George Street, Newmarket

Proposed Plan Change

Integrated Transportation Assessment Report

1 April 2020

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Project:	George Street, Newmarket
Report title:	Integrated Transportation Assessment Report
Document reference:	J000674 - ITA PC
Date:	26 September 2019

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Draft Reissue	Michelle Seymour	Leo Hills	
Final Reissue to incorporate RFI	Michelle Seymour	Leo Hills	

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EXECUTIVE SUMMARY

Commute Transportation Consultants (Commute) has been engaged to prepare an Integrated Transport Assessment (ITA) for a proposed Plan Change for a 7,873m^2 site (referred to as the Plan Change area) located at 33 - 37 George Street, 13 – 15 Morgan Street and 10 Clayton Street, Newmarket. The Plan Change area is shown below in Figure 1.

Figure ES1: Proposed Plan Change Area (Source: Auckland Council GEOMAPS)

Based on the assessments undertaken in this report (including recommendations), it is concluded:

- There is no change in the overall land use for the Plan Change area, and the Plan Change area remains mixed use in nature. The key change proposed to apply within the Plan Change area is an increase in the building height standard.
- The Plan Change area has excellent accessibility to various transport modes: walking, cycling, bus, train and private vehicle.
- A comparison of three scenarios for the Plan Change area demonstrates that the proposed building height increases, in a worst-case example, the plan change generates approximately 65 more trips in the peak hour.
- The effects of the proposed building height increase with respect to vehicles can be managed by the implementation of parking maximum provisions as detailed in Section 5.
- Vehicle access is proposed to be consolidated to central access points from George Street, Morgan Street and Clayton Street. Pedestrian access will be provided through the site with active frontages internal to the site and a central plaza provided.

Overall, from a transport perspective, provided that parking is limited in a manner such as that proposed, the transport implications of the Plan Change provisions are considered to be as per those expected in the current planning provision in the Auckland Unitary Plan (Operative in Part) (AUP (OP)).

1 INTRODUCTION

Commute has been engaged to prepare an ITA for a proposed Plan Change to the AUP (OP) for a 7,873m^2 Plan Change area located at 33 - 37 George Street, 13 - 15 Morgan Street and 10 Clayton Street, Newmarket.

Key transportation considerations of the proposed Plan Change are:

- Compatibility with neighbouring land uses;
- The accessibility of the site to the various modes of transport; and
- The ability of the surrounding road network to safely and efficiently accommodate traffic generated by potential development enabled by the proposed plan change.

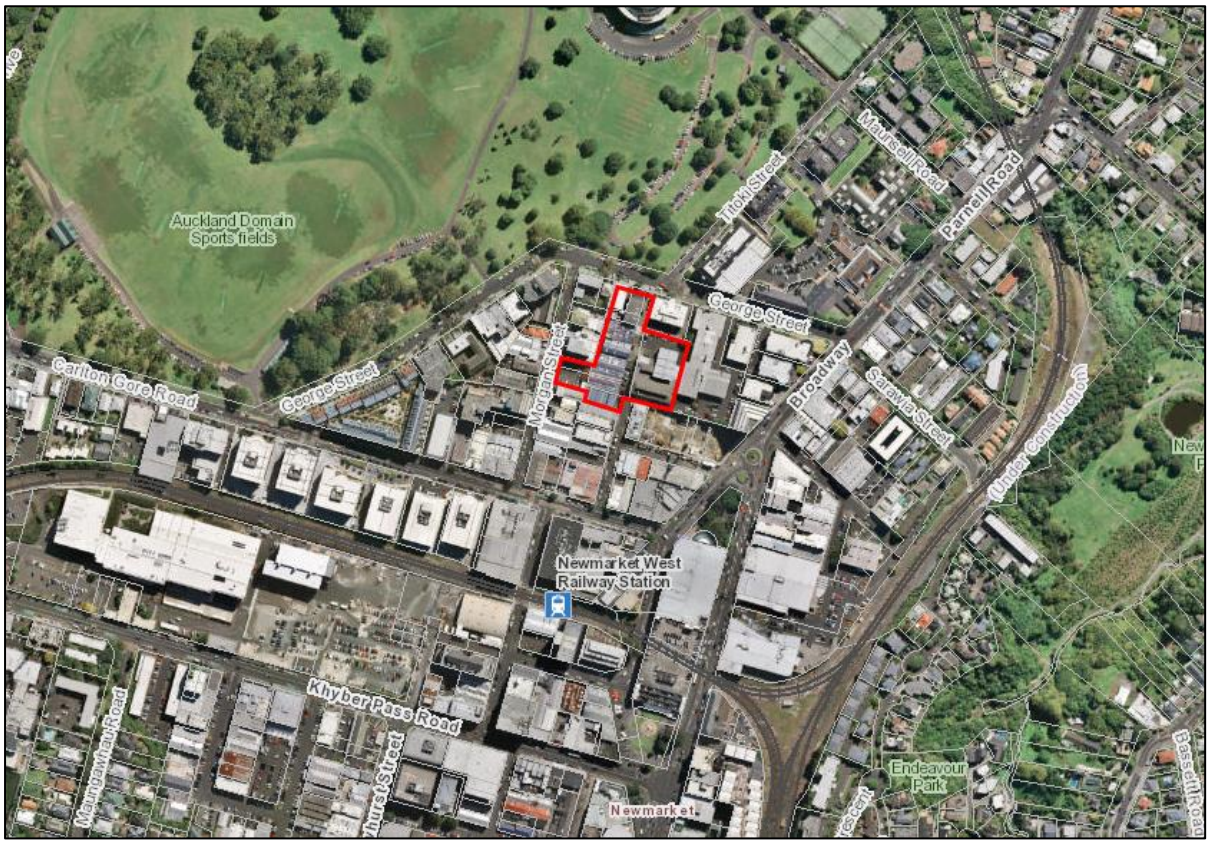
These and other transportation issues will be addressed in this report.

EXISTING ENVIRONMENT

1.1 SITE LOCATION

Figure 1 shows the location of the Plan Change area in relation to the surrounding road environment.

Figure 1: Locality plan the Plan Change area outlined in red (Source: Auckland Council GEOMAPS)



The Plan Change area is located in Newmarket, Auckland. The area is bounded by George Street to the north, Morgan Street and adjoining properties in the west, and adjoining Business – Mixed Use sites to the east and south. The Plan Change area is currently zoned as Business – Mixed Use and is also subject to a Centre Fringe Office Control and 27m Height Variation Control.

1.2 ROAD NETWORK

1.2.1 GEORGE STREET

George Street connects Broadway/Parnell Road and Carlton Gore Road, both classified as Arterial Roads in the AUP (OP). George Street is not classified as an arterial road.

Photograph 1 and Photograph 2 show George Street near the Plan Change area.

Photograph 1: George Street (looking east toward Broadway)

Photograph 2: George Street (looking west toward Carlton Gore Road)

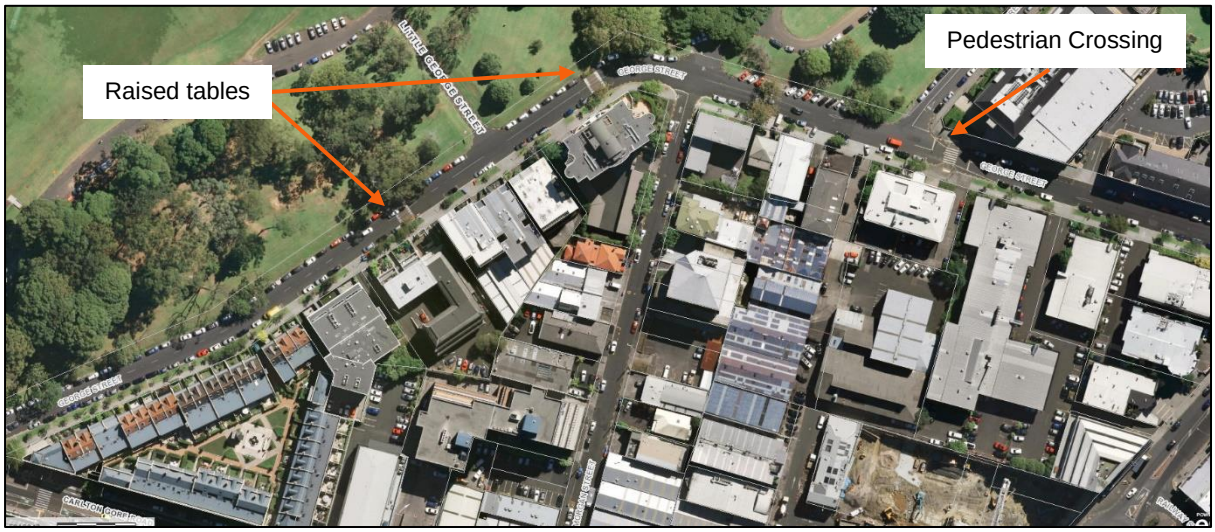
George Street has a road reserve width of approximately 20m with a sealed carriageway of approximately 13m. George Street between Broadway and Carlton Gore Road provides a single lane in each direction with on street pay and display metered parking available on both sides of the road. In the majority, this parking is provided parallel to the carriageway, with a section of 16 angled parking spaces provided near the Plan Change area between Titoki Street and Morgan Street.

The intersection of George Street and Carlton Core Road is stop controlled, and with priority to movements on Carlton Core Road. The intersection at the eastern end of George Street is also stop controlled. All intersections along George Street are give way controlled.

There are no cycling facilities provided on George Street.

Pedestrian footpaths are provided on the southern side of George Street. The northern side of George Street is adjacent to the Auckland Domain and there is no footpath available. Local Area Traffic Management (LATM) in the form of raised tables is provided on George Street. The location of these and a zebra crossing are shown in Figure 2 below.

Figure 2: LATM and Pedestrian Crossings on George Street



George Street has a posted speed limit of 50 km/hr.

1.2.2 MORGAN STREET

Morgan Street is not classified as an Arterial Road in the AUP (OP). Morgan Street runs in a north-south direction between George Street to the north and Carlton Gore Road to the south.

Photograph 3 and Photograph 4 show Morgan Street near the Plan Change area.

Photograph 3: Morgan Street (looking north toward George Street)

Photograph 4: Morgan Street (looking south toward Carlton Gore Road)

Morgan Street has a road reserve width of approximately 20m at the road boundary of the Plan Change area with a sealed carriageway of approximately 13m. Morgan Street is one traffic lane in each direction and on street pay and display metered parking available on both sides of the road. There are sections of No Stopping at All Times lines (NSAAT lines) to maintain vehicle access to sites.

Pedestrian footpaths are provided on both sides of Morgan Street. It is noted that there are relatively wide vehicle crossings (between 6m and 10m) provided at numerous sites on Morgan Street, with vehicles parked in a manner that would require reverse manoeuvring over the footpath to access the road.

There are no cycling facilities provided on Morgan Street.

Morgan Street has a posted speed limit of 50 km/hr.

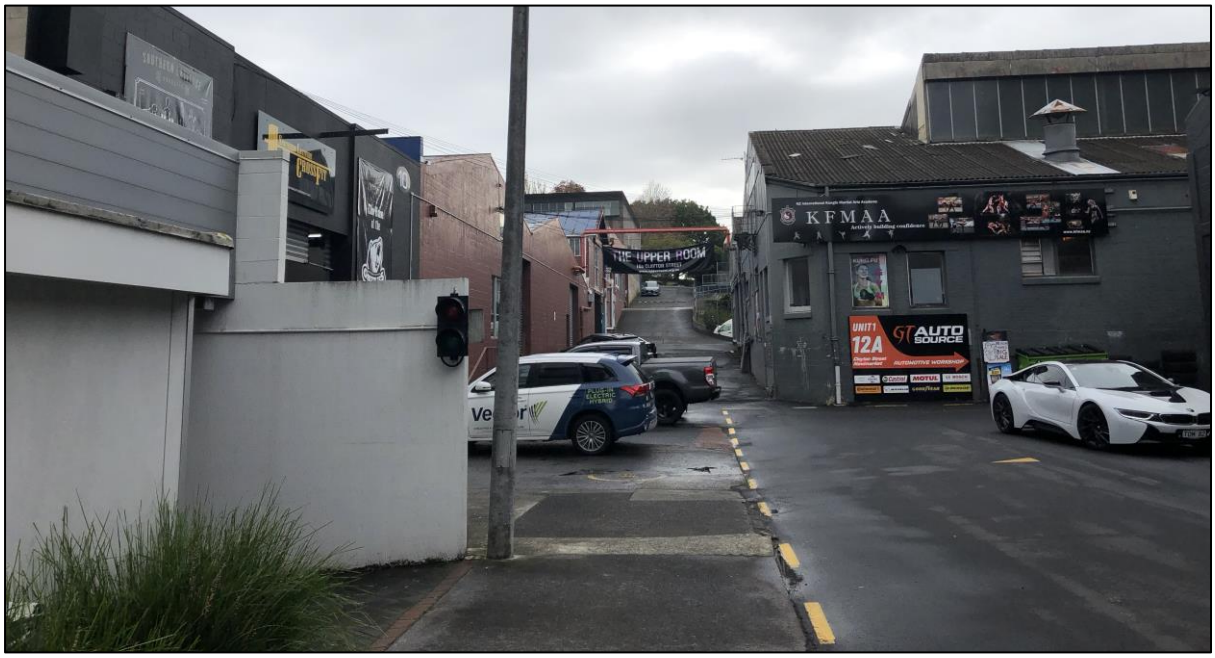
1.2.3 CLAYTON STREET

Clayton Street is not classified as an Arterial Road in the AUP (OP). Clayton Street runs in a north-south direction between the Plan Change area to the north and Carlton Gore Road to the south.

Photograph 5 and Photograph 6 show Clayton Street near the Plan Change area.

Photograph 5: Southern end of Clayton Street (looking north toward Plan Change area)

Photograph 6: Northern end of Clayton Street (looking north)



Clayton Street has a road reserve width of approximately 12 m at the road boundary of the Plan Change area with a sealed carriageway of approximately8 m.

Clayton Street is one way from Carlton Gore Road (entry only) to Alma Street (also one way). Two-way movements are permitted north of Alma Street. There is currently vehicular access to George Street, however this is via a private right of way from the termination of Clayton Street.

On street parking is permitted intermittently on Clayton Street on both sides. There are footpaths on both sides of road to the point where the private driveway starts and there are no dedicated pedestrian connections from this point,

There are no cycling facilities provided on Clayton Street.

Clayton Street has a posted speed limit of 50 km/hr.

1.3 ACCESSIBILITY

1.3.1 PRIVATE VEHICLES

The Plan Change area is well located with regards to road connectivity to the wider Auckland Region. As noted, George Street connects with Carlton Gore Road in the east, and Parnell Road/Broadway in the west, both of which form part of the Urban Route 12.

The site is located 1.5 km east of SH1 northbound interchange at Gillies Avenue, and 1.5 km of the interchange to SH1 southbound at Khyber Pass Road. The site is approximately 3.0 km from the Auckland city centre.

1.3.2 PUBLIC TRANSPORT

Newmarket is served very well by public transport, via bus and passenger rail. A summary of the nearest bus routes is shown in Table 1.

Table 1: Nearest Bus Routes

Bus Route	Stop Location	Route Description	Frequency
Inner Link	Parnell Road (350m from the Plan Change area)	City Centre loop, connecting Britomart, Karangahape Road, Ponsonby and Newmarket	Frequent Service. Monday to Friday: Every 10 to 15 minutes from 6.10am to midnight Weekends and Public Holidays: Every 15 minutes from 6.20am to midnight.
Outer Link	Parnell Road (350m from the Plan Change area)	Outer City centre loop connecting Britomart, St Lukes, Universities, Newmarket, Mt Eden and Mt Albert	Frequent Service Monday to Friday: Every 12 to 15 minutes from 6.00am to midnight Weekends and Public Holidays: Every 15 minutes from 6.00am to midnight.
781	Parnell Road (350m from the Plan Change area)	Auckland Museum to Mission Bay via Newmarket	Connector Service. 6 am to 9 pm, Every 30 minutes.

Within a 900m radius, there are additional bus services accessible on Park Road and Khyber Pass Road which provide accessibility to the North Shore (Route 966), Botany (Route 70), Glen Innes (Route 75), Ellerslie/Middlemore (321), Onehunga (Route 30).

The closest bus stops to the Plan Change area are located on Parnell Road – approximately 350m from the most northern part of the site. This is considered to be an easy walking distance to a frequent service such as the Inner and outer link services.

The Newmarket Train Station is located 800m south from the Plan Change area, and the Grafton Station is located 800m south west from the Plan Change area. Trains currently operate on 10 minute frequencies. Following the completion of CRL, the Newmarket station is expected to be serviced by less than 5 minute train frequencies using a combination of the Henderson – Otahuhu line, Onehunga line and Southern line services. The Grafton Station will be slightly less frequent, with no connection to the Onehunga line.

Figure 3 shows an extract of the bus routes operating near the Plan Change area. Figure 4 shows the post-CRL train frequencies near the Plan Change area.

Figure 3: Bus Routes (Source: Auckland Transport Route Map)

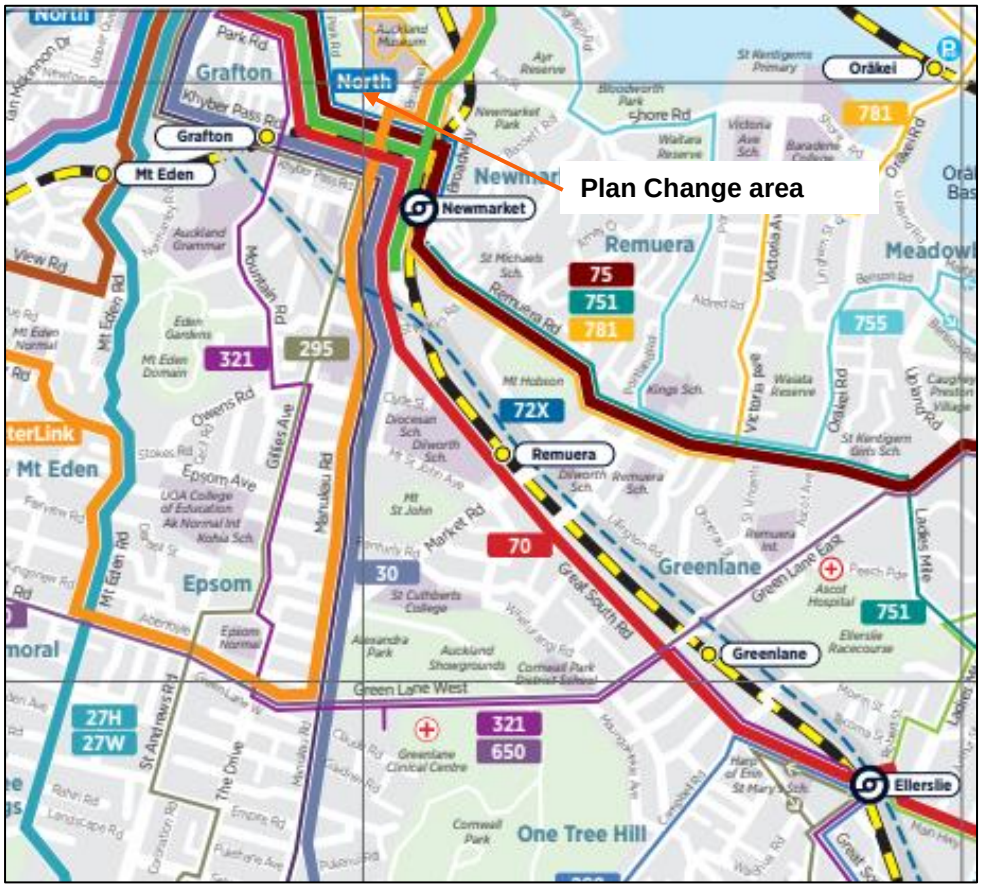
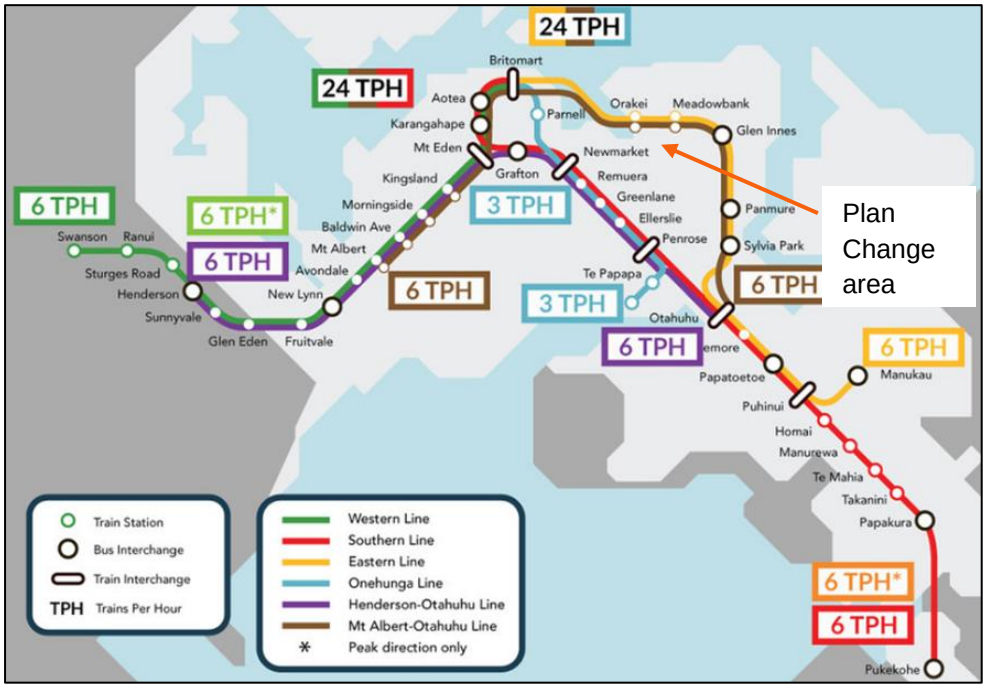


Figure 4: Post-CRL Train Frequencies (Source: City Rail Link Benefits, www.cityrail.co.nz)



1.3.3 WALKING

The Austroads Guide to Traffic Engineering Practice Part 13 – Pedestrians indicates that the practical walking distance for non-recreational walking trips is in the order of 1.5 km. Using the practical walking distance of 1.5 km and the 15th percentile walking speed of a typical fit, healthy adult of 1.3 m/s, gives a journey time of some 20 minutes. This is in line with New Zealand data in the Pedestrian Planning and Design Guide, which states that for walking trips, half are more than 10 minutes and 18% are more than 20 minutes.

The primary catchment area for pedestrians has therefore been based on a 1.5 km radius of the centre of the site as shown in Figure 5.

Figure 5: Walking Catchment (Source: Auckland Council GEOMAPS)

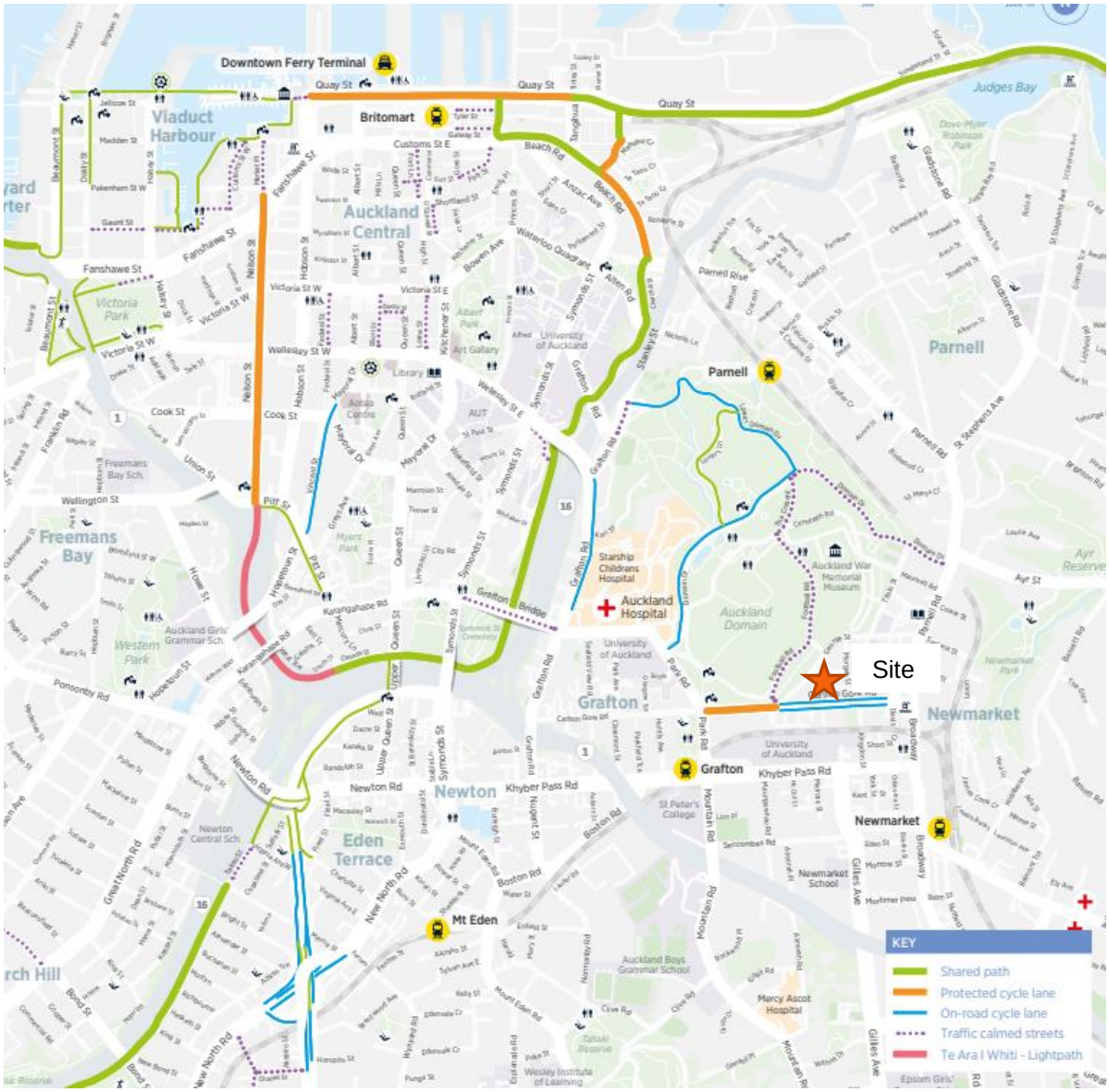
As shown above, the Parnell Town Centre, Newmarket Town Centre, Auckland Domain, University of Auckland and AUT, and three train stations are located within walking distance of the Plan Change area.

Overall, the Plan Change area is very well connected to neighbouring activities and enable walking trips to a range of services and facilities.

1.3.4 CYCLING

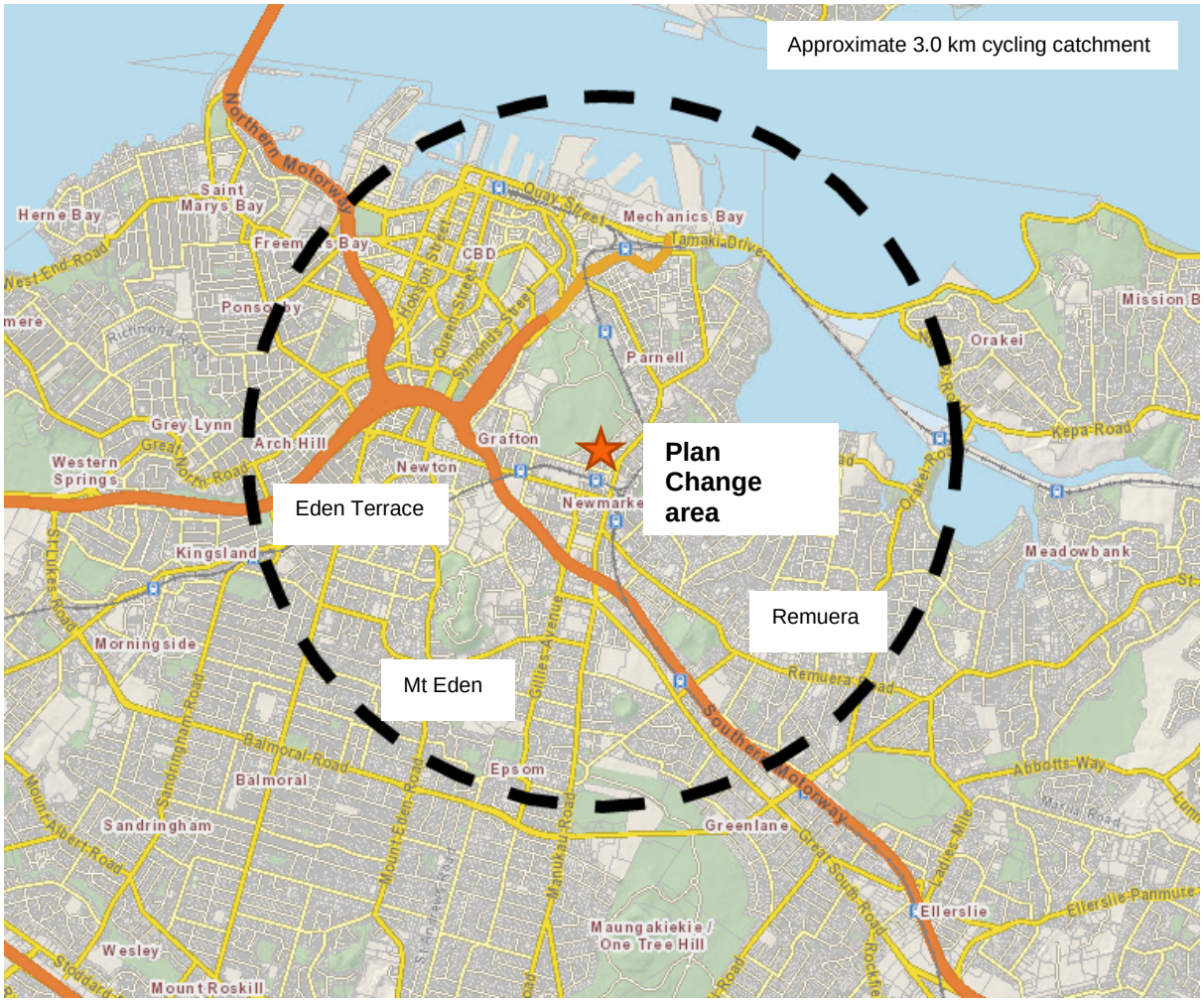
As can be seen in Figure 6 below, the Plan Change area is in a cyclable distance to key cycling infrastructure in Auckland city centre including Te Ara I Whiti – Lightpath (Pink Path) and the Grafton Gully shared path (shown in green).

Figure 6: Existing Cycle Facilities in vicinity of the Plan Change area (Source: Auckland Transport Cycle Network Maps)



Based on New Zealand Transport Agency Research Report 426, the average cycling trip length is approximately 3 km. Figure 7 shows an indicative cycling catchment for the Plan Change area.

Figure 7: Cycling Catchment (Source: Auckland Council GEOMAPS)



In addition to the locations identified within the walking catchment, the cycling catchment includes Eden Terrace, the entire Auckland City Centre, Mount Eden and Remuera. The Plan Change area is considered to offer excellent cycling connectivity to a wider range of employment, education, recreational and commercial activities however cycling infrastructure is considered to be of a greater quality towards the CBD.

1.3.5 EXISTING PEDESTRIAN AND CYCLING FACILITIIES

A site walkover was completed for the immediate vicinity of the site and has identified that current provision of pedestrian and cycling infrastructure is variable and Auckland Transport projects and development upgrades have provided the following upgrades

- The intersection of Alma Street and the Alma Street corridor to include a widened footpath and a threshold treatment
- Morgan Street footpath widening and upgrade
- Carlton Gore – street upgrade and cycle lane provisions

Overall, the following infrastructure for walking and cycling has been summarised in Table 3.

Table 2: Pedestrian and Cyclist Facilities

Corridor	Current Facilities
Morgan Street	• Footpaths on both sides, wider path on western side • On street parking on western side • NSAAT on eastern side • Loading Zone at intersection with Carlton Gore Road • Historical access arrangements result in low levels of pedestrian amenity
Clayton Street	• Narrow footpath on eastern side, wider footpath on western side • No cycling facilities • On street parking both sides/Motorcycle parking at intersection with Carlton Gore Road • Historical access arrangements result in low levels of pedestrian amenity
George Street	• Raised speed tables and kerb build outs along length • Pedestrian crossing east of Titoki Street • Footpath on southern side • Footpath on northern side intermittent with angle on street parking adjacent to the Domain • Footpath on northern side from Titoki Street – high standard • On street parking along both sides of the road

1.3.7 TRAFFIC VOLUMES

1.3.7.1 AUCKLAND TRANSPORT TRAFFIC VOLUMES

Table 3 outlines traffic volumes of various roads surrounding the Plan Change area as per surveys completed by Auckland Transport.

Table 3: Traffic Volumes

Road	Location	Date	7-Day ADT (veh/ day)	Peak hour volume (veh/ hr)	
				AM Peak	PM Peak
George Street	Between Morgan Street and Titoki Street	Nov 2016	4,335	482	642
Carlton Gore Road	Between Morgan Street and George Street	May 2018	8,727	731	925
Parnell Road	Between Cowie and George Street	March 2017	18,881	1,390	1,381

Parnell Road is classified as an Arterial Road in the AUP (OP). It is noted that the surveys show that in addition to the key measures identified in Table 3 above, Parnell Road experiences a relatively constant level of vehicles, with a midday peak recorded at 11am and 1,372 veh/hr. This is generally expected on key corridors in areas where there are mixed use typologies and in urban centres such as Newmarket.

1.4 CRASH HISTORY

A search of the road safety record using the New Zealand Transport Agency Crash Analysis System (CAS) has been carried out to identify all reported crashes near the Plan Change area during the five-year period from 2014 to 2018 as well as all available data in 2019.

The search focused on all reported crashes occurring on George Street (between Broadway and Carlton Gore Road), Morgan Street (between George Street and Carlton Gore Road), and Clayton Street (between George Street and Carlton Gore Road).

It is noted that there are a number of intersections within this study area, and as such the assessment below has been grouped into intersections. There are also several intersections very close together and as such these have also been grouped for simplicity.

There were no crashes identified on the George Street corridor unrelated to intersections.

A total of 36 crashes were identified.

The crashes are summarised in Table 4.

Table 4: Crash History Summary (2014-2019)

Location	Number of Crashes/ Predominant Crash Types	Injuries
Intersection of Carlton Gore Road and George Street and Grandstand Road South and Football Road	11 crashes total - 2 collision with u turning vehicles - 1 loss of control - 1 collision with parked vehicle - 4 cyclist collisions with cars (sideswipe/failure to giveway) - 1 pedestrian hit by vehicle while crossing - 2 failed to giveway at intersection	1 serious Injury 1 minor injury
Intersection of Parnell Road and George Street and Sarawaia Street	4 crashes total - 1 loss of control - 1 collision with reversing vehicle - 1 collision while changing lanes - 1 collision while merging	No injury crashes
Intersection of Morgan Street and Carlton Gore Road	4 crashes total - 1 Loss of Control - 1 Rear end collision - 1 Cyclist sideswiped - 1 Changing lanes	1 serious injury 1 minor injury
Intersection of Broadway and Railway Street and Davis Crescent and Alma Street	9 crashes total - 4 rear end collisions - 3 collisions while manoeuvring - 1 collision will u – turning - 1 collision while merging	1 minor injury
Intersection of Carlton Gore Road and Clayton Street	3 crashes total - 1 failure to give way - 2 collisions while manoeuvring	1 serious injury

Intersection of Carlton Gore Road and Kingdon Street	3 crashes total - 1 collision failure to give way when turning - 1 rear end collision - 1 cyclist hit car parking	2 minor injury
Intersection of Morgan Street and George Street	1 crash total - 1 collision while manoeuvring	No injury crashes

Further information in regard to the severe injury crashes and the cyclist and pedestrian crashes Carlton Gore Road and George Street that occurred in the 5 and a half year period is provided below.

Intersection of Morgan Street and Carlton Gore Road

One serious injury crash was recorded on the intersection of Morgan Street and Carlton Gore Road. The crash was report in January 2018 in the evening, and involved a motorcycle losing control at the intersection. The report notes that the motorcyclist does not leave the road, and that the road conditions may have been a crash factor; however, speed or other factors are not identified. Environmental conditions reported state fine, dry weather and road conditions.

Intersection of Carlton Gore Road and Clayton Street

One serious injury crash was recorded on the intersection of Clayton Street and Carlton Gore Road. The crash was report in July 2014 in the evening and involved a car on Carlton Gore Road colliding with a moped turning right from Clayton Street. The report notes that the moped failed to give way to non-turning traffic and was exiting from Clayton Street (an entry only road). The moped driver is also reported to have been a new driver. Environmental conditions reported state fine, dry weather and road conditions.

It is noted that the crash occurred prior to significant roading changes on Carlton Gore Road.

Intersection of Carlton Gore Road and George Street

One serious injury crash was recorded on the intersection of George Street and Carlton Gore Road. The crash was report in December 2018 in the evening and involved a car on travelling east on Carlton Gore Road, and turning into George Street, sideswiping a cyclist also travelling east on Carlton Gore Road. The report notes that environmental conditions including “dazzling sun” and visibility limited by trees. Environmental conditions reported state fine, dry weather and road conditions.

It is noted that there have been pedestrian and cyclist crashes over the 5.5 year period at this intersection. A further breakdown of these crashes is shown in Table 4 below.

Table 5: Pedestrian and Cyclist Crashes reported at Carlton Gore Road and George Street

Date	Description	Injury	Comment
21 September 2015	Cyclist westbound on Carlton Gore Road hit car merging from the right	No injury	Prior to works completed on Carlton Gore Road
22 October 2015	Car eastbound on Carlton Gore Road changing lanes to left hit cyclist	Minor Injury	Prior to works completed on Carlton Gore Road
29 April 2016	Car westbound on Carlton Gore Road turning right hit pedestrian crossing sideroad from left	Minor Injury	-
6 June 2017	Cyclist eastbound on Carlton Gore Road hit car merging from the left	Minor Injury	-
18 December 2018	Cycle eastbound on Carlton Gore Road sideswiped by Van eastbound on Carlton Gore Road turning left	Severe Injury	-

2 PROPOSED DEVELOPMENT

2.1 OVERVIEW

This transport assessment considers the transport implications of the proposal to create precinct for the Plan Change area shown below in Figure 8. The George Street precinct would apply to a 7,873m^2 site located at 33 – 37 George Street, 13 – 15 Morgan Street and 10 Clayton Street, Newmarket. The Plan Change area is located to the north of the Newmarket Metropolitan Centre within an established mixed-use area.

The purpose of the precinct is to provide for a comprehensively designed and integrated mixed use development with high quality, publicly accessible spaces that enhance connectivity between Newmarket and the Auckland Domain, and to enable buildings of greater height (see Figure 9) than on surrounding Business-Mixed Use zoned sites, taking advantage of the precinct's size and proximity to amenities including public transport and open space.

The zoning of land within this precinct will remain Business - Mixed Use.

Figure 8: Proposed George Street Precinct Plan 1 – Building heights

3 ASSESSMENT METHODOLOGY

Overall, the land use contained within the Plan Change area is proposed to remain with a zoning of Business - Mixed Use.

The key defining change in terms of transport is related to the density enabled on the site – given the proposed building height standard increases.

Accordingly, it is proposed to assess the transport implications based on three scenarios as summarised in below. The key consideration will be the transport effects of the increase in building height, and therefore the traffic generation capability of the Plan Change area[1].

Table 6: Assessment Methodology: Proposed Scenarios

Scenario	Comment	Assumptions	Land Use Assumptions
Scenario A	A baseline assessment considering the effect of what could be enabled within the Plan Change area utilising the existing provisions of the AUP (OP).	A ground floor of retail activities which could potentially include a supermarket. Office activities above the ground floor.	31,700m^2 Office
			2,000m^2 Retail
			No residential units
Scenario B	A theoretical "worst case" scenario for what could be enabled by the Plan Change.	A ground floor of retail activities which could potentially include a supermarket. Office activities above the ground floor.	35,100m^2 Office
			2,000m^2 Retail
			No residential units
Scenario C	An alternative potential scenario of what could be enabled by the Plan Change based on pre-application discussions with the Auckland Council Urban Design Panel.	A ground floor of retail activities which could potentially include a supermarket. Residential activities above the ground floor.	0m^2 Office
			3,300m^2 Retail
			324 residential units

[1] Given that the Plan Change area is subject to a Centre Fringe Office Control, it is noted that a permitted activity, such as that shown under Scenario A below, would not require a traffic generation assessment (as per E27.6.1 (2)).

Under current AUP rules, development proposals for the Plan Change area can also provide a somewhat flexible parking supply based on E27.6.2.2, which provides for parking maximum rates for office activities, and no parking maximum or minimums for all other activities.

All of these scenarios have been developed by the project architect team and are based on the provision of four towers and the applicable planning standards related to residential, retail and office activities.

Where applicable scenarios have been assessed based on the Centre Fringe Office Control.

4 TRIP GENERATION

4.1 MODE SPLIT ASSESSMENT

Given that that Plan Change could result in numerous scenarios, it is difficult to confirm a discrete volume of expected cyclists and pedestrians. Should the Plan Change result in a predominantly residential scenario, this would have a correspondingly different pedestrian and cyclist forecast than of the Plan Change resulted in a predominantly office scenario.

Nevertheless, further consideration has been given to the likely mode splits of the two different outcomes that are possible – noting that there may also be an outcome in between these two scenarios. In addition, the people projections do not account for the existing land uses within the Precinct which currently generate traffic and people trips on the network.

Scenario B (Predominately Commercial)

Census data 2013[2] indicates that the modal split for those travelling to Newmarket are as follows

- 70.1% drove a private vehicle
- 17.1% took a bus or a train
- 6.3% walked or jogged
- 2% cycled
- 4.5% other (working from home, annual leave, sickness)

Based on an average office occupancy of 15m^2 per person, and a potential for up to 35,100m^2 of commercial area, this results in approximately 2,340 potential people. Based on the above modal splits, and maximum office parking provision of 433 parking space this could result in 433 drivers (or 18% mode share)[3]. Should the parking supply match the expected mode split, this would have resulted in 1,640 drivers. The additional 1,207 people unable to park onsite have been shared proportionally across the remaining travel choices.

This results in the following in 1,213 people that work in Plan Change area and catch the train or the bus (noting that these people will walk to and from the site from bus stops and the train station), 447 people who walk, and 142 cyclists, in addition to the 433 drivers that park on site.

[2] Journey to work patterns in the Auckland Region, 2013, Ministry of Transport

[3] It is noted however that the availability of offsite private parking in Newmarket could influence the potential number of drivers.

Scenario C (Predominately Residential)

Census data from 2013[4] for residential developments in Newmarket provides a likely modal split for residential developments in Newmarket. These identified that for trips to work the following mode shares were recorded:

- 37% drove a personal or private car
- 19% took a bus or train
- 23% walked or jogged
- 2% cycled

With the average household size in Newmarket being 2.5 people, and a potential for 324 apartments, this results in 810 people living in with the Precinct. Assuming and availability of employment opportunities, and based on the percentages above, this would result in approximately 187 people walking to work, 160 people catching public transport and 16 people cycling.

4.2 PRECINCT TRIP GENERATION

The potential trip generation of development proposals or in this case, proposed precinct provisions, are typically estimated using the predictive models within the RTA Guide[5]. Given the Plan Change area is zoned as Business – Mixed Use, this provides for a reasonably wide scope of permitted activities that could occur in this zone.

The Plan Change area is currently subject to a Centre Fringe Office Control. The implications of this control in terms of requirements for assessment are quite significant. The purpose of the control within the Newmarket area is to support intensification and public transport and recognises that for areas such as the Plan Change area, the public transport network provides an alternative means of travel to private vehicles.

In terms of trip generation, the AUP (OP) provides a resource consent requirement for new developments that exceed particular trip generation thresholds. Being subject to the Centre Fringe Office Control, the Plan Change area is exempt from this requirement (as per E27.6.1(2)(a)).

Given that the Plan Change area is located within a Centre Fringe Office Control, provided that a development complies with all other E27 standards, a detailed assessment of traffic generation and impacts of this on the network would not be required.

Nevertheless, the following assessment has been completed to consider the implications of the proposed increased building height standard within the precinct and any required mitigation to maintain the impacts of future developments to that expected within the current AUP (OP) provisions.

4.2.1 OFFICE VEHICLE TRIP GENERATION

For simplicity, this assessment focuses on what is considered to generate the greatest number of peak hour trips, as identified above to identify a “worst case’ scenario. Given the typical trip

[4] Commute to Work, Statistics New Zealand

[5] Roads and Traffic Authority of NSW, Guide to Traffic Generating Developments, Version 2.2, October 2002

generation associated with offices, a primarily office development would generate the greatest number of trips.

Office trips rates are influenced by the provision of parking and the availability of public transport. The RTA assumes that 80% of employees leave a site in the peak hour, although does note that the introduction of flexi-time has resulted in some variability on this assumption.

On average, the RTA suggests an evening peak hour vehicle trip generation of 2 trips per 100m^2 gross floor area. This is broadly consistent with the traffic generation identified in the *Trips and Parking Related to Land Use* research report[6], which identified a vehicle trip generation of 2.5 trips per 100m^2. These trip generation rates are based on an unrestrained parking rate, which would induce travel by private vehicle to the Plan Change area.

The RTA proposes an unrestrained parking provision of 1 parking space per 40m^2, however the AUP (OP) creates a restrained parking environment within the Centre Fringe Office Control, with a maximum parking provision for offices of 1 per 60m^2.

Given that the AUP (OP) creates a constrained parking environment, via the use of maximum parking provisions, it is considered appropriate to assess the potential traffic generation resulting from the parking provision – rather than the gross floor area.

Following the RTA provisions, **0.8 vehicle trips per parking space in the peak hour**[7] is considered a conservative measure of trip generation per parking space (as this assumes full occupancy of parking spaces).

4.2.2 RETAIL VEHICLE TRIP GENERATION

The RTA provides average peak hour traffic generation rates for retail developments. These are summarised below in Table 7.

Table 7: Average Peak hour traffic Generation rate as per Table 3.1 of the RTA

Range in Total Floor Area (GLFA -m^2)	Peak Hour Generation Rate (vehicles per 100m^2 GLFA)		
	Thursday (V(P)/A)	Friday (V(P)/A	Saturday PVT (A)
0 – 10,000	12.3	12.5	16.3
10,000 – 20,000	7.6	6.2	7.5
20,000 – 30,000	5.9	5.6	7.5
30,000 – 40,000	4.6	3.7	6.1

[6] Douglass, Malcom and Abley, Steve, Trips and Parking Related Land Use, NZ Transport Agency: Research Report 453, November 2011

[7] For example, 10,000m^2 GFA would have an unrestrained parking demand of 250 parking spaces (based on 1 per 40m^2), this would have a corresponding trip generation of 200 trips (based on 2 trips per 100m^2), resulting in a rate of 0.8 trips per parking space.

Whilst the precinct will likely yield a retail component of under the 10,000m^2, the surrounding environment of Newmarket has an influence on the quantum and nature of the trip generation of the retail activities.

Assessed independent of the surrounding environment, the retail activities within the precinct could generate some 12.3 to 12.5 trips per 100m^2 per weekday peak hour. However, when cognisant of the Newmarket area, it is likely that the traffic generating potential of the site is likely to be lower than that predicted by the RTA.

An alternative methodology of considering the traffic generating potential of the retail element of the Plan Change area is to consider the traffic generation as a function of the provision of parking spaces.

Where the Centre Fringe Office Control area applies, all other activities, other than offices, are subject to no minimum no maximum provisions. To enable a comparison, within the AUP (OP), Table E27.6.2.3 Parking Rates – Area 1 provides a parking rate of per 30m^2 as a minimum for retail including supermarkets within a Business Mixed Use Zone without the Centre Fringe Office Control.

Based on an average of two trips per parking space per evening peak hour[8], an indicative scenario can be assessed. As discussed above, the potential scenarios above assume a retail ground floor environment. Within the scenarios assessed this is between 2,000m^2 and 3,300m^2 , which at a rate of 1 per 30m^2, would require between 67 and 110 parking spaces. This assumes that the retail areas would be provided with this level of parking. Given that the retail component has a no minimum, no maximum parking provision, considerably less parking could be provided to accommodate the retail component of the Plan Change area.

Applying a rate of two trips per parking space, this equates to a total of 220 trips for the entire retail component, or 6.7 trips per 100m^2 GFA[9]

Based on the above, a trip rate of **2 trips per parking space, assuming a minimum provision of 1 parking space per 30m^2** of retail will be used to enable the assessment between scenarios in this report.

4.2.3 RESIDENTIAL VEHICLE TRIP GENERATION

The RTA provides suggested vehicle trip generation rates for higher density residential developments in metropolitan regional (CBD) centres, and metropolitan sub-regional centres. These rates range from 0.24 trips per residential unit to 0.29 trips per residential unit in the peak hour.

Newmarket, while metropolitan, is considered to be more closely aligned with a sub-regional centre, and the apartments are expected to generate 0.29 trips per unit.

The Auckland Transport Integrated Transport Assessment Guidelines ('ITA Guidelines') recommends that trip rates for each mode of travel be developed based on the number of people anticipated to be

[8] The RTA recommends a parking provision of 6.1 parking spaces per 100m^2 of retail GFA, with a corresponding trip rate of between 12.3 trips and 12.5 trips on an evening peak, resulting in an approximate rate of two trips per hour per parking space.

[9] 3,300/30 = 110 parking spaces (based on 3,300m^2), 110 * 2 =220 trips, 3,300/100 = 33 (to be based on 100m2), 220/33= 6.7 trips per 100m^2

residing within the development and sources such as Census data and other surveys. The results of such analyses can be confirmed by referring to traditional vehicle trip generation rates provided in New Zealand databases and documents such as the RTA Guide.

To check the acceptability of the above RTA rates, reference has been made to existing car ownership details for Newmarket (Census 2013) and comparing this to the parking requirements recommended for 'High Density Residential Flat Buildings - Metropolitan Sub -Regional CBD Centers' in the RTA guide. If the existing parking ownership patterns in Newmarket align with recommended RTA parking provisions, the RTA trip rates are likely to align also.

The Plan Change area is located within the Newmarket area unit (517400) as defined by Statistics NZ. Household car ownership patterns from Census 2013 revealed the following:

- 15% of households (162 households) had no motor vehicle
- 57% of households (609 households) had one motor vehicle
- 22% of households (234 households) had two motor vehicles, and
- 7% of households (75 households) had three or more motor vehicles.

For a total of 1,077 households, there is estimated to be 1,302 vehicles (assuming the 75 households with three or more spaces have an average of 3 spaces per household). This equates to 1.2 parking spaces per household.

The RTA Guide recommends a minimum parking requirement for 'High Density Residential Flat Buildings - Metropolitan Sub-Regional Centers' of:

- 0.6 spaces for each one bedroom unit,
- 0.9 spaces per two bedroom unit
- 1.40 spaces per three bedroom unit
- 1 space per 5 units (for visitors)

Based on 2013 census data for the Newmarket area unit, the typical bedroom composition is an average of 2.3 bedrooms per residential unit. Using this average, and the alternative residential scenario of 324 residential units results in a minimum recommended parking provision of 356 parking spaces, or 1.1 parking spaces per dwelling.

As the minimum RTA parking requirement is aligned to the RTA trip data (they use the same data sources) and the RTA minimum parking requirement aligns well to existing car ownership patterns in the area, and the trip rate of **0.29 trips per residential unit** used in this assessment is considered appropriate.

4.3 TRIP GENERATION ASSESSMENT

The following table provides an assessment of potential trip generation in the peak hour from the Plan Change area.

Table 8: Summary Trip Traffic Generation

Land Use	Peak Hour Trip Rate	Comment
Office	0.8 trips per parking space	This rate is highly influenced by provision of parking and availability of public transport options.
Supermarket	2 trips per parking space	Based on location being in Newmarket with wider area supporting retail. Could be considerably less should parking be minimised.
Food and Beverage		

Land Use	Peak Hour Trip Rate	Comment
Residential within a Metropolitan sub regional centre	0.29 trips per unit	Trips rate in metropolitan centres, of which Newmarket could arguably be defined as, could be in the range of 0.24 trips per unit.

Table 9 outlines the resultant trip generation estimates for all three scenarios.

Table 9: Trip Generation Scenarios

Scenario	Land Use	Trip Rate	Peak Hour Trips
Scenario A: Potential Mixed use under AUP (OP)	31,700m^2 Office	0.8 trips per parking space[10]	423
	2,000m^2 Retail	2 trips per parking space	133
Scenario A Totals			**556**
Scenario B: "Worst Case" Plan Change	35,100m^2 Office	0.8 trips per parking space[11]	468
	2,000m^2 Retail	2 trips per parking space	133
Scenario B Totals			**601**
Scenario C "Potential" Plan Change	324 residential Units	0.29 trips per apartment	94
	3,000m^2 Retail	2 trips per parking space	220
Scenario C Totals			**314**

Based on the above trip generation rates, the expected traffic generation of each scenario has been calculated. As shown in Table 9, the current baseline scenario generates some 556 trips, and the scenario with additional building height allowances as per the Plan Change, generates 601 trips, an additional 45 trips in the peak period. Should a predominately residential development be progressed, or a development that is has a residential component be proposed, the expected trip generation would be within the above ranges.

To restrict the impact of potential development scenarios to that expected under the existing AUP (OP) provisions, it is proposed to limit the parking provisions. . This is discussed in Section 5 below.

5 PARKING

5.1 AUCKLAND UNITARY PLAN REQUIREMENTS

Assessing the trip generation of a proposed land use can provide a useful indication of the contribution to traffic congestion of the surrounding road network. However, the use of trip generation limits as a tool to constrain the impact on the surrounding road can be problematic. The ongoing management, monitoring and enforcement of such limits are time consuming and expensive. The

[10] Based on AUP (OP) maximum office parking provisions of 1 per 60m^2

[11] Based on AUP (OP) maximum office parking provisions of 1 per 60m^2

overall objective of reduced trip generation can be undermined by the provision of onsite parking. By providing parking spaces this may encourage residents or tenants to own and use private vehicles.

The AUP (OP) reflects that parking can be an influential tool to reduce car use, particularly for commuter travel. In turn, this can reduce traffic growth, particularly during peak periods, and when supported by the provision of other transport modes, achieves a more sustainable transport network. Parking maximums have been identified in the AUP (OP) to manage potential parking oversupply and in turn reduce traffic congestion and provide opportunities to improve amenity in areas earmarked for intensification – such as Newmarket.

One such tool in the AUP (OP) is the use of the Centre Fringe Office Control area, of which the Plan Change area is subject. The provision for parking maximums is summarised in Table 10.

The intent of these parking maximums is to limit the supply on-site parking for the office development while providing flexible on-site parking by not limiting or requiring parking for activities other than office in the Centre Fringe Office Control area.

Table 10: Auckland Unitary Plan Parking Requirements

Activity	AUP (OP) Parking Requirement
Office	1 per 60m^2 GFA – Parking maximum
All other activities	No minimum or maximum

5.2 PARKING ASSESSMENT

On this basis, for development proposals that do not include office there is no minimum or maximum parking requirement and any provision of parking would meet AUP (OP) requirements. Realistically, it is considered that should a mixed development scenario be undertaken some degree of parking would be provided. In the case of a development proposal that included office activities, there would be a parking maximum in relation to office activities.

In order to continue to support the provisions in the AUP (OP) and utilise parking management as tool to mitigate the traffic impacts of the proposed increased building height enabled by the Plan Change, a parking maximum is proposed to be included within the Plan Change provisions.

These parking maximums allow for various development scenarios to be implemented under the Plan Change, while still containing the impact to a similar level to that expected within the existing AUP (OP) scenario.

In order to consider potential parking provisions, the following table summarises potential parking provision - noting the possibility of less parking being provided for all uses.

Table 11: Parking Assessment

Activity		AUP (OP) Parking Requirement	Proposed Parking Provision	Unit	Parking spaces
Scenario A Potential Mixed use	Office	1 per 60m^2 (Maximum)	1 per 60m^2	31,700m^2	528
	Retail	No minimum or maximum	1 per 30m^2	2,000m^2	67

Activity		AUP (OP) Parking Requirement	Proposed Parking Provision	Unit	Parking spaces
under Existing AUP (OP)	Residential	No minimum or maximum	1.2 per unit (average))	Nil	0
	Total (maximum assuming a maximum retail provision of 1 per 30m^2)				**595 parking spaces**
Scenario B Potential Office Development under Plan Change	Office	1 per 60m^2 (Maximum)	1 per 60m^2	35,100m^2	585
	Retail	No minimum or maximum	1 per 30m^2	2,000m^2	67
	Residential	No minimum or maximum	1.2 per unit (average)	0 units	0
	Total (Maximum)				**652 parking spaces**
Scenario C Potential Mixed use under Plan Change	Office	1 per 60m^2 (Maximum)		0m^2	-
	Retail	No minimum or maximum	1 per 30m^2	3,300m^2	110
	Residential	No minimum or maximum	1.2 per unit (average)	324	389
	Total (Maximum)				**499 parking spaces**

5.3 PROPOSED PARKING PROVISION

5.3.1 GENERAL

As detailed in Section 5.1, the parking provision can be a useful tool to influence and manage the impact of traffic on the surrounding network. This tool is especially useful in environments where there are alternative transport choices for employees and residents. Office activities, in particular, generate a significant impact on the road network in the peak hour, and the use of parking to mitigate this has been used in various locations in Auckland, and applied within the AUP (OP) – in particular by the use of the Centre Fringe Office controls.

The Centre Fringe Office Control confirms that the provision of office facilities in the identified locations should be enabled, and parking maximums are applied as a tool to better facilitate this.

In terms of managing the effect of the additional building height proposed by the Plan Change, it is proposed that an overall parking maximum be applied to the entire precinct. The key outcome of implementing a parking maximum in this location, will be to mitigate the impact of future mixed use developments to that currently allowed for the AUP (OP).

5.3.2 PROPOSED REQUIREMENTS

The Precinct Plan proposes to provide for a maximum parking provision of 500 parking spaces.

The use of a parking maximum for the precinct is considered to support the higher policy aspirations of the precinct, and the Auckland Plan, specifically the development of intensification of employment

and residential opportunities in areas that have excellent public transport and walking and cycling accessibility.

In view of this, and the scenarios above, the following outcomes are considered likely:

- Should a predominately office development be progressed, with ground floor retail activities, such as Scenario B, this would result in a parking provision of approximately 1 parking space per 83m^2 for office activities[12] This is more conservative than the existing City Fringe parking maximum for offices, and consistent with the policy aspirations for the Plan Change area
- Should a predominately residential scenario be progressed, such as Scenario C, this would result in a parking maximum of 1.2 parking spaces per unit. This is parking rate is considered consistent with Table E27.6.2.1 of the AUP (OP) "*Maximum parking rates for the Business – City Centre Zone*" and appropriate in this location.

In terms of any retail activities, retail tenancies over 200m^2 (except for supermarkets 2,000m^2 and under) are classified as discretionary activities. It would be expected that traffic effects and parking provision associated with any predominantly retail development scenario would require detailed assessments.

5.3.3 EXPECTED TRAFFIC GENERATION WITH PARKING MITIGATION

Based on the restricted parking environment the traffic generation associated with the Plan Change area is expected to be lower than that expected from the current zoning provisions. This is summarised in Table 12.

Table 12: Expected Traffic Generation based on Parking Maximum of 500 Spaces

Scenario	Land Use	Trip Rate	Peak Hour[13] Trips	Number of Parking spaces (max 500)	Peak Hour Trips with Parking Maximum
Scenario A: Potential Mixed use under AUP (OP)	31,700m^2 Office	0.8 trips per parking space[14]	423	-	-
	2,000m^2 Retail	2 trips per parking space	133	-	-
Scenario A Totals			**556 trips**	**-**	**-**
	35,100m^2 Office	0.8 trips per parking space[15]	468	433	347

[12] Assuming a retail parking provision of 1 per 30m^2 and the remainder of the parking being allocated to office use. (500 – 67 = 433, 35,100/433 = 1 parking space per 81m^2

[13] Assuming a rate of 0.8 trips per parking space, and parking cap of 1 per 60m^2 as per AUP (OP) for office land use

[14] Based on AUP (OP) maximum office parking provisions of 1 per 60m^2

[15] Based on AUP (OP) maximum office parking provisions of 1 per 60m^2

Scenario	Land Use	Trip Rate	Peak Hour[13] Trips	Number of Parking spaces (max 500)	Peak Hour Trips with Parking Maximum
Scenario B: "Worst Case" Plan Change	2,000m^2 Retail	2 trips per parking space	133	67	133
Scenario B Totals			**601 trips**	**500 spaces**	**480 trips**
Scenario C "Potential" Plan Change	324 residential Units	0.29 trips per apartment	94	390	94
	3,000m^2 Retail	2 trips per parking space	220	110	220
Scenario C Totals			**314 trips**	**500 spaces**	**314 trips**

5.3.4 OVERALL REQUIREMENTS

The proposed overall parking restriction for the Plan Change area is 500 parking spaces. These may be allocated across the various activities on the site, allowing greater flexibility within the precinct to achieve outcomes that support transport choices other than private vehicle.

5.4 CYCLE PARKING

Table 13 outlines the AUP (OP) bicycle parking requirements for the Business Mixed Use zoned land.

Table 13: Auckland Unitary Plan Bicycle Parking Requirements

Activity	Short Stay	Long Stay
Residential (Developments of 20 or more dwellings)	1 per 20 dwellings	1 per dwelling without a dedicated garage
Office Greater than 10,000m^2	10 spaces plus 1 space per 2000m^2 above 10,000m^2	1 per 300m^2 of GFA
Retail – Food and Beverage (over 350m^2)	1 per 350m^2	1 per 300m^2 of GFA
Retail – All other (Between 500 and 5000m^2)	1 per 500m^2	1 per 300m^2 of GFA

No change is proposed to the existing requirements for cycle parking and end of trip facilities.

The total cycle parking provisions and the required end of trip facilities will need to be assessed at subsequent resource consent stages however the given the size of the Plan Change area, it is capable of accommodating the required number of cycle parking spaces and required end of trip facilities.

It is noted that the provision of secure cycle parking is considered a critical support element to the parking maximum provisions.

5.5 ACCESSIBLE PARKING

The AUP (OP) requires that accessible parking be provided as per the requirements of the Building Code and NZS 4121[16]. The Building Act states that accessible parking is not required for residential dwellings.

There is opportunity for a supermarket or similar retail activities to be provided on the ground floor as part of the retail buildings that may require accessible parking. This can be investigated at subsequent resource consent stages once development schemes are further investigated.

[16] NZS4121:2001, Design for Access and Mobility: Buildings and Associated Facilities

5.6 SERVICING

In terms of servicing, the loading spaces for the eventual mix of activities will need to be assessed. It is noted that loading spaces are required on a minimum basis and given the potential size of the precinct there will be a likely loading space requirement of at least 2 spaces.

The indicative truck paths would be required to be designed to accommodate a 10.3m rear steering waste truck as advised by Auckland Council's Waste Management team. The minimum headroom within each parking level is recommended to be a minimum of 3.8m. Again, this can be investigated at subsequent resource consent stages.

6 ACCESS

6.1 PEDESTRIAN ACCESS

A key objective and policy outcome of the Precinct is to promote attractive, safe and accessible spaces that promote pedestrian connectivity through the area. By achieving these outcomes, the Precinct will create a key linkage between the Auckland Domain and Newmarket centre.

This opportunity is supported in the Precinct plan by requiring developments with the Precinct to:

- Provide safe and attractive publicly accessible spaces and pedestrian connections between development stages
- Require active frontages at the interface of publicly accessible spaces to maintain pedestrian interest
- Vehicle access to the precinct is required to prioritise pedestrian safety

As shown in Figure 9, a pedestrian plaza is proposed to be provided in the centre of the Precinct. Connections to this plaza will be provided from George Street, Clayton Street and Morgan Street. It is proposed that these will be publicly accessible between 7am and 11pm.

This will significantly increase the site permeability for pedestrians, particularly north-south between the Auckland Domain and the Newmarket Centre. As detailed in Section 1.2.3 current access to from Clayton Street to George Street is via a private right of way with public access or pedestrian facilities.

In addition to access from Morgan Street, George Street and Clayton Street a network of pedestrian links will be provided between proposed buildings, providing a finer grain permeability to the site.

Figure 9: George Street Precinct Plan 2 - Urban Design Framework

It is further noted that Objective 5 of the Precinct identifies that:

The George Street Precinct promotes pedestrian safety and connectivity through the area, particularly between Newmarket and the Auckland Domain.

Based on this and the review completed it is considered that there may be opportunities for further potential amenity improvements as part of subsequent resource consent applications including:

- Upgrade to crossing facilities on George Street link to Auckland Domain
- Clayton Street upgrades related to pedestrian safety and amenity
- Rationalization of on street parking to accommodate for streetscaping works

It is noted that further detail on potential upgrades will be assessed as matter of discretion as part of vehicle access arrangements, and include effects on pedestrian safety on Morgan Street, and effects on pedestrian safety and amenity on Clayton Street and George Street.

6.2 VEHICLE ACCESS

The Plan Change proposes to provide vehicle access points (see Figure 10) in the following locations:

- George Street
- Morgan Street.

- Clayton Street

Further detail will need to be undertaken on the access design at resource consent stage. This would need to consider the following specific vehicle design elements such as

- Separation between vehicle access points, and separation between pedestrian and vehicle access
- Pedestrian visibility and provision of appropriate platforms to enable inter-visibility between exiting vehicles and pedestrians
- Access gradients
- Sight distances on the surrounding road network

Further detail on the proposed access points is provided below.

6.2.1 GEORGE STREET

The vehicle access on George Street is proposed to allow for two-way movements and will provide an area for vehicles to access adjacent to the proposed pedestrian plaza, facilitating pick up and drop off movements.

Access will also be enabled to basement parking within the Precinct from this access. Current concept plans show this as an entry access to basement parking.

With a significant frontage on George Street and connectivity between the pedestrian plaza and the Auckland Domain, this frontage and vehicle access will be designed to support safe and attractive pedestrian movements. This may be achieved through entry treatments, narrowing of vehicles crossing and other design features to reduce speed and promote pedestrian amenity.

6.2.2 CLAYTON STREET

Clayton Street access provides for continued pedestrian permeability between the pedestrian plaza and Newmarket.

Depending on overall site circulation exiting vehicles may utilise this access, and travel down Alma Street to leave the Precinct. However, overall the access point will primarily be pedestrian focused and no vehicle entrance, or through movements from George Street will be possible.

6.2.3 MORGAN STREET

The main vehicle movements would be accommodated on Morgan Street. This enables the site frontage on George Street and Clayton Street to have an active frontage, which continuing into the precinct, encourages movement through and around the precinct by foot.

A key design element proposed by the Plan Change is separation of vehicles and pedestrian movements to provide a safe environment for a range of users. The provision of two vehicle accesses on Morgan Street allows for future development to have a dedicated access for loading spaces.

Pedestrian access will also be provided on Morgan Street.

7 PRECINCT PROVISIONS

The objectives and policies for the Precinct Plan reinforce the intention of the Plan Change to have a strong pedestrian focus and promote a safe and publicly accessible space.

The Precinct Plan provides assessment criteria related to the transport matters including vehicle access and Staged delivery of pedestrian connections and parking maximum infringements.

Overall, it is considered that the assessment criteria identified in the Precinct Plan are appropriate tools to achieve the outcomes of the Precinct and in particular it is noted that

- The vehicle access assessment identifies the ability of appropriate vehicle access design to limit speed and help ensure pedestrian safety
- The identification of effects of staged delivery for pedestrian connections
- The assessment of infringement of parking maximums is consistent with the assessment criteria within Chapter E27 of the AUP.

8 INTEGRATION WITH FUTURE TRANSPORT NETWORK

8.1 GENERAL

The following section provides a review of established policy and plans in relation to the Plan Change. The documents reviewed comprise:

- Auckland Plan 2050;
- Auckland Regional Land Transport Strategy 2010;
- Auckland Regional Public Transport Plan 2013;
- Sustainable Transport Plan 2006-2016;
- AUP (OP); and

8.2 AUCKLAND PLAN

The Auckland Plan 2050 is Auckland Council's long-term spatial strategy to create the world's most liveable city. It shows how Auckland will prepare for an expected one million additional people by 2040 and the additional 400,000 new homes needed to accommodate this increased population. The Auckland Plan has six core outcomes that it seeks to achieve.

The transport and access outcome is that Aucklanders will be able to get where they want to go more easily, safely and sustainably. The directions for this outcome include:

- Better connect people, places, goods and services
- Increase genuine travel choices for healthy, vibrant and equitable Auckland
- Maximise safety and environmental protection

This will include focussing on the following areas

- Make better use of the existing transport networks
- Target the transport investment to the most significant challenges
- Maximise the benefits from transport technology
- Make walking, cycling and public transport preferred choice for many more Aucklanders
- Better integrate land use and transport
- Move to a safe transport system free from death and serious injury
- Develop a sustainable and resilient transport system

The Auckland Wide Development Strategy Map identifies Newmarket as a 'Metropolitan Centre' with a high degree of change.

8.3 REGIONAL POLICY STATEMENT

Urban growth objectives are outlined in Section B2.2 of the AUP (OP), as outlined below:

A quality compact urban form that enables all of the following:

a) a higher-quality urban environment;
b) greater productivity and economic growth;
c) better use of existing infrastructure and efficient provision of new infrastructure;
d) improved and more effective public transport;
e) greater social and cultural vitality;
f) better maintenance of rural character and rural productivity; and
g) reduced adverse environmental effects

As noted above, the Plan Change area is located within the Newmarket metropolitan centre and is located near the excellent public transport including Newmarket and Grafton Stations providing connectivity to multiple rail lines.

Overall, the Plan Change area location is therefore considered to support a compact sustainable urban form but also offer viable transport alternatives to the private motor vehicle.

8.4 AUCKLAND REGIONAL LAND TRANSPORT PLAN

The Auckland Regional Land Transport Plan ("RLTP") forms part of the National Land Transport Programme and represents the combined intentions of the NZ Transport Agency (the Transport Agency), Auckland Transport (AT), and KiwiRail to respond to growth and other challenges facing Auckland in the next 10 years.

Some of the specific projects noted are additional EMU rolling stock to increase train frequencies, and indirectly the Central Rail Link.

The Plan Change is considered to be compatible with the surrounding transport environment and offers alternatives to the private vehicle.

8.5 AUCKLAND REGIONAL PUBLIC TRANSPORT PLAN

The Auckland Regional Public Transport Plan 2018-2028 ("RPTP") seeks to deliver an improved public transport network in Auckland by increasing public transport frequency along key transport corridors and simplifying ticketing to improve user experience.

The vision of the RPTP is to deliver "*A system with seamless end to end customer journeys that are safe, accessible and reliable".* To deliver on the Auckland Plan, by achieving AT's vision for Auckland's PT system, it needs to deliver

- A continuously improving customer experience
- services that integrate with surrounding, and lanners, land uses and contribute to placemaking
- affordable and equitable travel
- an increasingly safe, secure and sustainable system;
- improved monitoring and value for money.

Key improvements proposed in the RPTP include extra peak and interpeak services on route 966 From Highbury to Newmarket and additional services on the outer link

The Plan Change is considered to be supportive of the vision of the RPTP.

8.6 AUCKLAND UNITARY PLAN

The AUP (OP) has the following objectives with regard to the region's transport infrastructure:

- Land use and all modes of transport are integrated in a manner that enables:
    a. the benefits of an integrated transport network to be realised; and
    b. the adverse effects of traffic generation on the transport network to be managed.
- An integrated public transport, including public transport, walking, cycling, private vehicles and freight, is provided for.
- Parking and loading supports urban growth and the quality compact urban form.
- The provision of safe and efficient parking, loading and access is commensurate with the character, scale and intensity of the zone.
- Pedestrian safety and amenity along public footpaths is prioritised.
- Road/rail crossings operate safely with neighbouring land use and development.

Further discussion on the relationship between the AUP (OP) provisions and the Plan Change is outlined in the planning report prepared by Barker and Associates.

Any development within the Plan Change area that meets the above objectives, and in particular development that supports a compact form, is therefore considered to align well with the transport objectives of the AUP (OP).

8.7 AUCKLAND TRANSPORT CODE OF PRACTICE

Should the Plan Change be approved, any road improvements will follow approved standards namely the Auckland Transport Code of Practice (ATCOP), Austroads and NZS4404. It is also noted that AT currently have a new design manual ('TDM'), currently in draft, which can inform any road or intersection designs as part of future resource consent applications.

9 CONSTRUCTION TRAFFIC

The development site is currently occupied, and demolition works followed by earth works would be required before any new development could be constructed. Again, this would be subject to subsequent resource consent processes.

To facilitate construction traffic, further assessment will need to be completed once a consented development proposal is available. This will consider the staging and potential truck movements. Particular consideration will be given to the operation of the Parnell Road and George Street intersection and the Carlton Gore Road and George Street intersections.

As is typical with a development of this scale, it is recommended that as part of any later resource consent, a Construction Traffic Management Plan (CTMP) should be required as a condition. It is considered that this Construction Traffic Management Plan should include:

- Construction dates and hours of operation including any specific non-working hours for traffic congestion/noise etc, aligned with normally accepted construction hours in the Auckland Region;
- Truck route diagrams between the site and external road network.

- Temporary traffic management signage/details for both pedestrians and vehicles, to manage the interaction of these road users with heavy construction traffic; and
- Details of site access/egress over the entire construction period and any limitations on truck movements. All egress points should be positioned to achieve appropriate sight distances.

Based on experience of constructing similar projects and bearing in mind capacity within the existing road network, with the appropriate Construction Traffic Management Plan in place and the above measures implemented, it is considered that construction activities can be managed to ensure any generated traffic effects are appropriately mitigated.

10 CONCLUSIONS

Based on the assessments undertaken in this report, it is concluded:

- There is no change in the overall land use for the Plan Change area, and the Plan Change area remains mixed use in nature. The key change proposed to apply within the Plan Change area is an increase in the building height limit.
- The Plan Change area has excellent accessibility to various transport modes: walking, cycling, bus, train and private vehicle.
- A comparison of three scenarios for the Plan Change area demonstrates that the proposed building height increases, in a worst case example, the Plan Change generates approximately 65 more trips in the peak hour
- The effects of the proposed increase in vehicles can be mitigated by the implementation of parking maximum provisions as detailed in Section 5.3.3,
- Vehicle access is proposed to be consolidated to central access points from George Street, Morgan Street and Clayton Street. Pedestrian access will be provided through the Plan Change area with active frontages internal to the Plan Change area and a central plaza provided.

Overall, from a transport perspective, provided that parking is limited in a manner such as that proposed, the transport implications of the Plan Change provisions are considered to be consistent with those expected under the current provisions in the AUP (OP).

ATTACHMENT A – CONCEPT PLANS FOR SCENARIOS