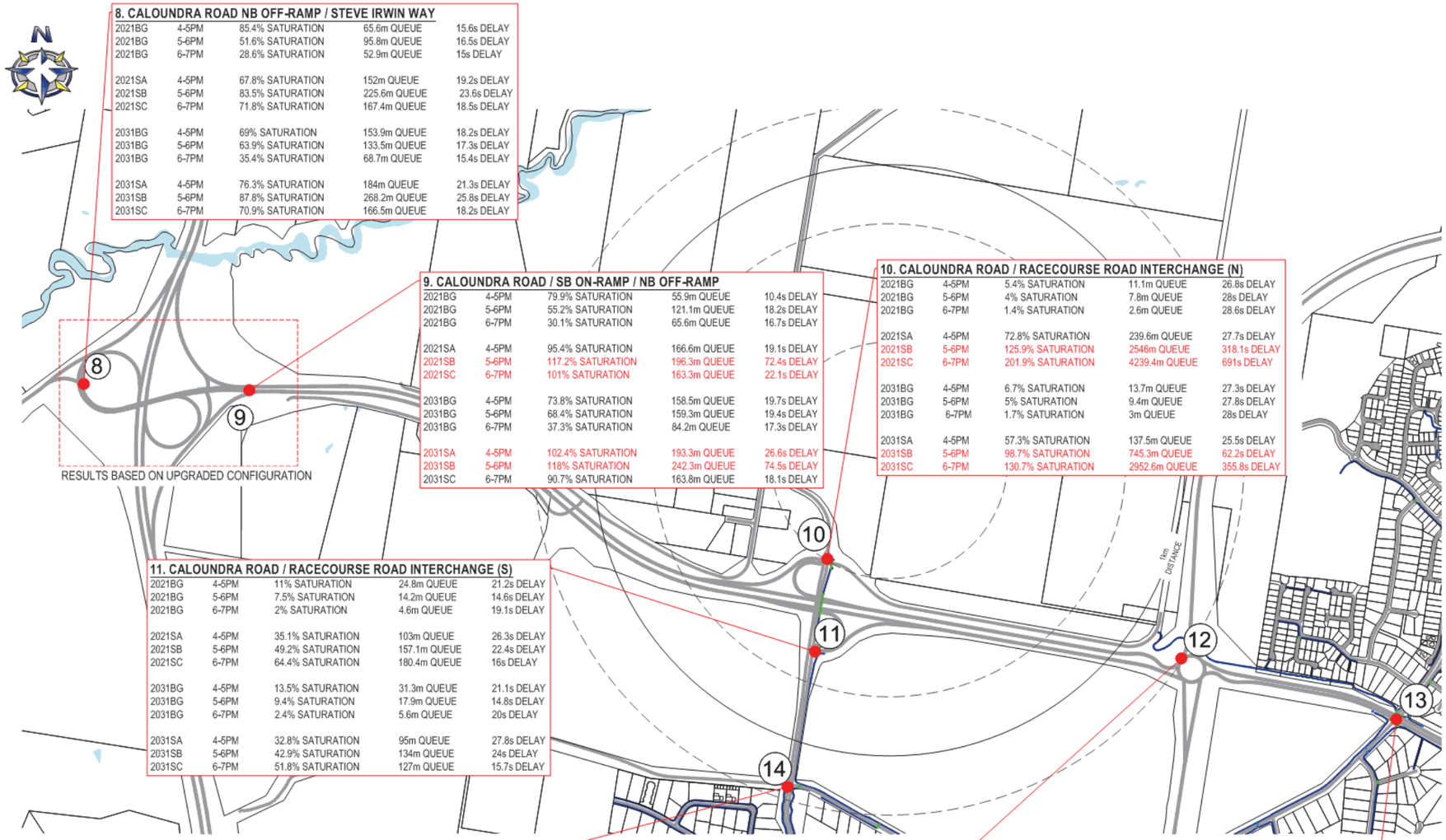

8. CALOUNDRA ROAD NB OFF-RAMP / STEVE IRWIN WAY

2021BG	4-5PM	85.4% SATURATION	65.6m QUEUE	15.6s DELAY
2021BG	5-6PM	51.6% SATURATION	95.8m QUEUE	16.5s DELAY
2021BG	6-7PM	28.6% SATURATION	52.9m QUEUE	15s DELAY
2021SA	4-5PM	67.8% SATURATION	152m QUEUE	19.2s DELAY
2021SB	5-6PM	83.5% SATURATION	225.6m QUEUE	23.6s DELAY
2021SC	6-7PM	71.8% SATURATION	167.4m QUEUE	18.5s DELAY
2031BG	4-5PM	69% SATURATION	153.9m QUEUE	18.2s DELAY
2031BG	5-6PM	63.9% SATURATION	133.5m QUEUE	17.3s DELAY
2031BG	6-7PM	35.4% SATURATION	68.7m QUEUE	15.4s DELAY
2031SA	4-5PM	76.3% SATURATION	184m QUEUE	21.3s DELAY
2031SB	5-6PM	87.8% SATURATION	268.2m QUEUE	25.8s DELAY
2031SC	6-7PM	70.9% SATURATION	166.5m QUEUE	18.2s DELAY

9. CALOUNDRA ROAD / SB ON-RAMP / NB OFF-RAMP

2021BG	4-5PM	79.9% SATURATION	55.9m QUEUE	10.4s DELAY
2021BG	5-6PM	55.2% SATURATION	121.1m QUEUE	18.2s DELAY
2021BG	6-7PM	30.1% SATURATION	65.6m QUEUE	16.7s DELAY
2021SA	4-5PM	95.4% SATURATION	166.6m QUEUE	19.1s DELAY
2021SB	5-6PM	117.2% SATURATION	196.3m QUEUE	72.4s DELAY
2021SC	6-7PM	101% SATURATION	163.3m QUEUE	22.1s DELAY
2031BG	4-5PM	73.8% SATURATION	158.5m QUEUE	19.7s DELAY
2031BG	5-6PM	68.4% SATURATION	159.3m QUEUE	19.4s DELAY
2031BG	6-7PM	37.3% SATURATION	84.2m QUEUE	17.3s DELAY
2031SA	4-5PM	102.4% SATURATION	193.3m QUEUE	26.6s DELAY
2031SB	5-6PM	118% SATURATION	242.3m QUEUE	74.5s DELAY
2031SC	6-7PM	90.7% SATURATION	163.8m QUEUE	18.1s DELAY

10. CALOUNDRA ROAD / RACECOURSE ROAD INTERCHANGE (N)

2021BG	4-5PM	5.4% SATURATION	11.1m QUEUE	26.8s DELAY
2021BG	5-6PM	4% SATURATION	7.8m QUEUE	28s DELAY
2021BG	6-7PM	1.4% SATURATION	2.6m QUEUE	28.6s DELAY
2021SA	4-5PM	72.8% SATURATION	239.6m QUEUE	27.7s DELAY
2021SB	5-6PM	125.9% SATURATION	2546m QUEUE	318.1s DELAY
2021SC	6-7PM	201.9% SATURATION	4239.4m QUEUE	691s DELAY
2031BG	4-5PM	6.7% SATURATION	13.7m QUEUE	27.3s DELAY
2031BG	5-6PM	5% SATURATION	9.4m QUEUE	27.8s DELAY
2031BG	6-7PM	1.7% SATURATION	3m QUEUE	28s DELAY
2031SA	4-5PM	57.3% SATURATION	137.5m QUEUE	25.5s DELAY
2031SB	5-6PM	98.7% SATURATION	745.3m QUEUE	62.2s DELAY
2031SC	6-7PM	130.7% SATURATION	2952.6m QUEUE	355.8s DELAY

11. CALOUNDRA ROAD / RACECOURSE ROAD INTERCHANGE (S)

2021BG	4-5PM	11% SATURATION	24.8m QUEUE	21.2s DELAY
2021BG	5-6PM	7.5% SATURATION	14.2m QUEUE	14.6s DELAY
2021BG	6-7PM	2% SATURATION	4.6m QUEUE	19.1s DELAY
2021SA	4-5PM	35.1% SATURATION	103m QUEUE	26.3s DELAY
2021SB	5-6PM	49.2% SATURATION	157.1m QUEUE	22.4s DELAY
2021SC	6-7PM	64.4% SATURATION	180.4m QUEUE	16s DELAY
2031BG	4-5PM	13.5% SATURATION	31.3m QUEUE	21.1s DELAY
2031BG	5-6PM	9.4% SATURATION	17.9m QUEUE	14.8s DELAY
2031BG	6-7PM	2.4% SATURATION	5.6m QUEUE	20s DELAY
2031SA	4-5PM	32.8% SATURATION	95m QUEUE	27.8s DELAY
2031SB	5-6PM	42.9% SATURATION	134m QUEUE	24s DELAY
2031SC	6-7PM	51.8% SATURATION	127m QUEUE	15.7s DELAY

14. RACECOURSE ROAD / PIERCE AVENUE

2021BG	4-5PM	7% SATURATION	1.7m QUEUE	2.8s DELAY
2021BG	5-6PM	4.3% SATURATION	1m QUEUE	2.4s DELAY
2021BG	6-7PM	1.4% SATURATION	0.3m QUEUE	2.6s DELAY
2021SA	4-5PM	7.4% SATURATION	1.8m QUEUE	3.8s DELAY
2021SB	5-6PM	12.1% SATURATION	1.1m QUEUE	4.6s DELAY
2021SC	6-7PM	11.5% SATURATION	0.4m QUEUE	5.9s DELAY
2031BG	4-5PM	9.4% SATURATION	2.3m QUEUE	2.9s DELAY
2031BG	5-6PM	5.7% SATURATION	1.4m QUEUE	2.5s DELAY
2031BG	6-7PM	1.7% SATURATION	0.4m QUEUE	2.6s DELAY
2031SA	4-5PM	9.8% SATURATION	2.4m QUEUE	3.6s DELAY
2031SB	5-6PM	10% SATURATION	1.5m QUEUE	4.2s DELAY
2031SC	6-7PM	9.3% SATURATION	0.4m QUEUE	5.5s DELAY

12. CALOUNDRA ROAD / CALOUNDRA-MOOLOOLABA ROAD

2021BG	4-5PM	82.5% SATURATION	84.5m QUEUE	15.4s DELAY
2021BG	5-6PM	75.1% SATURATION	71.9m QUEUE	12.8s DELAY
2021BG	6-7PM	38.3% SATURATION	21.3m QUEUE	9.1s DELAY
2021SA	4-5PM	123.9% SATURATION	1296.4m QUEUE	74.4s DELAY
2021SB	5-6PM	149.1% SATURATION	2427.7m QUEUE	140.4s DELAY
2021SC	6-7PM	59% SATURATION	40.2m QUEUE	11.2s DELAY
2031BG	4-5PM	169.1% SATURATION	2441.2m QUEUE	207.3s DELAY
2031BG	5-6PM	151.7% SATURATION	1935.4m QUEUE	143.6s DELAY
2031BG	6-7PM	48.2% SATURATION	30.5m QUEUE	9.4s DELAY
2031SA	4-5PM	204.5% SATURATION	3680.6m QUEUE	312.8s DELAY
2031SB	5-6PM	242.8% SATURATION	4579m QUEUE	401.6s DELAY
2031SC	6-7PM	63.2% SATURATION	46.1m QUEUE	11.4s DELAY

13. CALOUNDRA ROAD / PARKLANDS BOULEVARD / PIERCE AVENUE

2021BG	4-5PM	105.5% SATURATION	896.5m QUEUE	92.2s DELAY
2021BG	5-6PM	106.3% SATURATION	880.4m QUEUE	98.1s DELAY
2021BG	6-7PM	54.3% SATURATION	155m QUEUE	30.9s DELAY
2021SA	4-5PM	113.4% SATURATION	1063.3m QUEUE	123.1s DELAY
2021SB	5-6PM	115.8% SATURATION	1294.5m QUEUE	158.5s DELAY
2021SC	6-7PM	66.7% SATURATION	207.2m QUEUE	32.7s DELAY
2031BG	4-5PM	130.6% SATURATION	2146.2m QUEUE	265.7s DELAY
2031BG	5-6PM	131.6% SATURATION	2077.8m QUEUE	282.6s DELAY
2031BG	6-7PM	66.2% SATURATION	207.8m QUEUE	31.3s DELAY
2031SA	4-5PM	135.3% SATURATION	2352.4m QUEUE	299.3s DELAY
2031SB	5-6PM	138% SATURATION	2392.4m QUEUE	331s DELAY
2031SC	6-7PM	82.7% SATURATION	270.3m QUEUE	34.3s DELAY

SIDRA CODE LEGEND:

2021BG / 2031BG - BACKGROUND PERFORMANCE FOR YEAR (NO STADIUM)

2021SA / 2031SA - STADIUM PERFORMANCE FOR YEAR, 5000 SPECTATOR EVENT

2021SB / 2031SB - STADIUM PERFORMANCE FOR YEAR, 10000 SPECTATOR EVENT

2021SC / 2031SC - STADIUM PERFORMANCE FOR YEAR, 15000 SPECTATOR EVENT

LEGEND

- ROAD NETWORK
- PATHWAYS
- PEDESTRIAN / PATHWAY CONNECTOR
- WATERBODY
- DCDB BOUNDARY
- BUS ROUTE - 603
- BUS ROUTE - 605
- BUS STOP

0 150 300 450 600 750m
SCALE 1:15000 A3

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PLAN DETAILS:

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Date:	12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked
A	17-07-17	MINOR AMENDMENTS	K.M.	C.D.F.

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:

FUTURE ROAD NETWORK PERFORMANCE DURING DESIGN PERIODS

NOT FOR CONSTRUCTION

PLAN No: *1557 - SK206* REVISION: *A* SHEET: 1 OF 1

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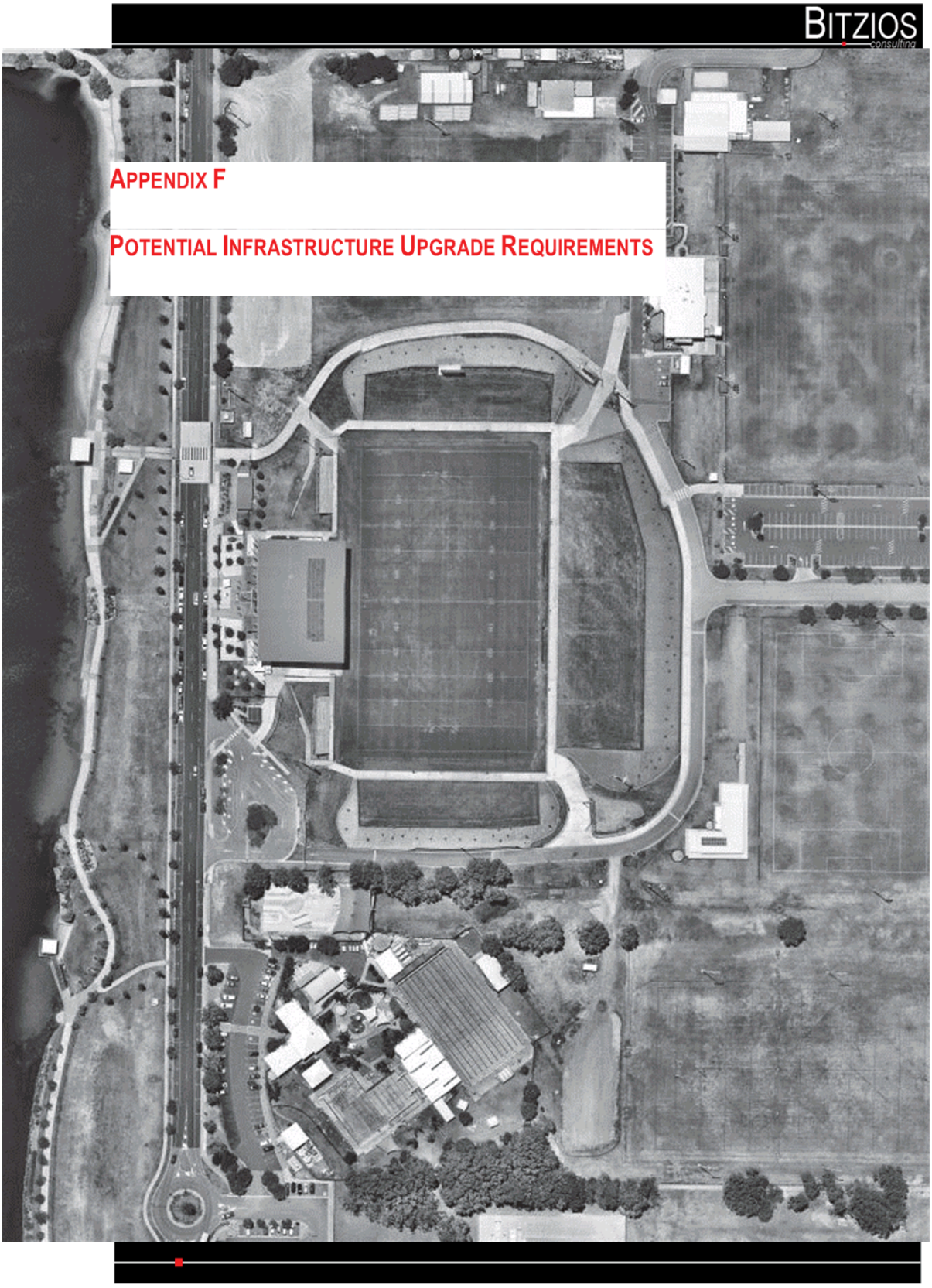
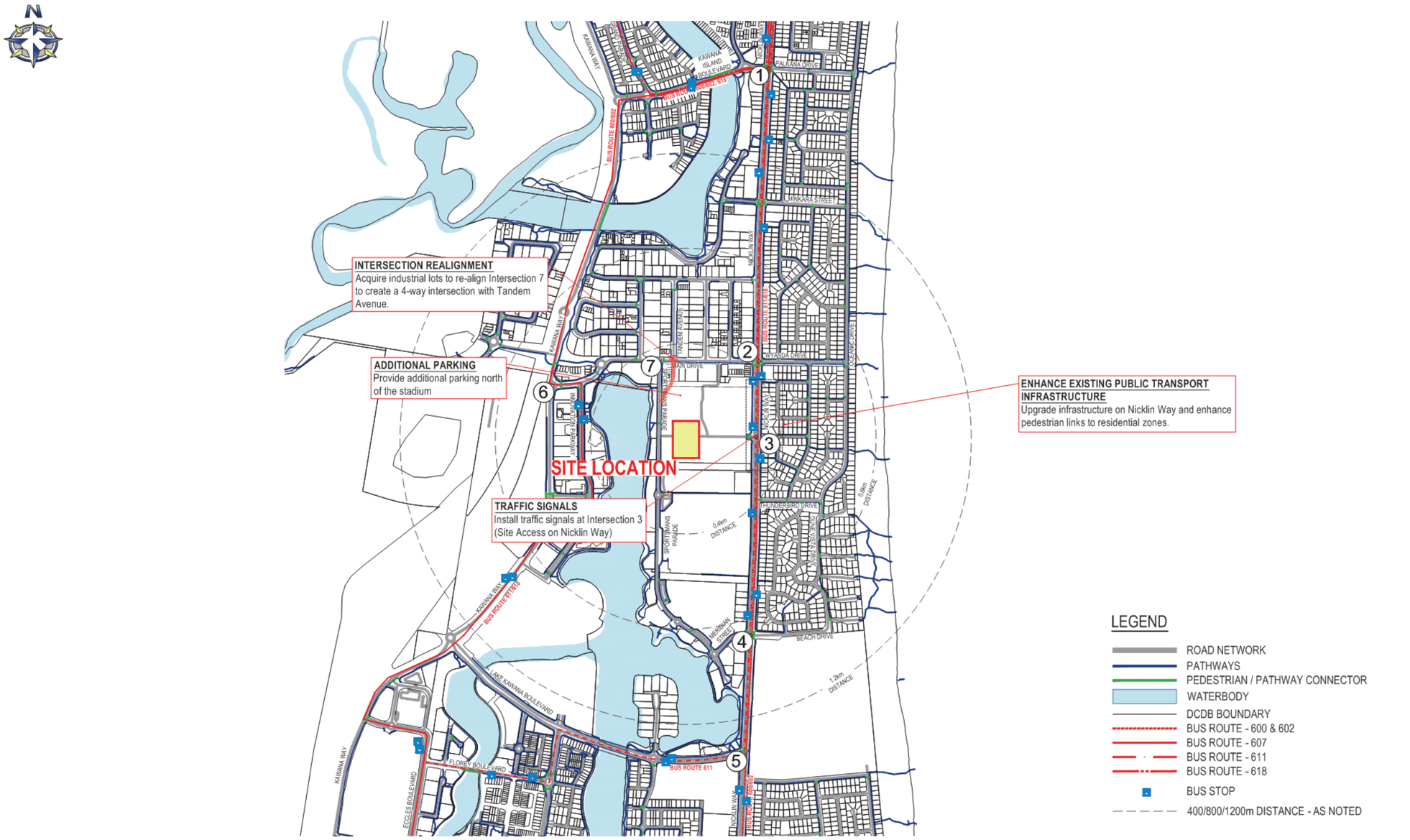

BITZIOS
consulting
APPENDIX F
POTENTIAL INFRASTRUCTURE UPGRADE REQUIREMENTS



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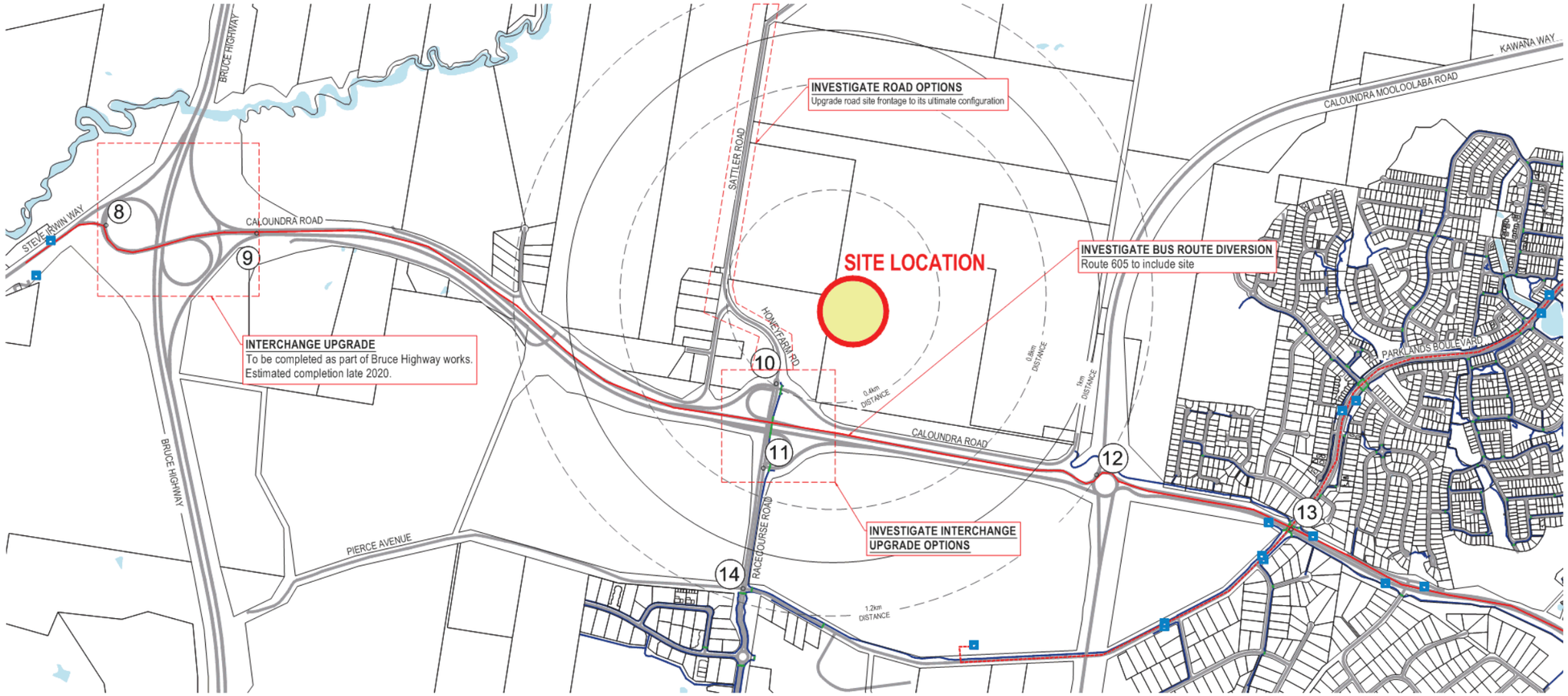
A	17-07-17	MINOR AMENDMENTS	K.M.	C.D.F.

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
POTENTIAL FUTURE TRANSPORT INFRASTRUCTURE REQUIREMENTS
NOT FOR CONSTRUCTION

PLAN No: **1557 - SK107** REVISION: **A** SHEET: 1 OF 1
FILE LOCATION: J:\CIV\1557 SUNSHINE COAST STADIUM\DESIGN - CIVIL\ACAD\CIV\1557-BASE.DWG



POTENTIAL TRANSPORT INFRASTRUCTURE UPGRADE OPTIONS AT LOCATION 2 INCLUDE:

- Investigate the merit of upgrading Honeyfarm Road along the site frontage to its ultimate configuration;
- Investigate the merit of upgrading Intersection 8 (Caloundra Road / Northbound Off-Ramp / Steve Irwin Way) to provide additional capacity. This may include increasing the capacity of the off-ramp;
- Investigate the merit of upgrading Intersection 9 (Caloundra Road / Southbound On and Off-Ramps) to a signalised intersection. This would allow coordination with Intersection 8 to better manager queues;
- Investigate the merit of upgrading Intersection 10 (Honeyfarm Road / Racecourse Road Interchange (north)) to provide additional capacity. This may include increasing the capacity of the off-ramp;
- Investigate the merit of upgrading Intersection 11 (Honeyfarm Road / Racecourse Road Interchange (south)) to provide additional capacity. This may include increasing the capacity of the off-ramp;
- Investigate opportunities to link the site with existing public transport services. This may include diverting Route 605 off Caloundra Road; and
- Investigate opportunities to provide active transport linkages to the surrounding catchment.

0 150 300 450 600 750m
SCALE 1:15000 A3

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PLAN AMENDMENTS:

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SUNSHINE COAST STADIUM
TRANSPORT ANALYSIS
FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
FUTURE TRANSPORT INFRASTRUCTURE REQUIREMENTS
NOT FOR CONSTRUCTION
PLAN No: 1557 - SK207 REVISION: A SHEET: 1 OF 1
FILE LOCATION: J:\CIV\1557 SUNSHINE COAST STADIUM\DESIGN - CIVIL\ACAD\CIV\1557-BASE.DWG

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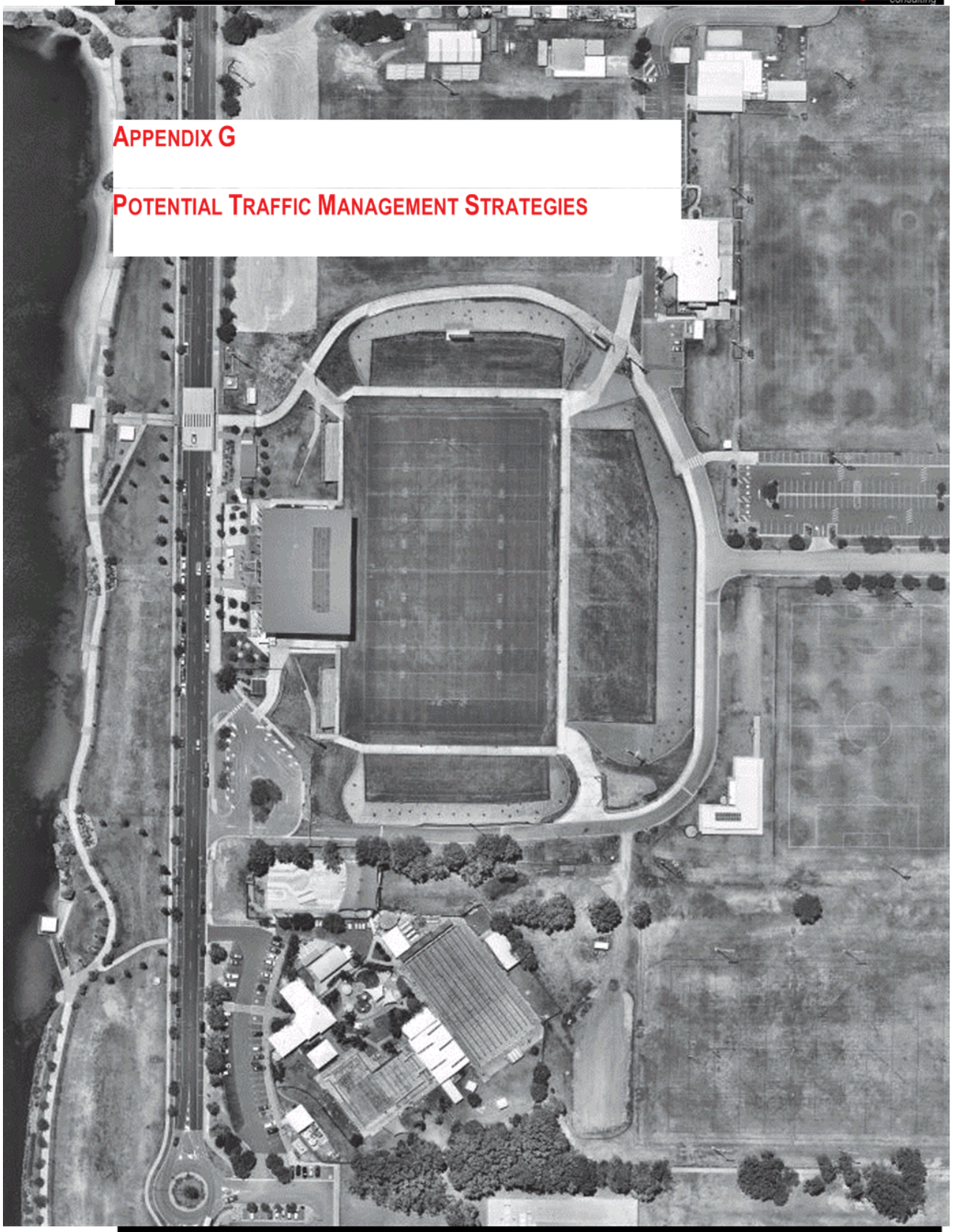
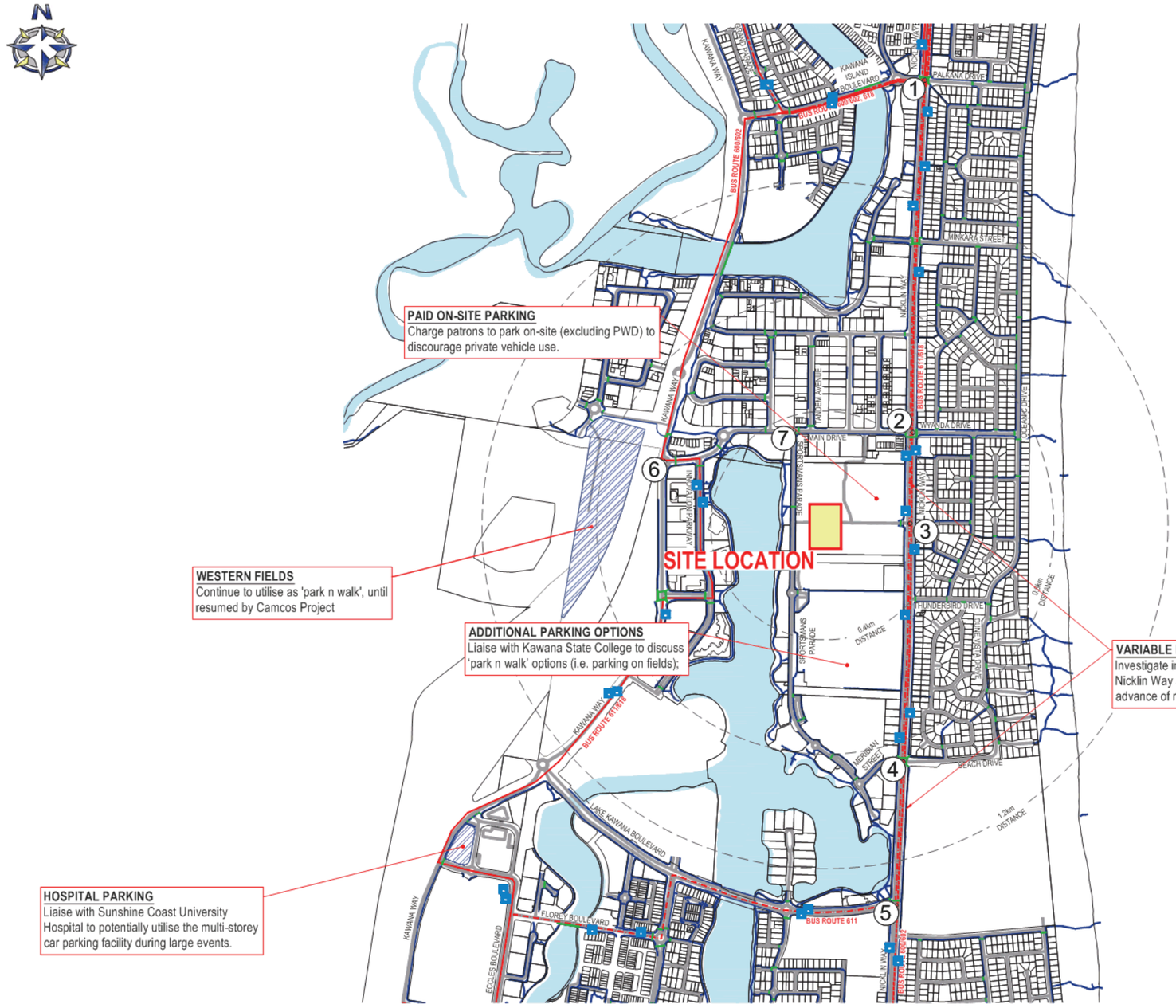


APPENDIX G

POTENTIAL TRAFFIC MANAGEMENT STRATEGIES



GENERAL TRAFFIC MANAGEMENT OPTIONS

- Heavily promote and advertise alternative transport modes available to patrons prior to events (i.e. 'park n walk', 'park n ride', cycling, carpooling, buses, taxis, Uber, pick-up / drop-off etc.)
- Investigate the feasibility of implementing free public transport for all ticket holders;
- Liaise with bus operators to confirm fleet capacity and willingness to operate shuttle buses;
- Investigate 'park and ride' options external to the site (i.e. nearby sportsground etc.);
- Investigate 'park and walk' options utilising Sunshine Coast University Hospital car park.

LEGEND

- ROAD NETWORK
- PATHWAYS
- PEDESTRIAN / PATHWAY CONNECTOR
- WATERBODY
- DCDB BOUNDARY
- BUS ROUTE - 600 & 602
- BUS ROUTE - 607
- BUS ROUTE - 611
- BUS ROUTE - 618
- BUS STOP
- 400/800/1200m DISTANCE - AS NOTED

0 150 300 450 600 750m
SCALE 1:15000 A3

CONTOUR
A.B.N. 62 117 061 659
PO Box 474, Buddina 4575, Qld
6 Innovation Parkway, Kawana Waters 4575, Qld
Ph. (07) 5493 9777 Fax (07) 5493 6888
Website: www.ContourCE.com.au

PLAN DETAILS:	
Designed:	K.M.
Drawn:	K.M.
Checked:	C.D.F.
Datum:	AHD
Date:	12-07-2017

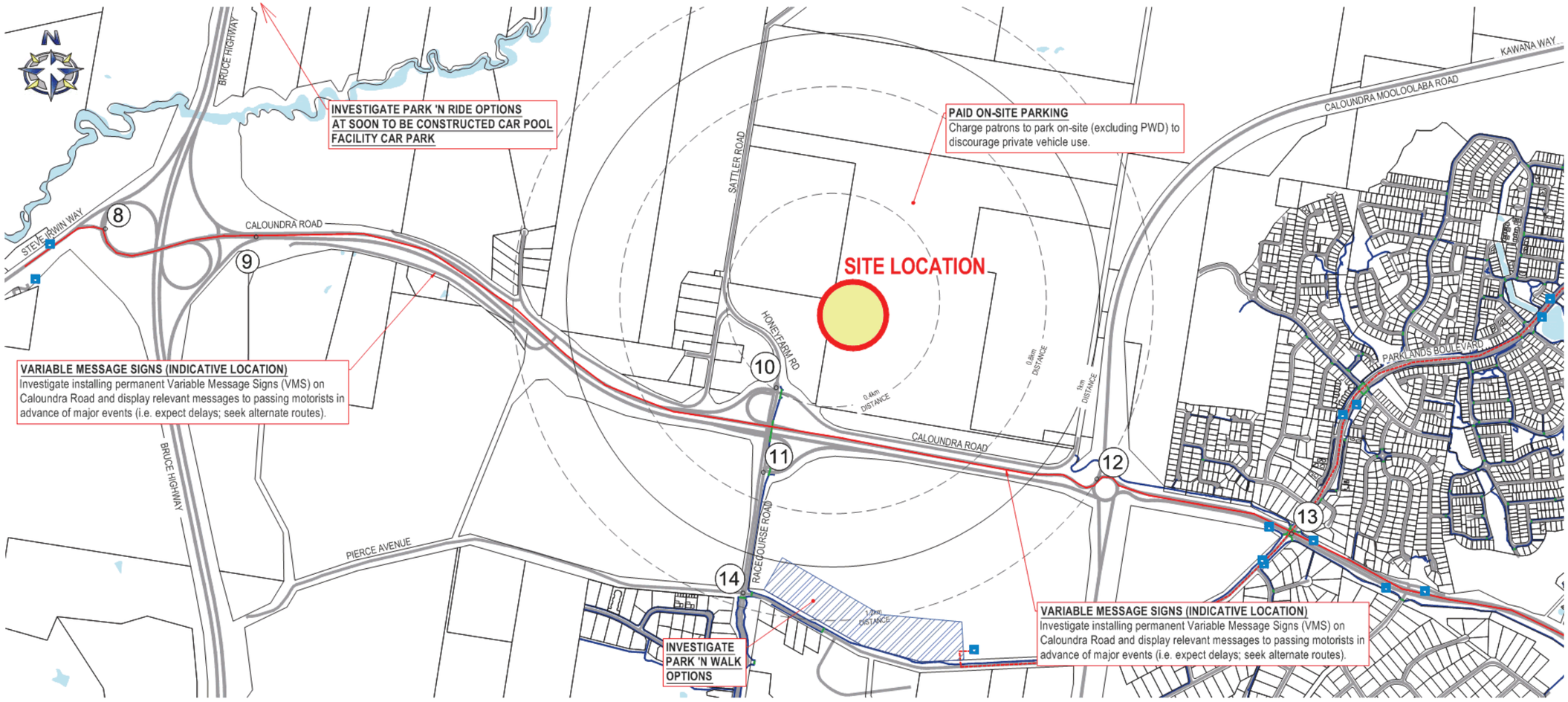
PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked
A	17-07-17	MINOR AMENDMENTS	K.M.	C.D.F.

SUNSHINE COAST STADIUM TRANSPORT ANALYSIS FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
HIGH LEVEL TRAFFIC MANAGEMENT ARRANGEMENTS
NOT FOR CONSTRUCTION

PLAN No: *1557 - SK108* REVISION: *A* SHEET: 1 OF 1
FILE LOCATION: J:\CIV\1557 SUNSHINE COAST STADIUM\5\DESIGN - CIVIL\ACAD\CIV\1557-BASE.DWG



TRAFFIC MANAGEMENT STRATEGY FOR LOCATION 2:

- Heavily promote and advertise alternative transport modes available to patrons prior to events (i.e. 'park n walk', 'park n ride', cycling, carpooling, buses, taxis, Uber, pick-up / drop-off etc.)
- Investigate the feasibility of implementing free public transport for all ticket holders;
- Liaise with bus operators to confirm fleet capacity and willingness to operate shuttle buses;
- Investigate 'park and ride' options external to the site (i.e. nearby sportsground, soon to be constructed 'car pool facility' car park opposite Aussie World precinct, etc)
- Liaise with the Corbould Park Racecourse to discuss utilising their car park as a 'park n walk' facility;
- Charge patrons to park on-site, excluding PWD, as a method to discourage private vehicle uses; and
- Investigate installing permanent VMS on Caloundra Road and display relevant messages to passing motorists in advance of major events (i.e. expect delays; seek alternate routes).

603
605
BUS STOP

0 150 300 450 600 750m
SCALE 1:15000 A3

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PLAN DETAILS:
Designed: K.M.
Drawn: K.M.
Checked: C.D.F.
Datum: AHD
Date: 12-07-2017

PLAN AMENDMENTS:

Rev	Date	Comment	Altered	Checked
A	17-07-17	MINOR AMENDMENTS	K.M.	C.D.F.

SUNSHINE COAST STADIUM
TRANSPORT ANALYSIS
FOR SUNSHINE COAST COUNCIL

PLAN TITLE:
HIGH LEVEL TRAFFIC MANAGEMENT ARRANGEMENTS
NOT FOR CONSTRUCTION
PLAN No: 1557 - SK208 REVISION: A SHEET: 1 OF 1
FILE LOCATION: J:\CIVIL\1557 SUNSHINE COAST STADIUM\DESIGN - CIVIL\ACAD\CIVIL\1557-BASE.DWG