

PLANS AND DOCUMENTS
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MEDQ



Image Source: Google Street Maps

10 Theodore Street Eagle Farm Transport Impact Assessment

Client // Voxson Pty Ltd
Office // QLD
Reference // 15B1226000
Date // 22/06/15



10 Theodore Street

Eagle Farm

Transport Impact Assessment

Issue: A 22/06/15

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Reference: 15B1226000

GTA Consultants Office: QLD

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
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1. Introduction

1.1 Background

An application is to be lodged with Economic Development Queensland (EDQ) for a proposed change to an existing Development Approval for Office and Showroom uses, to be located at 10 Theodore Street, Eagle Farm. The existing Development Approval (Ref DEZ2010/102) was lodged with the EDQ (formerly Urban Land Development Authority) in 2010. The revised DA seeks to increase the overall site GFA.

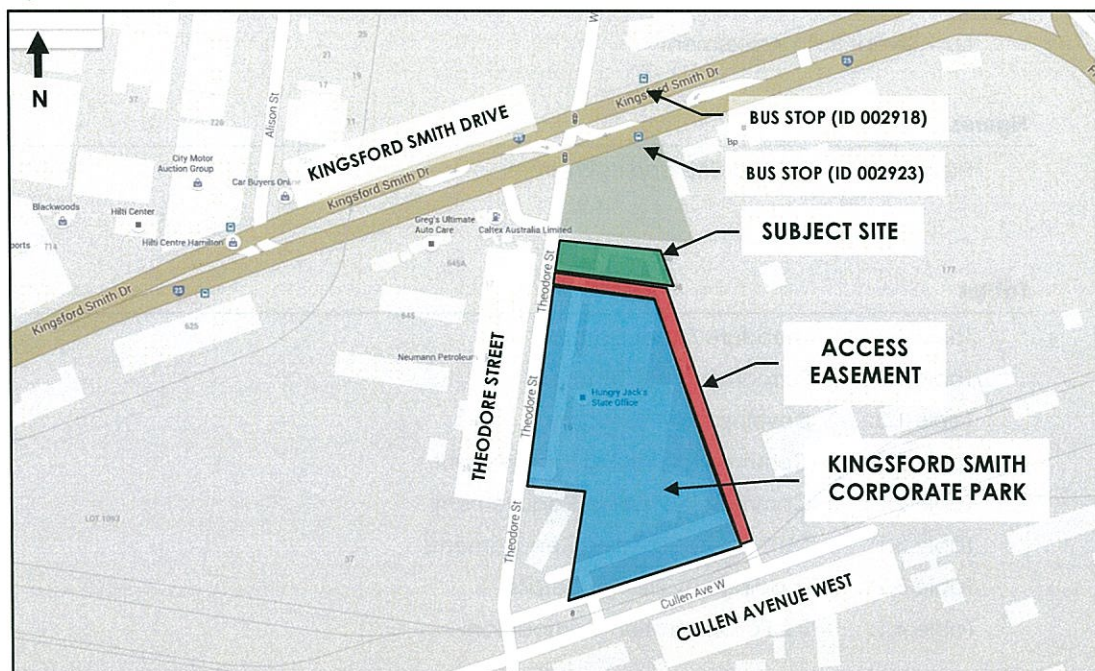
This report has been prepared to assess the suitability of the proposed development from a traffic and transport perspective. In preparing this report, reference has been made to:

- Development plans, prepared by Mode Design, Drawing Numbers DD100_H and DD102_K, dated 22 June 2015 (Appendix A)
- EDQ's Northshore Hamilton Urban Development Area Development Scheme (Development Scheme)
- Brisbane City Council's *Transport, Access, Parking and Planning Scheme Policy* (TAPS Policy)
- Plans for the approved development, sourced from Council's PD Online (Appendix B).

1.2 Subject Site

The subject site, as shown in Figure 1.1, is located at 10 Theodore Street, Eagle Farm. EDQ classifies the site as being contained within the Medium Impact Employment Zone of EDQ's Development Scheme. The site has a single frontage to Theodore Street of approximately 20m, and is currently occupied by a vacant commercial building. Surrounding properties are predominantly industrial / warehouse uses, with the Kingsford Smith Corporate Park located adjacent to the subject site.

Figure 1.1: Subject Site and its Environs



Source: Google Maps

1.3 Existing Transport Network

1.3.1 Road Network

Characteristic of key roads proximate to the subject site are outlined in Table 1.1.

Table 1.1: Theodore Street Details

Road Name	Theodore Street	Cullen Avenue West	Kingsford Smith Drive
Controlled By	Council	Council	Council
Class Type	Suburban Road	Neighbourhood Road (Primary Freight Access)	Arterial Road (Primary Freight Route)
Posted Speed Limit	Unposted (50km/h)	Unposted (50km/h)	60km/h
Reserve Width	20m	40m	40m
Carriageway Width	9m	8m (northern road) & 7m (southern road) [1]	29m
Lane Formation	Two Way / Two Lane / Undivided	2 x Two Way / Two Lane / Undivided roads (separated by a grass reserve)	Two Way / Six Lane / Median Divided
Parking Restrictions	½ hour 8:00am – 4:00pm (Mon – Fri) along subject site frontage All other areas 'No Standing' both sides	Unrestricted both sides	'No Standing' both sides

[1] Cullen Avenue West forms two adjacent roadways separated by a grass reserve.

1.3.2 Public Transport

Two bus stops are located within 350m of the subject site, being:

- o Stop ID 002923: South side of Kingsford Smith Drive approaching Theodore Street
- o Stop ID 002918: North side of Kingsford Smith Drive departing Theodore Street.

The services operating from these bus stops are outlined in Table 1.2.

Table 1.2: Surrounding Bus Services

Service #	Service Name	Stops Serviced	Days of Operation	First / Last Service	Peak Frequency	# Services Daily
302	Pinkenba to City	Stop 002923 Stop 002918	Monday - Friday	4:00pm – 4:45pm inbound 6:00am – 7:20am outbound	30 minutes	3 inbound 4 outbound
303	Myrletown to Doomben	Stop 002923	Monday - Friday	6:30am – 6:15pm inbound 6:00am – 6:00pm outbound	30 minutes	12 inbound 13 outbound

1.4 Development Proposal

The proposed development includes Office and Showroom uses as summarised in Table 1.3.

Table 1.3: Development Summary

Use	Proposed (sq.m GFA)	Previously Approved (sq.m GFA)	Change (sq.m GFA)
Office	4,873	-	-
Showroom	539	-	-
Total	5,412	4,834	578

Vehicular access to the proposed development is proposed as follows:

- o Access via an existing 7.5m wide driveway on Theodore Street
- o Egress via an existing 7.0m wide driveway on Cullen Avenue West.

The existing driveways provide access to the adjacent Kingsford Smith Corporate Park, with an easement allowing vehicular access to the proposed development. Given that the access forms an access easement and cannot be modified, assessment has not been undertaken as to its suitability.

2. Parking Assessment

2.1 Parking Quantum

Car Parking

Car parking rates for the proposed development are set out in EDQ's Development Scheme. The Development Scheme provides interim and ultimate car parking rates for development, on the basis that reduced car parking and subsequent private vehicle trips will be desirable as public transport is established in the area.

The Development Scheme indicate that ultimate car parking rates should be adopted following 'the provision of first fixed public transport service'. This reference is considered ambiguous, with no clear trigger provided. As such the car parking rates have been assumed to reflect a range based on accessibility to public transport.

In addition, parking rates for persons with a disability (PWD), have been sourced from Council's TAPS Policy.

Application of these rates to the proposed development is contained in Table 2.1

Table 2.1: Commercial Parking Requirement

Use	Size	Parking Rate		Parking Requirement	
		Interim	Ultimate	Interim	Ultimate
Car Parking	4,276sq.m	1 space / 50sq.m GFA	1 space / 100sq.m GFA	86 spaces	43 spaces
PWD Parking		1 space / 50 regular spaces		2 spaces	

The development proposal incorporates the following parking provision:

- 36 regular car bays
- 19 tandem parking modules (38 spaces) – reserved for staff use only
- One PWD space
- Two motorcycle bays.

As per Council's TAPS Policy, the proposed motorcycle parking has been included in the overall car parking demand, noting that it constitutes approximately 2% of total supply. Further, given that the car parking is servicing commercial land uses, all tandem spaces have been included in the parking provision given that they can be allocated to individual tenancies.

On this basis, the development proposal incorporates a total of 77 parking spaces, which equates to a parking rate of one space per 56sq.m GFA. By way of comparison, the approved development provided car parking at a rate of one space per 77sq.m GFA.

GTA is of the opinion that the overall proposed car parking provision is suitable, noting the following:

- The proposed provision is greater than that proposed as part of the approved development proposal
- The car parking rate is near to the interim parking requirement. This is considered appropriate for the location of the proposed development, which has limited accessibility to public transport.
- Bay 7 on ground floor is designed such that it can operate as a PWD bay should it be required, increasing the PWD provision to two spaces.

Bicycle Parking

Bicycle parking rates for the proposed development are set out in EDQ's Development Scheme. Application of these rates to the proposed development is contained in Table 2.1.

Table 2.2: Commercial Parking Requirement

Use	Size	Bicycle Parking Rate	Bicycle Parking Requirement
Staff Bicycle Parking	4,276sq.m	1 space / 200sq.m	22 spaces
Visitor Bicycle Parking		1 space / 1,000sq.m	5 spaces

The development proposal incorporates 24 secure bicycle parking spaces for staff and five parking spaces for visitors. On this basis, the proposed bicycle parking supply is consistent with the EDQ requirements, and is considered suitable.

2.2 Parking Layout

The layout of the proposed car parking area has been reviewed against the requirements of Council's TAPS Policy and Australian Standards. Key elements of this review are contained at Appendix C, and indicate that the proposed layout is generally in accordance with the requirements of Council's TAPS Policy, with the following performance based solutions proposed.

Performance Solution #1: Grade Transitions

The proposed development incorporates grade transitions for cars at a rate of 1:8, over a distance not less than 2m. These transitions comply with that recommended in Australian Standards 2890.1:2004, and are therefore expected to allow for suitable vehicle manoeuvring.

Performance Solution #2: Vehicle Queuing

The proposed development provides vehicle queuing for a single vehicle before the first internal conflict point. It is noted that:

- o The proposed circulation arrangement is such that vehicles entering the site will not be required to give way to any other cars.
- o The first conflict point associated with the proposed development is an intersection with a parking aisle providing access to five car parking spaces. The probability of vehicle conflict is expected to be low due to the low number of available parking spaces, and subsequent demand for this parking aisle.
- o The existing circulation road to the south (providing access to the Kingsford Smith Corporate Park) prevents an increased queueing distance being provided, given that it cannot be modified as part of this DA.

On this basis, the probability of vehicle queueing is anticipated to be low, with the proposed provision considered suitable.

Performance Solution #3: Motorcycle Bays

The proposed motorcycle bays are a minimum width of 1.2m. This width is in accordance with the requirements of Australian Standards 2890.1:2004, and is therefore expected to allow for suitable motorcycle parking.

3. Commercial Vehicle Servicing

3.1 Design Vehicle and Loading Provision

Council's TAPS Policy provides guidance on design vehicle and servicing bays recommended for various uses, as summarised in Table 3.1.

Table 3.1: TAPS Policy Servicing Requirements

Use	Design Vehicle	Loading Bays			
		Van	Small Rigid Vehicle (SRV)	Medium Rigid Vehicle (MRV)	AV
Showroom	Articulated Vehicle (AV)	-	-	-	1
Office	Refuse Collection Vehicle (RCV)	3	1	1	-

The development proposal seeks a reduced loading provision, with a single central loading area proposed, to service both the Showroom and Office uses. It is intended that the loading area is to be utilised by the following design vehicles:

- Vehicles up to and including a Medium Rigid Vehicle for deliveries.
- A rear lift Refuse Collection Vehicle (RCV) for waste collection. Refuse collection is to be undertaken by private contractor.

This arrangement is generally consistent with the approved development plans, with the exception of deliveries being undertaken by MRV rather than Heavy Rigid Vehicles (HRV).

The proposed loading provision is considered suitable, noting that:

- An AV is not expected to be required on-site given that the showroom is not intended for vehicle sales;
- Should a HRV be required for infrequent deliveries, this can be managed to occur outside operating hours and utilise circulation aisles;
- The proposed loading bay allows flexibility in the type and size of vehicle that can utilise it. If no larger vehicles are utilising the bay (i.e. MRV / RCV), up to three vans able to utilise the bay at one time.
- Deliveries and refuse collection can be managed to occur outside peak operating hours, when demand for the loading bay is likely to be reduced.

3.2 Accessibility

The accessibility of the site and loading bay have been tested by way of a swept path assessment of relevant design vehicles. The results of this assessment are contained at Appendix D and indicate that relevant design vehicles can manoeuvre on site as required.

3.3 Loading Bay Design

The TAPS Policy requirements for RCV and MRV loading bays are summarised in Table 3.2. The results indicate that the proposed loading bay is generally in accordance with the requirements of the TAPS Policy, with a performance based solution for the vertical clearance.

Table 3.2: Loading Bay Design Details

Design Element	Council Requirement		Proposed Design	Compliant
	RCV	MRV		
Bay Width	3.5m	3.5m	3.8m	Yes
Bay Length	10.5m	9.0m	22.5m	Yes
Vertical Clearance	3.6m	4.5m	4.0m	Performance Based Solution

Performance Solution #1: Vertical Clearance

The proposed loading facility provides a vertical clearance of 4.0m, rather than the 4.5m required by the TAPS Policy. It is the opinion of GTA that the reduced vertical clearance is suitable, given the following:

- o Many commonly used MRV's have a vertical clearance requirement of less than 4.0m (i.e. vehicles in the Scania, Volvo and Isuzu fleets).
- o MRVs are expected to be predominantly associated with deliveries to the Showroom land use, with the Office land uses typically utilising smaller vehicles. It is expected that deliveries to the Showroom can be managed such that vehicles with a greater height clearance can utilise circulation aisles outside of typical site operating hours.

4. Traffic Impact

It is noted that the subject site has an existing approval for Office and Showroom land uses, with the proposed DA seeking to alter these uses. A summary of the expected traffic generation of the approved and proposed development is contained in Table 4.1.

Table 4.1: Traffic Generation Comparison

Land Use	Generation Rate [1]	Size (sq.m)		Peak Hour Traffic Generation	
		Approved	Proposed	Approved	Proposed
Office	2 vehicles movements / 100sq.m GFA	3,285	3,820	66 vehicle movements	77 vehicle movements
Showroom	2 vehicles movements / 100sq.m GFA	722	456	15 vehicle movements	10 vehicle movements
Total				81 vehicle movements	87 vehicle movements

[1] Generation rates sourced from Department of Transport and Main Roads

The results indicate that the proposed change to the approved development is expected to result in an increase in 6 vehicle movements in the peak hour. GTA is of the opinion that an increase in 6 vehicle movements will have negligible impact on the surrounding road, with the traffic generation generally consistent with the approved development proposal.

5. Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

- The proposed parking supply (both car and bicycle) is expected to be adequate to cater to demand.
- The proposed car park layout is consistent with Council standards, or alternatively offers a suitable performance based solution.
- The commercial vehicle servicing is expected to be adequate to cater to the loading demands of the proposed development.
- The increase in traffic generation resulting from the revised DA is considered negligible and not expected to have an adverse impact on local traffic operations.

Given the above, there is no reason that the proposed development should not be approved on the grounds of traffic and transport impacts.

Appendix A

Development Plans

Appendix B

Approved Development Plans

Appendix C

Car Park Layout Review

Design Aspect	Design Element	Council Requirement	Proposed Design	Compliant
Staff Car Parking	Bay width	2.5m	2.5m	Yes
	Bay length	5.4m	5.4m	Yes
	Aisle width	5.8m	5.8m	Yes
Visitor Car Parking	Bay width	2.6m	2.6m	Yes
	Bay length	5.4m	5.4m	Yes
	Aisle width	6.2m	6.2m	Yes
Clearance to Structure	Parking Envelope	Clear of Parking Envelope [1]	Clear of Parking Envelope	Yes
Terminating Aisles	Aisle Extension	2m aisle extension or 8m aisle width	2m aisle extension or 8m aisle width	Yes
Circulation Roads and Ramps	Circulation aisle width – two way	6.2m	6.2m	Yes
	Circulation aisle width – one way	3.3m	4.0m	Yes
Ramp Gradients	First 6m	1:20 for first 6m	1:20	Yes
	Circulation ramp	1:6	1:8	Yes
	Transitions	1:12.5	1:12	Performance Solution
Height Clearances	Circulation aisles	2.3m	2.3m	Yes
	Parking bays	2.1m	2.15m	Yes
Internal Queuing	Internal vehicle queuing provision	24m	7m	Performance Solution
Parking for Persons with Disabilities	Bay / Shared Area Width	2.4m	2.4m	Yes
	Bay / Shared Area Length	5.4m	5.4m	Yes
Motorcycle / Motor Scooter Parking	Bay width	1.35m	1.2m	Performance Solution
	Bay length	2.5m	2.8m	Yes

[1] TAPS Policy allow obstructions on one side of a bay for staff car parking, assuming that door opening is not required.

[2] Note: Intersection have been tested by way of swept path assessments, contained at Appendix D.

Appendix D

Swept Path Assessment

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