

# PROPOSED PLAN CHANGE AUCKLAND UNITARY PLAN

Proposed Business-Neighbourhood Centre Zone  
KOHE PRECINCT  
PUKEKOHE

## INTEGRATED TRANSPORT ASSESSMENT

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## 1.0 INTRODUCTION

This report provides an Integrated Transport Assessment for a proposal to rezone 8,500 m<sup>2</sup> of land located within the recently approved Kohe Precinct (PC76) in Pukekohe, from Residential - Mixed Housing Urban Zone to Business – Neighbourhood Centre Zone.

As illustrated in **Figure 1**, the subject site is located near the southeast corner of the precinct, and the precinct is located immediately south of East Street on the eastern urban fringe of Pukekohe. Generally, the area is currently rural in use and is bounded by predominantly rural land to the north, east and south as well as some residential and open space towards the west.

The proposal intends to provide a zone that will enable the establishment of a neighbourhood centre that will provide convenience type retail and a small level employment to complement the surrounding residential zoning. The proposal does not seek to modify any of the transport provisions recently approved within PC76 or any transport related provisions within the Business – Neighbourhood Centre Zone.

This assessment considers the proposed changes to the future road environment identified in the south Auckland region and within Pukekohe. It will also refer to the Pukekohe-Paerata Structure Plan and its accompanying Integrated Transport Assessment (ITA), and the Supporting Growth Strategy for the South Auckland sub region as they have been referred in the original PC76 application.

The key transportation consideration for this proposal is the accessibility of the plan change area to the various modes of transport, and the ability of the surrounding road network to support the proposed development safely and efficiently.

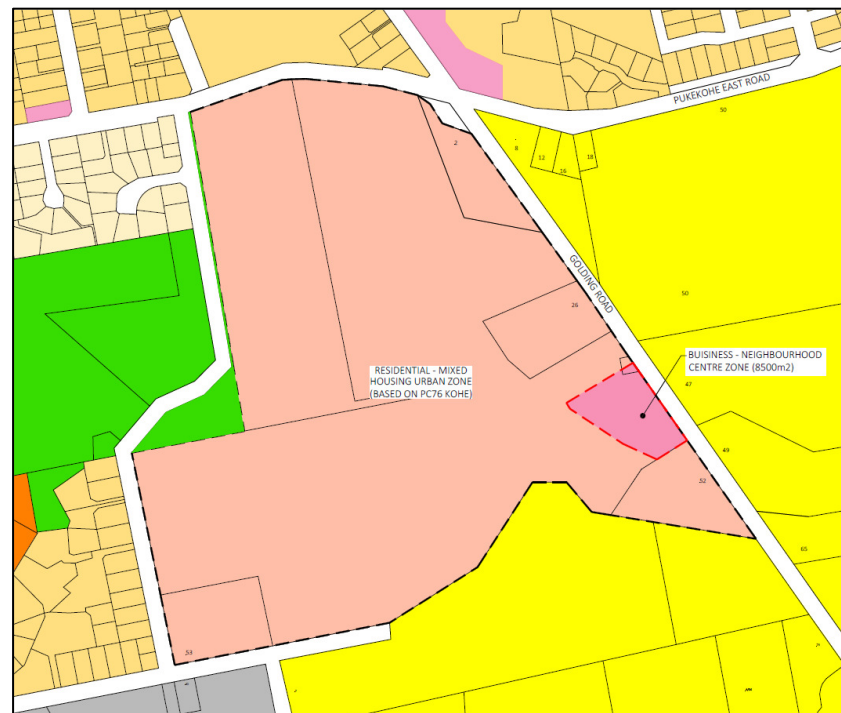


Figure 1: General Site Location

Source: CIVIX Limited

## 2.0 EXISTING TRANSPORT ENVIRONMENT

### 2.1 Auckland Unitary Plan

Within the vicinity of the subject site, there are two approved plan changes being PC76 and PC74, and one private plan change application being recently lodged with Auckland Council.

#### 2.1.1 Plan Change 76 (Pukekohe East-Central Precinct)

The PC76 application which has been recently approved by Auckland Council, to rezone approximately 30 hectares of land located between Golding Road and Ngahere Road in Pukekohe from Future Urban Zone to Residential – Mixed Housing Urban Zone. The plan change area is located immediately south of East Street on the eastern urban fringe of Pukekohe and has road frontage onto all three road and Birch Street to the south, which is also known as “Pukekohe East-Central Precinct”. The area is currently rural in use and is bounded by predominantly rural land to the north, east and south as well as some residential and open space towards the west.

Currently, the entire PC76 Precinct area is zoned Residential – Mixed Housing Urban and the subject site is located near the southeast corner of the PC76 area of the PC76 area as illustrated in **Figure 1**. PC76 intends to provide a zone that will enable the establishment up to approximately 900 residential dwellings.

PC76 is generally consistent with the Pukekohe-Paerata Structure Plan and the Supporting Growth Strategy for the South Auckland sub region. As part of the plan change application approval, there is a precinct plan indicating the future road network within the plan change area. As illustrated in **Figure 2**, the Precinct Plan indicates a future collector road to be formed from the Birch Road / Youngs Grove intersection, running towards the east through the plan change area and forming a T-Junction with Golding Road.

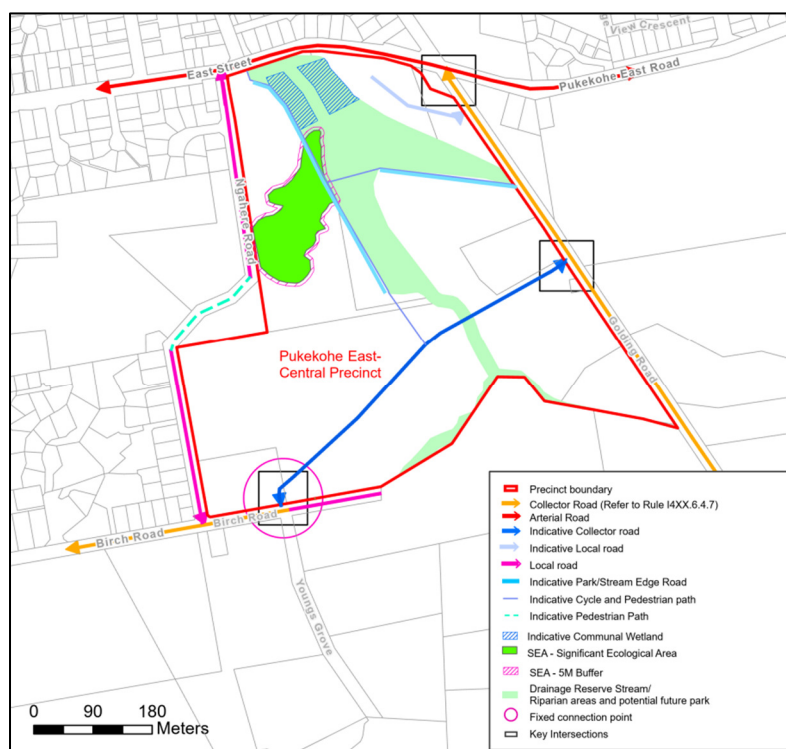


Figure 2: PC76 Precinct Plan

Source: Auckland Council

The approved precinct provision includes a section to set specific transport infrastructure requirement for the development within the precinct, which is summarised in **Table 1**.

**Table 1: Transport Infrastructure Requirements within Kohe Precinct Provision**

Transport Infrastructure Upgrade		Trigger
(T1)	New east-west Collector Road between Birch Road and Golding Road including cycle facility. Note: the Collector Road is to connect opposite Youngs Grove at Birch Road.	Any subdivision or development resulting in a cumulative total of 200 dwellings within the Precinct
(T2)	Upgrade of Golding Road to Collector Road standard (west side)	Any subdivision or development with frontage to Golding Road
(T3)	Upgrade of north side of Birch Road to Collector Road standard between Ngahere Road and New East-West Collector Road	Any subdivision or development with frontage to Birch Road west of Youngs Grove
(T4)	Extension of Birch Road east of Youngs Grove to local road standard	Any subdivision or development with frontage to Birch Road east of Youngs Grove
(T5)	Upgrade of south side of East Street to Collector Road standard (future proof for upgrade for Arterial Road)	Any subdivision or development with frontage to East Street
(T6)	Upgrade of east side of Ngahere Road (south of Roosevelt Park) to local road standard	Any subdivision or development with frontage to Ngahere Road south of Roosevelt Park
(T7)	Upgrade of east side of Ngahere Road (north of Roosevelt Park) to local road standard	Any subdivision or development with frontage to Ngahere Road north of Roosevelt Park if and once the 2m reserve strip on east side of Ngahere Road is removed
(T8)	Upgrade of Ngahere Road alongside Roosevelt Park to provide a Pedestrian Path between the northern and southern sections of Ngahere Road subject to landowner permission from Auckland Transport and/or Auckland Council Parks to install such a Pedestrian Path.	Upgrade of Ngahere Road to local road standard north and south of Roosevelt Park
(T9)	Interim pedestrian / cycle upgrade along Birch Road from the Precinct boundary to Station Road and to Pukekohe Rail Station, in accordance with Policy 5(b).	First dwelling with a connection to Birch Road or Ngahere Road

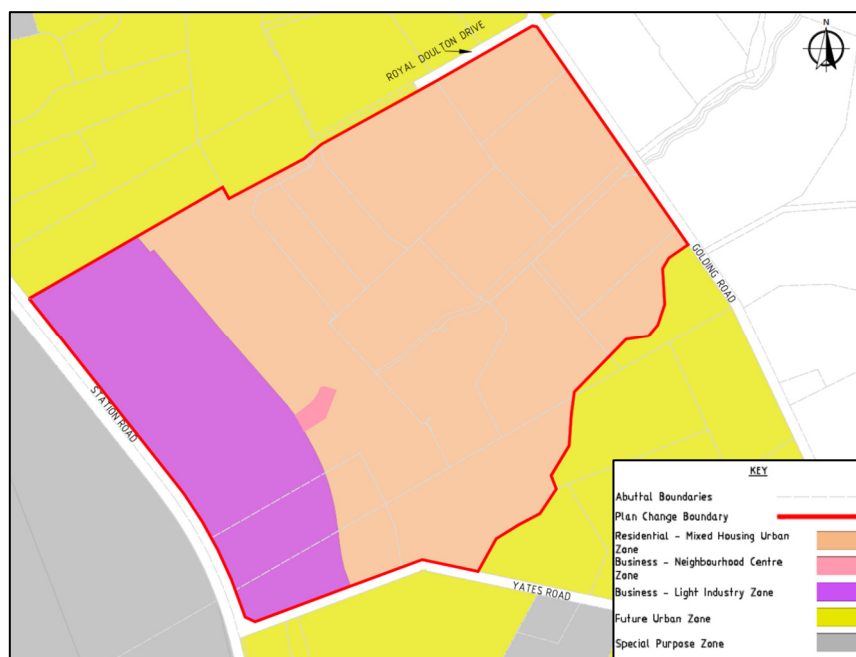
The precinct provision also includes requirements for traffic assessment on the future developments within the precinct as summarised below:

- 1) *At the first stage of subdivision or development of any site existing; and*
- 2) *For any subdivision or development exceeding a cumulative increment of 60 further dwellings/lots within the Precinct, a Traffic Assessment must be provided which assesses effects (including cumulative effects) on the safety and efficiency of the road network and in particular addresses the need for:*
  - a) *Any upgrade of the Golding Road / East Street / Pukekohe East Road intersection;*
  - b) *Any upgrade of the Ngahere Road / East Street intersection;*
  - c) *Any upgrade of the Birch Road / Station Road intersection;*
  - d) *Any upgrade of the Station Road / East Street intersection; and*
  - e) *Golding Road where it adjoins the Precinct.*

### 2.1.2 Plan Change 74 (Pukekohe Golding Precinct)

Another plan change to the south of PC76 has also been recently approved by Auckland Council, includes approximately 82.7 hectares of land in south-eastern Pukekohe, bounded by Golding Road, Station Road, Royal Doulton Drive, part of Yates Road and a stream that runs in a roughly southerly direction from Golding Road to Yates Road. The area is also known as PC74 or “Pukekohe Golding Precinct”.

As illustrated in **Figure 3**, PC74 rezones the land from Future Urban Zone and Special Purpose - Major Recreation Facility Zone (Franklin Trotting Club Precinct) to a combination of Business – Light Industry Zone (20 hectares), Residential – Mixed Housing Urban Zone (62.4 hectares) and Neighbourhood Centre Zone (0.3 hectares). PC74 is expected to establish approximately 920 dwellings and 818 employment opportunities.



**Figure 3: PC74 Zoning**  
Source: Auckland Council







Figure 5: 50 Pukekohe East Road and 47 Golding Road

Source: CIVIX Limited

## 2.2 Road Network

As the Kohe Precinct area abuts an arterial road (East Street) along its northern boundary, the main access opportunities for the site at present are from Ngahere Road and Golding Road adjacent to the PC76's western and eastern boundaries respectively and Birch Road to the south. In the wider context, the site also connects to Pukekohe town centre and State Highway 1 via East Street / Pukekohe East Road.

In terms of the area subject to this plan change, Golding Road and East Street will be treated as a more direct route for the access, although it is still possible for visitors to access the subject area from Ngahere Road and Birch Road via the future road network internal to PC76.

### 2.2.1 East Street / Pukekohe East Road

The route of East Street and Pukekohe East Road is classified as an arterial route under the Auckland Unitary Plan – Operative in Parts (AUP) and forms part of an east-west link between the centre of Pukekohe and State Highway 1 Southern Motorway, at the Mill Road interchange. East Street skirts the northern boundary of the subject site and includes a priority intersection with Ngahere Road, which forms the western boundary to PC76, and a roundabout intersection with Golding Road, which forms the eastern boundary to PC76.

East Street is subject to a 50 km/hr posted speed limit through the urban area of Pukekohe, which transitions to 70km/hr on Pukekohe East Road around the intersection of Willowgrange Place, situated near the northwest corner of the subject site, heading eastwards from Pukekohe. The change in speed limit north of the subject site reflects a transition from urban to rural environment.

East Street has a sealed width of 10 to 11 metres in the vicinity of the site and provides a single traffic lane in either direction, separated by double yellow “no overtaking” lines. The most recent traffic counts on East Street in the vicinity of the subject site, between Willowgrange Place and Golding Road, were carried out by Auckland Transport in May 2022. Details of these traffic counts are summarised in **Table 2**.

**Table 2: Traffic Counts on East Street in May 2022**

Direction	Weekday	Saturday	Sunday	Weekday		
				AM Peak	Midday Peak	PM Peak
Both	15,501	13,803	10,349	1,264	1,415	1,441

### 2.2.2 Golding Road

Golding Road is classified as a local road under the AUP and follows a north-south axis between East Street, in the north-eastern corner of the subject site, and Logan Road, around 2.35 kilometres to the south. In the vicinity of the subject site, it currently provides access to a small number of rural residential properties.

Golding Road has a sealed width of around 7 metres in the vicinity of the subject site, providing one traffic lane in either direction. To the south of its intersection with East Street / Pukekohe East Road, the 70 km/hr speed limit transitions to 100 km/hr, which reflects the rural environment along its length.

The most recent traffic counts on Golding Road in the vicinity of the subject site, between Royal Doulton Drive and Logan Road, were carried out by Auckland Transport in May 2021. However, the survey in February 2019 is considered as the nearest realistic counts because it is the period outside of the Covid impact. Details of the traffic counts are summarised in **Table 3**.

**Table 3: Traffic Counts on Golding Road in February 2019**

Direction	Weekday	Saturday	Sunday	Weekday		
				AM Peak	Midday Peak	PM Peak
Both	1,556	1,093	886	197	115	180

### 2.2.3 Birch Road

Birch Road is classified as a local road under the AUP and in combination with Youngs Grove, it forms part of a no-exit road between Station Road in Pukekohe and rural land to the southwest of the subject site. It also provides a connection to Ngahere Road and an onward connection onto East Street.

Birch Road is approximately 660 metres in length and has urban frontage along its northern boundary, while Pukekohe Show Grounds lies to its south. It has a typical sealed width of around 9 metres immediately east of Station Road, which reduces to around 6 to 7 metres at the cul-de-sac end east of Ngahere Road.

No traffic count data is currently available for Birch Road, however given its location and context within the adjoining road network, current daily traffic flows would be expected to be less than 1,000 vehicles per day, with peak hourly flows of no more than 80 vehicles.

It is noted that as part of the Pukekohe-Paerata Structure Plan and PC76, improvements are planned for Birch Road, including an eastward extension to Golding Road and an upgrade to enable it to better cater for active modes of travel and public transport, commensurate with its future function as a collector road.

#### 2.2.4 Ngahere Road

Ngahere Road is classified as a local road under the AUP and follows a north-south axis along the western boundary of the subject site, extending from East Street in the north to Birch Road to the south. Near the subject site, its western frontage forms the current eastern urban boundary of Pukekohe, with residential properties bordering its northern and southern ends and Roosevill Park lying to the west of its central section. Ngahere Road's eastern boundary borders the subject site.

Ngahere Road has a sealed width of around 8 metres in the vicinity of the subject site, providing one traffic lane in either direction, and a posted speed limit of 50km/hr along its length.

No traffic count data is currently available for Ngahere Road, however given its location and context within the adjoining road network, current daily traffic flows would be expected to be less than 1,000 vehicles per day, with peak hourly flows of no more than 50 vehicles.

#### 2.2.5 Intersection Turning Counts

Traffic Planning Consultants Ltd have also conducted a survey at the East Street/Golding Road/Belgium Street roundabout and the East Street/Ngahere Road intersection on Tuesday 29 and Thursday 30 June 2021 to determine the existing traffic flows during peak times near the site. The surveyed traffic flows for the AM and PM peak periods are shown in **Figure 6**. The turning count flows are consistent with those tube counts recorded by Auckland Transport in March 2018.

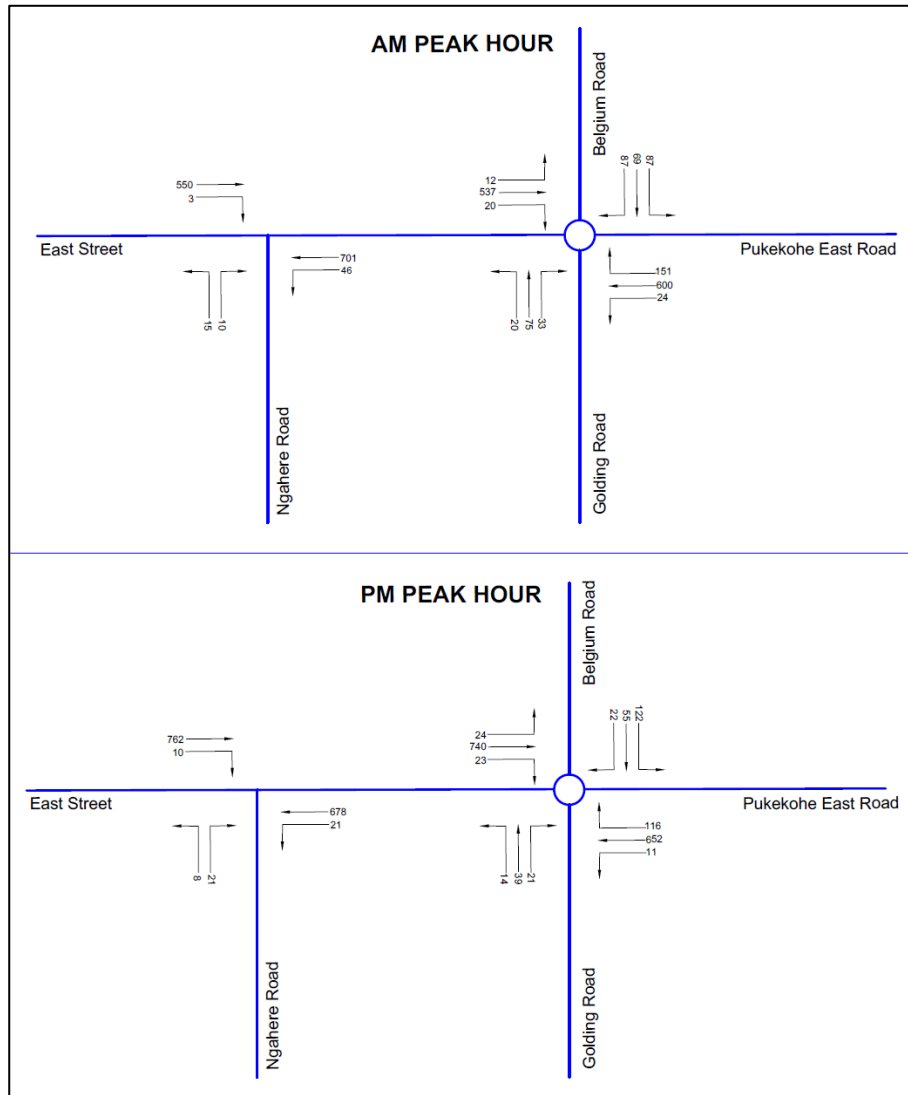


Figure 6: AM & PM Peak Hour Turning Movements – East Street

### 2.3 Existing Pedestrian Accessibility

In terms of footpath provisions on the existing road network, continuous pedestrian footways are provided along at least one side of both East Street and Birch Road, providing convenient access between the subject site and the centre of Pukekohe, including the railway station.

Figure 7 and Figure 8 show the respective 400-metre and one-kilometre walking distances from the site. From these figures it is shown the site lies within a convenient walking distance of residential, business and education activities on the eastern side of Pukekohe.

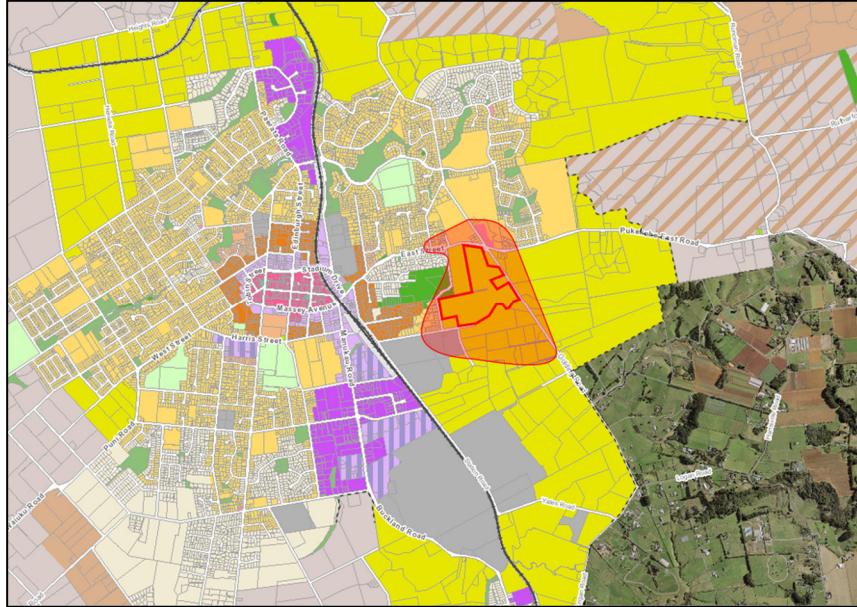


Figure 7: 400-Metre Walking Contour from the Site

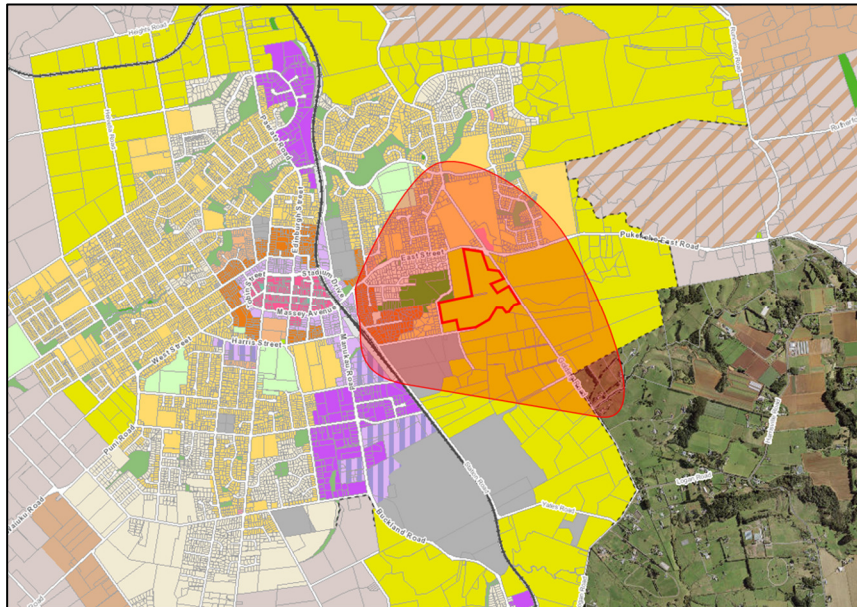


Figure 8: 1-Kilometre Walking Contour from the Site

## 2.4 Existing Cyclist Accessibility

Parts of East Street between the subject site and the centre of Pukekohe have painted shoulders to cater for cyclists. While there are no dedicated cycle facilities or provisions along other roads in the immediate vicinity of the site, the current light levels of traffic along Ngahere Road and Birch Road make these routes safe and attractive for cycling for those who choose to travel by this mode.

**Figure 9** shows the three-kilometre cycling contour from the site, which encompasses the centre of Pukekohe and key retail, commercial and industrial areas to the southeast.

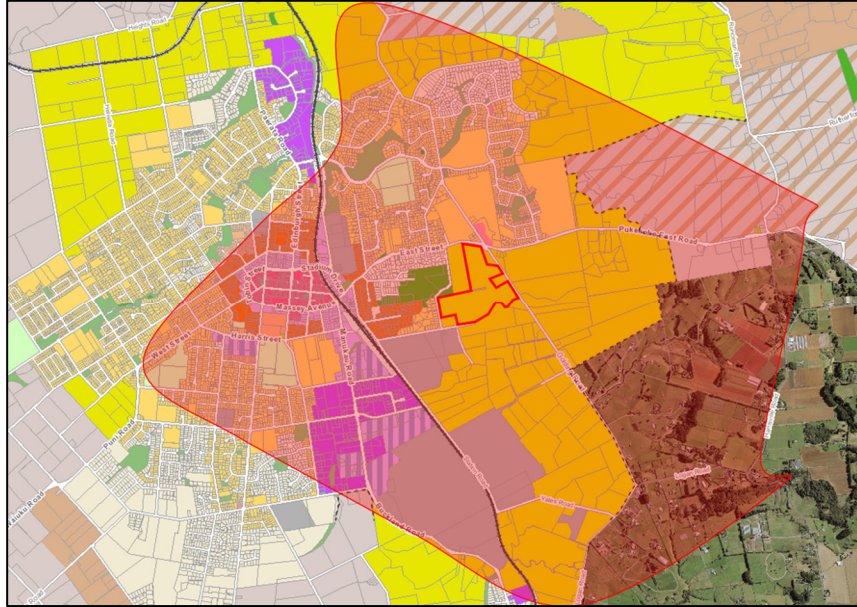


Figure 9: 3-Kilometre Walking Contour from the Site

## 2.5 Existing Public Transport Accessibility

The eastern side of Pukekohe, to the east of the North Island Main Trunk Rail line, is currently served by the Bus Route 391, which provides an orbital route connecting the town centre and Railway Station with the north-eastern part of the town. The nearest bus stop to the subject site is located around 300 metres to the west on East Street.

The subject site is also located within 800 metres of Pukekohe railway station, which can be accessed via Birch Road at the southwestern end of the site. At present, the railway station is closed for the “Electric trains to Pukekohe” project and the shuttle between Pukekohe and Papakura is suspended. From Papakura, interchange opportunities are available with Southern Line services providing an onward connection to Britomart and the wider Auckland network. Auckland Transport’s website advises<sup>1</sup> that:

- Pukekohe Station will closed and the Pukekohe Train service will be suspended until late 2024.
- Bus route 394 is a free replacement bus between Papakura and Pukekohe via Paerata Rise, which runs approximately every 15 to 20 minutes at peak commuting times on weekdays and approximately every 20 to 30 minutes at all other times.
- Customers can transfer at Papakura Station for travel on the Southern Line to other destinations.

The existing public transport provision therefore provides linkage within Pukekohe itself and an onward link to Auckland City Centre, as well as nearby areas as shown in **Figure 10**.

Overall, the site is well located to benefit from existing rail service provisions, and as discussed below, it would also be expected to support future rail and bus provisions enabled by new and improved roading connections adjoining the location of the subject site.

<sup>1</sup> <https://at.govt.nz/PukekoheTrains>

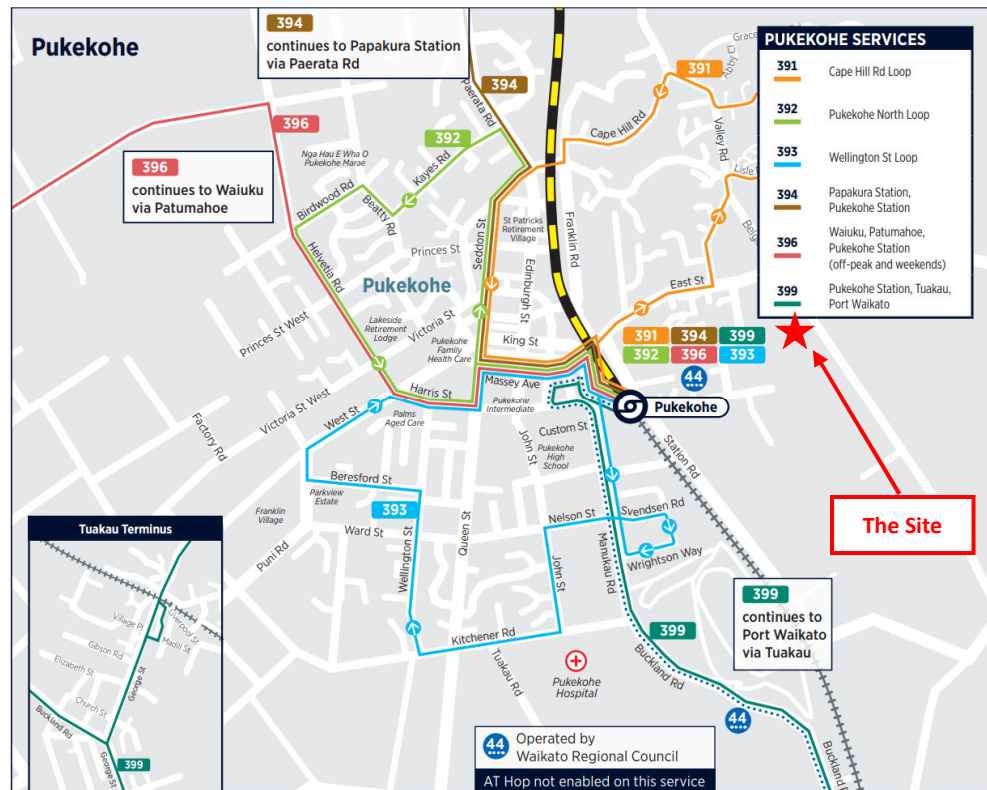


Figure 10: Pukekohe Existing Public Transport Routes

Source: Auckland Transport

## 2.6 Road Safety History

Information from the New Zealand Transport Agency’s “Crash Analysis System” for the latest available five-year period, January 2018 to December 2022, indicates that 16 crashes have been reported along East Street, Pukekohe East Road, Ngahere Road, Golding Road and Birch Road in the vicinity of the site. Of these 16 crashes, 11 resulted in no personal injuries while the remaining 5 resulted in minor injuries. These crashes reported are summarised in **Table 4**.

Based on analysis of the above crash records, there is no trend that would suggest that a change in land use from urban to residential would have a detrimental impact on the safety or functionality of the surrounding road environment.



**Table 4: Traffic Safety Records within the Vicinity of the Site**

<b><i>EAST STREET / PUKEKOHE EAST ROAD</i></b>
<p>10 crashes occurred along East Street and Pukekohe East Road in the vicinity of the site, at the following locations:</p> <ul style="list-style-type: none"><li>• 1 x non-injury crash occurred at the intersection with Willowgrange Place, relating to a rear-end shunt in heavy traffic.</li><li>• 1 x non-injury crash occurred at the intersection with Ngahere Road, relating to relating to left-turn manoeuvre.</li><li>• 1 x non-injury crash occurred on Pukekohe East Road, relating to relating to right-turn manoeuvre.</li><li>• The remaining 7 crashes occurred at or on the approaches to the roundabout intersection of East Street / Golding Road / Pukekohe East Road / Belgium Road and related to losing control (x1), read-end (x2), and assorted traffic manoeuvres (x4), with 4 resulting in personal injury, while the remaining 3 resulted in no personal injury. The crash types noted to be occurring at this location are considered typical for this type of intersection.</li></ul>
<b><i>NGAHERE ROAD</i></b>
<ul style="list-style-type: none"><li>• 1 x non-injury crash occurred at the intersection with Birch Road, relating to losing control when turning left.</li><li>• 1 x non-injury crash occurred, which resulted from a parked truck running away, because of the brake not being fully applied.</li></ul>
<b><i>GOLDING ROAD</i></b>
<ul style="list-style-type: none"><li>• 1 x non-injury crashes involved vehicles losing control and leaving the roadway to the right.</li><li>• 3 crashes occurred at or on the approaches to the roundabout intersection of East Street / Golding Road / Pukekohe East Road / Belgium Road, all of which were related to losing control, with 1 resulting in minor personal injury.</li></ul>

## 3.0 FUTURE TRANSPORT ENVIRONMENT

### 3.1 Plan Change 76 (Kohe Precinct)

The recently approved PC76 includes a precinct plan indicating the future road connection within the precinct as illustrated in **Figure 2** and with more details on roading network in **Figure 11**. The Precinct Plan indicates a future collector road to be formed from the Birch Road / Youngs Grove intersection, running towards the east through the plan change area and forming a T-Junction with Golding Road. It also indicates that Golding Road and Birch Road would be transformed into collector roads, whilst keeping Ngahere Road as a local road. East Street and Pukekohe East Road are identified as arterial road in the future.

The Precinct Plan is generally consistent with the Pukekohe-Paerata Structure Plan and the Supporting Growth Strategy for the South Auckland sub region as discussed later in the report. Nevertheless, the new future collector as identified as blue in **Figure 11**.

The Structure Plan indicates an extension of Birch Road along the southern boundary of PC76 towards the east to connect with Golding Road and the Pukekohe Ring Road alignment. The new future collector as identified in PC76, has a more northerly location compared to the Birch Road extension as indicated in the Structure Plan. The Precinct Plan only includes a short extension of Birch Road towards the east as a local road.

However, the future extension of Birch Road towards Golding Road may still be possible subject to the future planning and development within the vicinity. It is also noted that the Supporting Growth Alliance had undertaken business case analysis of the Ring Road alignment, but only as it pertains to the alignment to the north of Pukekohe Road East. No assessment has been undertaken of the alignment between Pukekohe Road East and Golding Road and therefore the connection to Birch Road.

Within the original application for PC76, the feasibility of this alignment has been considered at a high level by the Applicant's consultant team along with other options as part of the masterplan development during the previous PC76 application. The conclusions of this assessment consider that the alignment of both Birch Road and the Ring Road are better to follow a more southern alignment. The following points are noted if adopting a more southern alignment of both Birch Road and the Ring Road:

- Only one stream crossing would be required, however located closer to the head of the stream so the stream crossing will not need to span significantly like the Structure Plan alignments stream crossing;
- There is a greater opportunity to minimise earthworks required as the route follows the ridgeline for much of the alignment;
- A more acceptable/ flatter road grades is achievable; and
- Although a greater distance of road to construct, it is very likely that overall construction costs would be similar or less than the Structure Plan alignment due to the stream crossing and earthworks to establish the alignment.

Although the Precinct Plan indicates that the entire stretch of Golding Road along the PC76 frontage would be a collector road, the section of Golding Road approaching to the roundabout with East Street and Pukekohe East Road is planned to be arterial road subject to future notice by Auckland Transport. The Structure Plan also indicates the entire Birch Road as a collector road.

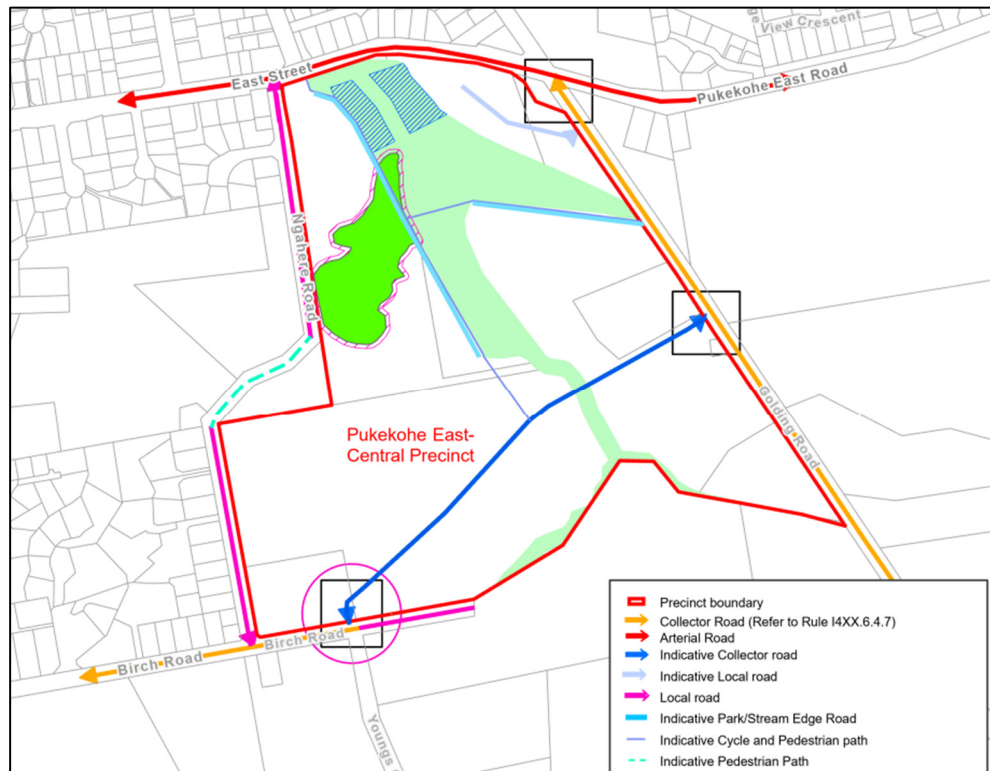


Figure 11: PC76 Precinct Plan – Roading

Source: Auckland Council

For better understanding on the different between the approved PC76 Precinct Plan and the Structure Plan, the key differences are summarised in Table 5.

Table 5: Differences in Roading Provision between Precinct Plan and Structure Plan

	PC76 Precinct Plan	Pukekohe-Paerata Structure Plan
Golding Road	<ul style="list-style-type: none"> <li>Collector Road as interim;</li> <li>Arterial Road for the stretch close to the roundabout with East Street and Pukekohe East Road, subject to future notice from Auckland Transport</li> </ul>	<ul style="list-style-type: none"> <li>Collector Road for the stretch along the PC76 frontage;</li> <li>Arterial Road for the section south to the intersection with Pukekohe Ring Road (subject to business case analysis)</li> </ul>
Birch Road	<ul style="list-style-type: none"> <li>A short extension of Birch Road towards the east as a local road.</li> </ul>	<ul style="list-style-type: none"> <li>An extension of Birch Road along the southern boundary of PC76 towards the east to connect with Golding Road and the Pukekohe Ring Road alignment.</li> </ul>
Future Collector	<ul style="list-style-type: none"> <li>To be formed from the Birch Road / Youngs Grove intersection, running towards the east through the plan change area and forming a T-Junction with Golding Road</li> </ul>	<ul style="list-style-type: none"> <li>Not Applicable</li> </ul>

### 3.2 The Pukekohe-Paerata Structure Plan

In August 2019, Auckland Council adopted the Structure Plan for the future urban zone surrounding Pukekohe-Paerata. The structure plan area is anticipated to provide around 12,500 new dwellings and cater for around 5,000 potential additional jobs over a 30-year period, to enable Pukekohe to fulfil a strategic objective of the Auckland Unitary Plan, to function as a “satellite town” to Auckland.

The AUP defines a “satellite town” as a rural town which has the potential to function semi-independently from the main urban area, as well as servicing its surrounding rural community, with appropriate provisions for employment and services to support residential provisions. A satellite town also requires good transport connections to Auckland through state highways and, in the case of Pukekohe, by rail.

The subject site aligns well with the strategic aim to enhance Pukekohe’s role as a satellite town, with good proximity to the railway station, town centre and Business – Light Industry zoned land within the south-eastern area of the town. Proposed new and improved roading connections would also serve to enhance the site’s connectivity to the state highway network in the future.

Stage 1 of the Structure Plan Growth will be the Paerata Future Urban zoned land to the north of Pukekohe, which is scheduled to be developed during the period 2018 to 2022 with some areas currently underway. Stage Two will be the Pukekohe Future Urban zoned land, which is scheduled to be developed during to 2023 to 2027 period. The Structure Plan confirms that staging may be subject to change due to funding timing and provision of key infrastructure.

The Structure Plan was supported by an Integrated Transport Assessment (ITA), covering both the Pukekohe-Paerata and Drury-Opāheke Structure Plan areas. The purpose of the ITA was to identify the proposed arterial and collector road network at a high level, along with the public transport network and active mode network to support the future growth in line with the two Structure Plans.

The ITA also identified the anticipated trip generation and mode share for the various zoning and land uses set out in the structure plan. It also provided high level traffic modelling outputs, and recommended intersection treatments and road cross sections for key roads.

The proposal is indicated in the Future Urban Land Supply Strategy (FULSS) for development of the site during the second half of Decade One, between 2023 and 2027. **Figure 12** below illustrates the proposed zoning and under the Pukekohe-Paerata Structure Plan. The PC76 aligns with what has been anticipated within the structure plan for a Residential – Mixed Housing Urban Zone.

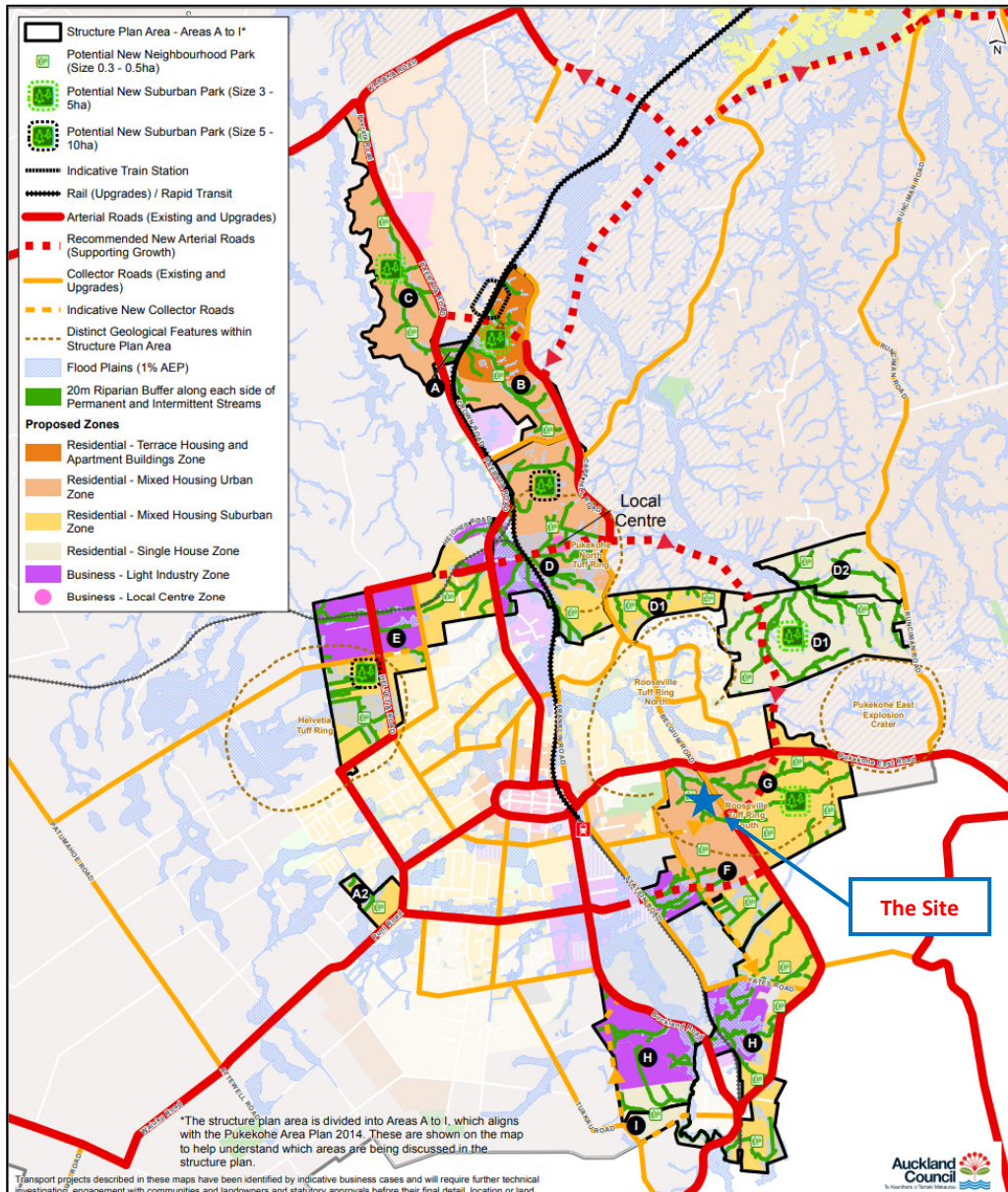


Figure 12: Pukekohe-Paerata Structure Plan 2019

Source: Auckland Council

### 3.3 Future Transport Context

Through the Supporting Growth Alliance (SGA), New Zealand Transport Agency (NZTA) and Auckland Transport (AT) have proposed several upgrades and proposals to the road environment in the South Auckland region to facilitate the expansion of Pukekohe and the surrounding areas. These improvements are also recognised as key elements of the Pukekohe-Paerata Structure Plan, however timing and funding for the construction of key transport projects remains uncertain.

The following other projects are anticipated to be progressed through an alliance with Auckland Transport and NZTA to address the transport network issues in the South Auckland region:

- **Pukekohe Expressway**, which will provide an alternative route to the existing State Highway 22, for access between State Highway 1 and Pukekohe, connecting with the north-eastern section of the proposed new Pukekohe Ring Road.
- **Pukekohe Ring Road**, which will provide a new orbital route for the town, to travel around the town centre. While the exact form and function of the route is subject to designations, it is expected to be a limited access urban arterial road, which will intersect with Golding Road to the southeast of the subject site.
- **Upgrade of Pukekohe East Road / Mill Road**, which forms an existing east-west arterial road connection between the subject site and the Bombay Interchange on the State Highway 1 Southern Motorway. While the focus for the Pukekohe East Road section of this route would be on safety improvements, the upgrade of the Mill Road section is expected to include four-laning as well as safety improvements.
- **Birch Road Urbanisation and Extension**, which would extend from its current terminus near the southwestern corner of the subject site, following the southern boundary of the site to connect with Golding Road. The upgrade would align with the future function of Birch Road as a collector road, serving increased urban frontage along its extended length and catering for active modes of travel and potentially public transport.
- **Four-tracking and Electrification of the North Island Main Trunk (NIMT) to Pukekohe**, which would enable the extension of the existing services operated by electric trains, which currently terminate at Papakura, thus providing through services between Pukekohe and central Auckland. These would be expected to replace the current diesel shuttle services between Pukekohe and Papakura and improve travel times by avoiding the need to change trains. Given that the electrification of the NIMT to Pukekohe is consented, funded and works has commenced, the benefits of electrification can to an extent be considered as 'existing' because those works should be complete before houses are anticipated to be constructed.

Whilst the subject site is expected to operate efficiently regarding the surrounding road environment, and the approved residential zoning the proposed rezoning for a small pocket to be Business – Neighbourhood Centre is not expected to impact upon that, the planned upgrades will assist with future developments in the local area including the subject site. Several conceptual networks have been evaluated and the following preferred and indicative projects have been identified. **Figure 13** illustrates the location of these projects in relation to the site.

The site's improved connectivity to other modes such as public transport, walking, and cycling will provide a choice of travel modes and a higher level of accessibility to the wider network.



Figure 13: South Auckland Indicative Strategic Transport Network  
Source: New Zealand Transport Agency/Auckland Transport

### 3.4 Future Traffic Flows

The Pukekohe-Paerata Structure Plan ITA also sets out future predictions for daily traffic volumes under numerous scenarios depending on which strategic infrastructure is in place. The key design years they have focused on are 2028 and 2048. Under all scenarios, the East Street – Pukekohe East Street corridor is expected to accommodate up to 10,000 vehicles movements per day in the vicinity of the site.

Given that the current volumes measured by Auckland Transport in 2022 are currently sitting at about 15,500 vehicles per day on East Street, this indicates that volumes will drop in the future as public transport and active mode infrastructure is established regardless of the increase in household and employment numbers.

Any assessment of effects of traffic flow on East Street relating to the proposed plan change can therefore be based existing volumes and will ensure a robust assessment is undertaken.

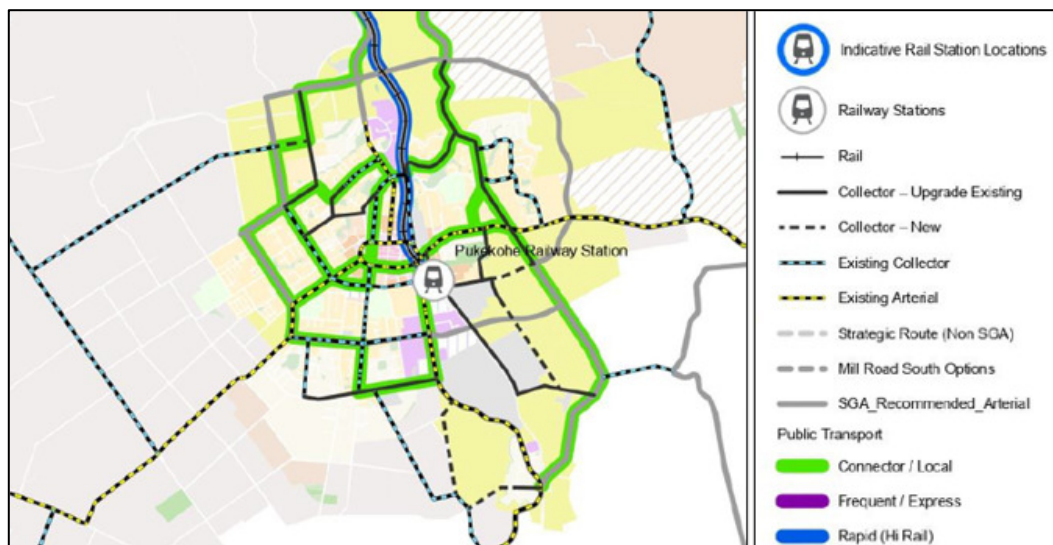
### 3.5 Future Public Transport Accessibility

Extension of the current rail electrification from Papakura to Pukekohe is currently planned and funded to be completed by 2024, which will reduce rail travel times by eliminating the need for interchange between diesel and electric train services at Papakura. This will contribute towards reducing car travel, particularly to and from the north during peak times.

The planned enhancements to the collector and arterial road network in and around Pukekohe will provide opportunity to expand the public transport network to support the planned population growth in the area. Details of future bus services are currently not available, but they are expected to increase as demand (new households) are established.

At a high level, the Structure Plan ITA has confirmed that the road network is generally consistent/generally provides for the coverage sought in AT's conceptual bus network. Multiple options for services between Drury, Pukekohe and Paerata with connections to train stations to expand the reach of rail where there are no stations are available to maintain the current general structure of bus services in Pukekohe while providing for expansion of the network.

**Figure 14** identifies both East Street and Golding Street roads to have future Connector and Local bus services. These with further enhance the options for travel for households within the plan change area and assist in managing effects on the road network.



**Figure 14: Pukekohe Indicative Future Public Transport Network**

*Source: New Zealand Transport Agency/Auckland Transport*

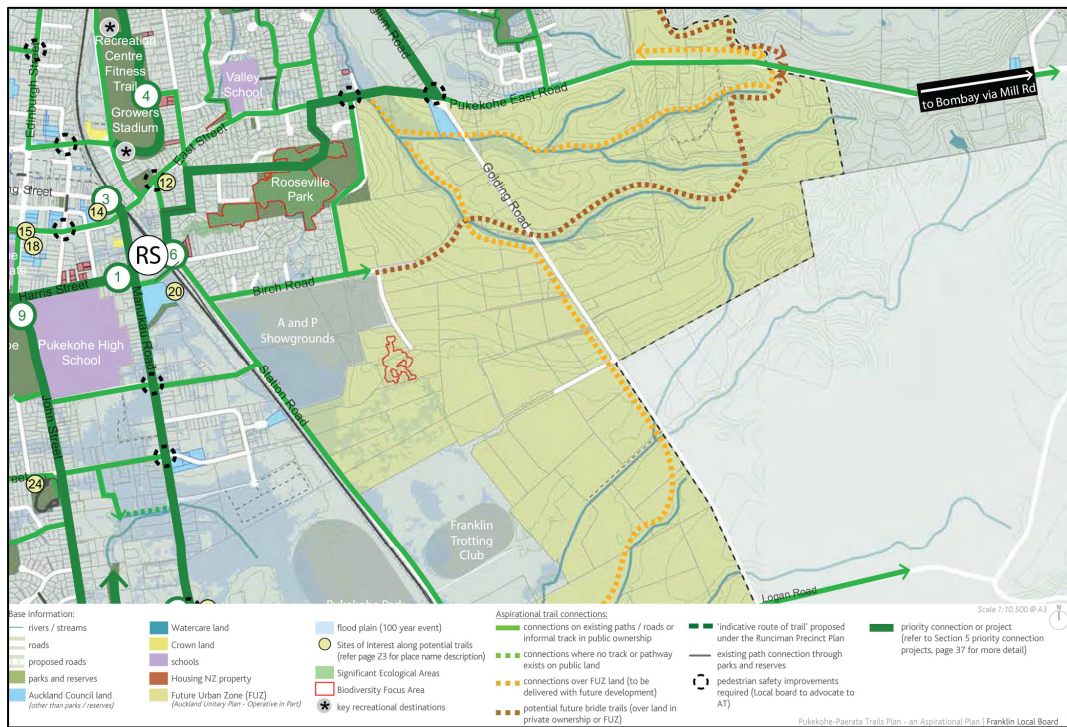
### 3.6 Future Pedestrian and Cyclist Accessibility

The future proposals in the area to the surrounding road environment look to provide walking and cycling routes on both sides of Birch Road, Ngahere Road, Golding Road and East Street, which will provide direct links for future residents. These will be provided in the form of separated footpaths and cycle paths.

The Pukekohe-Paerata Greenways Plan adopted by Auckland Council in 2018 identified multiple greenway connections in and around the Pukekohe-Paerata Structure Plan area. The majority of these utilise existing roads and are largely consistent with the existing network. Both on and off-



road trails identified in the vicinity of the site are shown in **Figure 15** below. They include greenway connections along Birch Road, Ngahere Road and through PC76 following the existing waterways.



**Figure 15: Pukekohe-Paerata Paths Plan**

Source: Auckland Council

PC76 has taken what has been included in the Structure Plan to the Precinct Plan. As illustrated in **Figure 11**, pedestrian provision is required on the upgrade of all existing roads and creation of all new roads bounding and within the precinct. Besides, cycle provision are required on Golding Road, East Street, Birch Road, Ngahere Road (through the reserve) and the future collector road within the precinct.

### 3.7 Indicative Cross Sections for Future Urban Roads

As noted earlier, Birch Road have been identified for improvements to urban collector road and Golding Road as urban arterial roads.

The urban collector roads will provide efficient access between new and existing residential frontages and the adjoining arterial road network, which will provide onward access to key locations, such as Pukekohe town centre, the railway station, and employment and retail opportunities to the southeast of the town centre, as well as to the state highway network.

These upgraded routes will cater for walking and cycling movements on both sides of the road, as well as potential future public transport usage. It is expected that they will be subject to a 50 kph speed limit along the site frontages, to support a safe speed environment. A typical cross section for a two-lane urban collector road is indicated in **Figure 16** and the expected cross section of East Street as an urban arterial road in **Figure 17**.

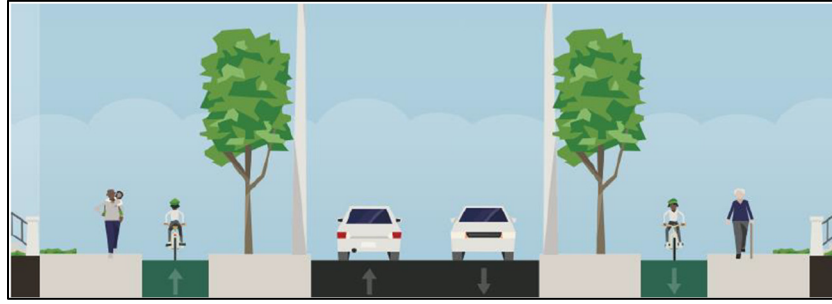


Figure 16: Urban Collector (21m) – Indicative Cross Section  
Source: New Zealand Transport Agency/Auckland Transport

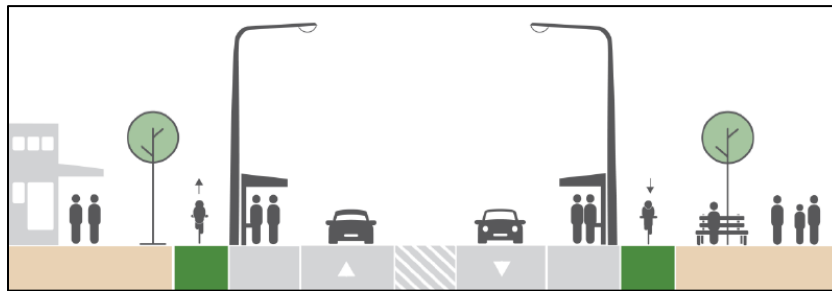


Figure 17: Urban Arterial (25m) – Indicative Cross Section  
Source: New Zealand Transport Agency/Auckland Transport

The precinct provision within PC76 also provides the guidance for the future road within the PC76 as summarised in **Table 6**.

Table 6: Minimum Road Width - PC76 Precinct Provision

Source: Auckland Council

Name	Role and function of road	Minimum Road Reserve (Note 1)	Total no. of lanes	Design Speed	Median (Note 2)	Cycle provision	Pedestrian provision	Freight or heavy vehicle route	Access restrictions	Bus Provision (Subject to Note 3)
Golding Road (interim)	Collector/Arterial (unless Auckland Transport does not issue a notice of requirement for an arterial road status on or before 30 January 2026)	21m	2	50km/h	No	Yes	Precinct side only	Yes	Yes (where protected cycle lane or shared path)	Yes
East Street	Arterial	N/A	2	50Km/h	No	Yes	Precinct side only	Yes	Yes	Yes
Birch Road	Collector (interim)	21m	2	50km/h	No	Yes	Precinct side only	No	Yes (where protected cycle lane or shared path)	Yes
Birch Road Local	Local	18m	2	30km/hr	No	No	Precinct side only	No	No	No
Ngahere Road* where marked on Precinct Plan	Local	Same as existing	2	30 km/h	No	Yes if the reserve strip is acquired	Both sides if the reserve strip is acquired	No	No	Yes
Internal Collector Road	Collector	21m/22m (Note 5)	2	50km/h	No	Yes	Both sides	Yes	Yes (where protected cycle lane or shared path)	Yes
Local internal roads	Local	16m	2	30km/h	No	No	Both sides	No	No	No

## 4.0 THE PROPOSAL

### 4.1 General Description

The subject site is located near the southeast corner of the Kohe Precinct area, with approximately 8,500 m<sup>2</sup> of land area. The plan change proposal seeks rezoning a pocket of land within the recently approved PC76 from Residential – Mixed Housing Urban Zone to a Business – Neighbourhood Centre Zone (NCZ). The centre is estimated to provide residents and passers-by with frequent retail and commercial service needs.

Although the tenancies and types of activities will only be confirmed when the future development is sought with resource application being lodged, the proposed zone does permit the following activities with up to 5,000 m<sup>2</sup> gross floor area (GFA).

- Residential dwellings
- Commercial services
- Food and beverage
- Offices up to 500 m<sup>2</sup> GFA per site
- Retail up to 450 m<sup>2</sup> GFA per tenancy
- Supermarkets up to 450 m<sup>2</sup> GFA per tenancy
- Care centre
- Healthcare facilities

It is understood that the PC76 masterplan does indicate approximately 65 dwellings on the site subject to this plan change area for a new centre zone. Given that the proposed plan change would be part of the approved PC76 precinct to enhance the neighbourhood, the assessment would still include some design principles and assessment to a residential area.

The proposal does not seek to modify any of the transport provisions recently approved within PC76, therefore any detailed assessments related to transport can be addressed at resource consent stage.

The potential access points for the zone are anticipated via the new Collector Road identified in the approved Precinct Plan and Golding Road.

### 4.2 Accessibility Design Principles

Best-practice residential/neighbourhood area design aims to produce liveable residential neighbourhoods that contribute to safety, good health, efficiency, and sustainability while having good levels of amenity.

Street patterns that allow good access through and around the area and to local services by walking and cycling are beneficial, and guidelines generally talk about connectivity and permeability as being desirable attributes. Legibility is another desirable attribute and the creation of self-explanatory roads.

It is desirable for residents to be within easy walking distance of public transport services and local service centres to assist in reducing demand for private vehicle travel. Pedestrian walkability catchments are generally based on good access being provided within 400 metres or about 5-minutes' walk, with lesser access being provided within 800 metres or a 10-minute walk. Although with the increase in micro-ability, there will be opportunities for greater distances to be covered.

In terms of intersection design, crossroads on streets where traffic volumes are higher have been shown to have poorer crash records. In general, where traffic volumes are higher than 1,000 vehicles per day consideration should be given to controlling conflict at cross-roads. Roundabouts can be effective at controlling conflict and moderating speeds, although busy roundabouts can be difficult for pedestrians and cyclists to negotiate. Many guidelines refer to the desirability of avoiding crossroads by shifting roads to produce a series of "T" intersections instead.

Any land development will need to provide high quality walking and cycling infrastructure to minimise the need to use private vehicles and for trips within the site. By providing a high standard of pedestrian and cycle facilities, pedestrians and cyclists of all ages can move safely within the area with minimal risk. This will be an important function of any future development of the site.

New facilities outside of the site boundaries are also needed to provide improved safety and connectivity to key destinations. Some of this infrastructure will rely upon other landowners to develop and with the future upgrade of nearby roads, dedicated and safe facilities will be provided. As a minimum, the upgrade of roads alongside the site frontage to including walking and cycling movement will connect any future development to the wider network.

The proposal does not include introduction of new roading network within the area. Instead, it would rely on the infrastructure provision within the Kohe Precinct for access. The approved Precinct Plan is expected to meet all the design principles. More importantly, the proposed zoning will not preclude making the most of opportunities to promote walking and cycling. In fact, the proposed zoning would benefit the neighbourhood as to provide easy access for the nearby residents to access a local centre via active modes where appropriate infrastructure provisions are available.

### 4.3 Mode Trip Generation

The Structure Plan ITA provides an indication of the anticipated number of daily household trips for the Pukekohe East area to be around 8.9 trips per household with 11% of these trips being active mode trips.

The ITA also indicates that for a fully developed 2048 network a high public transport share approaching 50% is expected for longer-distance trips north, with a 16% share for trips to nearby areas such as Papakura and only 5% for local trips within the southern area itself. The overall average across all trips is 20%.

The predicted uptake in public transport (PT) trips has several factors that will vary based on the trip purpose and destination of the movement. The influence of the available road network and reliability of public transport will limit this uptake. The ITA indicated that for a constrained 2028 network, the PT share is much lower, being some 24% to the north, 5% nearby and 2% local.

Therefore, for the purposes of this ITA, the following with regards to the anticipated mode share has been assumed as a baseline for assessment. This is expected to be the middle ground scenario and any reduction in private car travel because of the improved active mode and public transport provisions will have a positive effect on the surrounding road network.

- 11% active modes;
- 15% public transport; and
- 74% private car.

The Structure Plan ITA also sets out predicted peak hour vehicle trip generation rates for each area. For Pukekohe East, the ITA predicts an AM peak hour trip generation of 0.54 vehicles per hour (vph) per household and an almost identical PM peak rates of 0.55 vph per household.

In terms of the proposed centre zone, it is to accommodate locally commercial and retail activities. As this will be a small and locally focused zone, most trips associated with the new zoning are expected to be internal to the precinct. Although Structure Plan ITA does not specify the trip rates for a Neighbourhood Local Centre, the realistic traffic generation rates can be based on the traffic generation rates used in the Integrated Transport Assessment (ITA) reports that supported the various approved plan changes/ subdivisions and are consistent with the rates published in the New South Wales Road and Maritime Service Guide to Traffic Generating Developments.

For a neighbourhood centre in this location, it is typical to adopt the rate of 3.7 vph per 100 m<sup>2</sup> of GFA. As mentioned early, the new zoning is expected to have a mixture of commercial activities with up to 5,000 m<sup>2</sup> gross floor area (GFA). Based on the information provided by retail expert engaged to this application, it is expected that 80% of retail trips would be internal to the area and 20% would be external to the area. This is equivalent of 37 vph external to the area during the weekday PM peak hour and to a less amount during the weekday AM peak hour and other times of the day.

It is also understood that the masterplan does indicate approximately 67 dwellings on the site subject to this plan change area, which is equivalent to 36 vph and 37 vph during the weekday AM and PM peak hours respectively.

Therefore, the net increase of trip generation external to the precinct area is considered to be negligible.

#### **4.4 Precinct Provisions to Manage Transport Effects**

A variety of precinct provisions are set out in the application to ensure that transport infrastructure is provided as it is required, and thus to manage the transport effects on the surrounding local and wider road network and to achieve the integration of land use and transport.

Each of the provisions proposed are consistent with the approved precinct provisions under PC76 which require roading and active mode provisions to be provided as development occurs within the zone and on the adjacent road.

## 5.0 ASSESSMENT OF TRANSPORT EFFECTS

### 5.1 Walking and Cycling Trips

The proposed neighbourhood centre zone is to accommodate locally commercial and retail activities. As a result, it is expected that a certain number of visitors to the site would be from local residents and via walking and cycling where suitable infrastructure provisions are available. This would also reduce the reliance of private cars to reach the site.

It should also be noted that some of these customers are already customers at other existing commercial or local centres and using the network at the same times. With easy access via walking and cycling to a local centre with much less travel distance, this would result in reduced vehicle activity around other surrounding local centres.

More importantly, any redevelopment within the precinct including the subject site will need to manage pedestrian and cycling amenity and safety. As the surrounding area develops with other activities such as employment and schools, it is anticipated that the volume of pedestrians and cyclists will increase.

To cater for these new trips and to ensure a safe environment for active modes, any development within the precinct is required to include the following as included in the precinct provision:

- Creation of footpaths along both sides of the new street alignments that meet Auckland Transport's standards;
- Connection of new footpaths with the existing public footpath network immediately outside the site, with new and upgraded pedestrian infrastructure along the frontages on East Street, Ngahere Road, Golding Road and Birch Road;
- Pedestrian crossing facilities incorporated into the intersection layouts;
- Regular and safe crossing opportunities on the arterial roads where pedestrian desire lines are evident;
- Separated, protected, or off-street cycle facilities on collector roads; and
- Provision of a low-speed local street network that allows cyclists and vehicles to share the same carriageway on an equal basis.

These infrastructure requirements have been stated in the precinct provision as mentioned in Section 2.1.1 and Section 3.1. The implementation of such measures will ensure that pedestrian and cycling activity in the area will not be adversely affected and will promote an increase in active travel related to any future neighbourhood centre.

### 5.2 Public Transport Trips

Public transport provision in Pukekohe will be significantly enhanced to help accommodate the anticipated demands associated with growth in Pukekohe and other key areas.

The exact nature, timing, and routes of future bus services through the Pukekohe area will be finalised and decided upon by Auckland Transport. When this occurs, accessibility will be significantly improved and in return will reduce the number of private car travels. Future bus

services planned for East Street and Golding Road will ensure all households within the plan change area will be within suitable walking distance of a bus stop and service.

As set out above, the extension of the current rail electrification from Papakura to Pukekohe is currently planned and funded to be completed by 2024, which will reduce rail travel times and is expected to increase the number of people using the train and also contribute to a reduction in private car travel.

The key outcome of the rezoning will therefore be to ensure that high quality walking connections are provided to nearby bus stops to promote a greater use of public transport and reduce private car travel.

### 5.3 Traffic Generation Effect

The ability for roads to accommodate two-way flow and the performance of the intersections are both key considerations when assessing traffic generation effects. The two key intersections where most vehicle demand is expected to occur are the East Street/Ngahere Road intersection and East Street/Golding Road/Belgium Road roundabout. The original TPC report has assessed the likely effects at these two intersections and considered the traffic impact can be accommodated within the current layout.

In terms of the adjusted zoning for a small pocket of land to a neighbourhood centre zone, the additional trips external to the precinct would be negligible.

In terms of trip distribution, the residential activities and commercial / local centre activities can be different. As is typical with most residential and commercial activities, flow to and from the site is tidal. However, the distribution between residential and commercial can be different. For residential activities, they have most vehicle movements in the AM peak leaving the site and then returning in the PM peak. Whilst the commercial activities typically have most vehicle movements in the AM peak entering the site and then leaving in the PM peak. Although this can increase the two-way traffic flow, it also reduces the heavy load at one direction and to ease the pressure of exiting movements in the AM peak and entering movements in the PM peak.

In addition, some of trips would be pass-by trips that are already using Golding Road for some other trip (e.g. work to home, or visiting other sites elsewhere), and who take advantage of the presence and convenience of the as part of that original trip. This traffic is not additional to the traffic flows already on Golding Road and is simply diverted into the site. While this element of pass-by traffic does not result in additional vehicles being added to the road network, it will result in a redistribution of turning movements at the main access points to the site (e.g. the access points to future tenancies and the new Collector Road / Golding Road intersection).

It should also be noted that to a large extent the local centre customers for this proposal are already customers at other existing commercial or local centres and are therefore travelling to other stores and using the network at the same times. As the new neighbourhood local centre are introduced, the options for customers increase which in most cases will reduce the distances that customers are travelling. Therefore, those customers that are attracted to this store will result in reduced vehicle activity around other surrounding local centres.

Therefore, the impact from this proposal will be negligible in terms of traffic generation.

It is also understood that the tenancy and site access design would only be confirmed by the future resource application, the actual impact is expected to be assessed when these applications are lodged. Nevertheless, the AUP and precinct provision do provide some guidance on the traffic assessment when the future developments seek the consent.

Under AUP, resource consent is required for any land use or subdivision that accommodates more than 100 lots, or if there is a change in land use greater than 3 dwellings, or retail with more than 1,667 m<sup>2</sup>, or if the peak hour traffic generation is over 100 vehicle movements per hour. Assessment of any effects on the road network, including the effects of the location and design of any intersections on the safe and efficient operation of the adjacent transport network, will be required.

The approved precinct provision has also set out infrastructure requirements that the new east-west Collector Road should be in place for any development resulting in a cumulative total of 200 dwellings or more within the precinct. And for any cumulative increment of 60 further dwellings/lots within the Precinct, a Traffic Assessment is required to assess the effects (including cumulative effects) on the safety and efficiency of the road network and in particular addresses the need for the following upgrade or creation of roading networks:

- a) Any upgrade of the Golding Road / East Street / Pukekohe East Road intersection;
- b) Any upgrade of the Ngahere Road / East Street intersection;
- c) Any upgrade of the Birch Road / Station Road intersection;
- d) Any upgrade of the Station Road / East Street intersection; and
- e) Golding Road where it adjoins the Precinct.

The Precinct Plan also requires a Transport Design Report and Concept Plans (including forecast transport modelling and land use assumptions) to be prepared for any key road intersection of upgrading of existing key road intersection illustrated on the Precinct Plan. This is to confirm the location and design of any road and its intersection(s) can support the safe and efficient function of the existing and future (ultimate) transport network and can be accommodated within the proposed or available road reserves.

It is also recommended that the traffic assessment should be required for any future application for a development within the proposed centre zone.

## 5.4 Road Safety

Development of precinct including the subject site, completion of any new roads and the creation of the new intersections should have no detrimental impact on general road safety. The following key points are noted about the proposal:

- The adoption of the road design principles above will promote the safe use of the new roads and intersections;
- The introduction of pedestrian facilities and safe provision for cycling will promote greater awareness and a safer environment; and
- Adoption of the Council's underlying development controls for access and parking provisions.



It is thus expected that any crashes will be addressed in the future with any future development, both by the road changes that can be expected under the Auckland Transport Roads and Streets Framework, and by the AUP controls relating to development on arterial roads. This will apply regardless of the proposed Plan Change. In view of the above, any road safety effects of the proposal are expected to be negligible.

## 5.5 Future Roads

The proposal does not seek to modify any of the transport provisions recently approved within PC76, therefore any detailed assessments related to transport can be taken care of during resource consent. The roading network provision and infrastructure requirement will remain same as the approved Precinct Plan as discussed in Section 2.1.1 and Section 3.1.

## 6.0 AUCKLAND UNITARY PLAN CONSIDERATIONS

While the Section 32 documentation within the application considers the proposed Plan Change against all relevant policies and objectives of the AUP, we have focused our assessment on the objectives and policies most relevant to transport, especially those in Sections B3 (Infrastructure, transport and energy) and E27 (Transport).

### 6.1 B3 (Infrastructure, Transport and Energy)

The relevant Auckland-wide transport objectives and policies in the AUP are set out below and comments are provided as to how the proposal aligns with each:

The key issue for this plan change is B3.1(2) integrating the provision of infrastructure with urban growth. As explained in more detail below in Section 2.5, the site is well served with transport infrastructure and integrates well with local road, pedestrian and cycle connections and is within a walkable catchment of the train station.

The transport aspects of the plan change are consistent with the objectives and policies of Section B3.3 Transport, in that:

- There is good supporting infrastructure for people and the goods they need;
- A suitably high density of zoning has been chosen which is appropriate for the convenient links to public transport;
- The proposed transport linkages do not create amenity or safety issues of concern and a range of transport choices are enabled; and
- No major off-site transport upgrades are required as part of this plan change, though small localised upgrades may be appropriate as part of the design and assessment at a resource consent stage.

### 6.2 Section E27 – Transport

The relevant Auckland-wide transport objectives and policies in the AUP are set out below and comments are provided as to how the proposal aligns with each:

#### **E27.2 Objectives**

- (1) *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.*

As demonstrated in this report, the subject area is well served by roading, bus, and cycling infrastructure in the future, and thus the proposal is integrated with all modes of transport and enables the benefits of the integrated transport network at this location to be further utilised.

On this basis the motor vehicle traffic effects of the proposal are expected to be negligible. The impacts of the proposal on the public transport, walking and cycling network is also expected to be minimal.

- (2) An integrated transport network including public transport, walking, cycling, private vehicles and freight, is provided for.*

As demonstrated in this report, the subject area is well served by an integrated transport network of roading, bus, walking and cycling infrastructure.

**E27.3 Policies**

- (1) Require subdivision, use and development which:*

- (a) generate trips resulting in potentially more than minor adverse effects on the safe, efficient and effective operation of the transport network;  
to manage adverse effects on and integrate with the transport network by measures such as travel planning, providing alternatives to private vehicle trips, staging development or undertaking improvements to the local transport network.*

The proposed Neighbourhood Local Centre is anticipated to generate a negligible number of trips external to the precinct. Compared to the residential zone, the net increase of trip generation associated with the plan change and external to the area would be less than 1 vph during the peak hour, which is considered to be negligible. As also discussed in Section 5.3, the impact from this Plan Change can be negligible in terms of traffic generation.

More importantly, the vehicle movements associated with this plan change would be shared between intersections surrounding the precinct area. The traffic generation impact is minimal in the context of the flows already catered for in peak periods, and the operation of any intersections are expected to have an acceptable level of service.

Furthermore, under AUP, resource consent is required for any land use or subdivision that accommodates more than 100 lots, or if there is a change in land use greater than 3 dwellings, or retail with more than 1,667 m<sup>2</sup>, or if the peak hour traffic generation is over 100 vehicle movements per hour. Assessment of any effects on the road network, including the effects of the location and design of any intersections on the safe and efficient operation of the adjacent transport network, will be required.

Thus, the AUP requires the effects on the efficient operation of the transport network to be considered for any redevelopment on the subject site. It is thus expected that the effects of motor vehicle traffic generated by any future development on the road network, will be assessed and addressed at the resource consent stage by the AUP controls relating to development.

On top of the AUP, the approved precinct provision also requires traffic assessment to be in place for developments within the precinct to reach to a certain threshold. For example, the new east-west Collector Road should be in place for any development resulting in a cumulative total of 200 dwellings or more within the precinct. And for any cumulative increment of 60 further dwellings/lots within the Precinct, a Traffic Assessment is required to assess the effects (including cumulative effects) on the safety and efficiency of the road network and in particular addresses the need for the upgrade or creation of roading networks. It is also recommended that the traffic assessment should be required for any future application for a development within the proposed NLC zone.

On this basis the effects of the proposal on the efficient and effective operation of the road transport network are expected to be negligible. As discussed above, the impacts of the proposal on the efficient and effective operation of the public transport and cycling network is also expected to be negligible, and the impact on the pedestrian network is expected to be minimal.

There are no changes to the controls or standards that relate to the effects of development on the safe, efficient and effective operation of the transport network, and the proposed development would only apply as redevelopment occurs.

### **6.3 Section E27 – Transport Standards**

Section E27.6 Standards sets out the transport related standards for development. These standards are considered suitable to be applied to activities and any future development of the site.

Compliance with these standards would be assessed as part of any future resource consent application.

### **6.4 Section E27 – Assessment Criteria**

These assessment criteria will need to be considered at the time of a future resource consent application. Notwithstanding that, this report demonstrates that access to the site can be provided safely and efficiently from the wider road network.

### **6.5 Section E38 – Transport Standards**

Section E38 Standards sets out the subdivision related standards for development. These standards are considered suitable to be applied to activities and any future development of the site.

Compliance with these standards would be assessed as part of any future resource consent application.

### **6.6 Section E38 – Assessment Criteria**

These assessment criteria will need to be considered at the time of a future resource consent application and are also considered appropriate for future development of the site.

## 7.0 INTEGRATION WITH FUTURE TRANSPORT NETWORK

The following section considers the various regional plans and considers that the proposal is consistent with what has been anticipated. The following is noted in this regard:

### 7.1 Auckland Plan 2050

The Auckland Plan 2050 is the Council's long-term spatial plan to ensure Auckland grows in a way that will meet the opportunities and challenges of the future. It was originally released in 2012 and has subsequently updated in 2018. The Auckland Plan 2050 describes Auckland in general terms, outlines the major challenges that we face, and sets the direction for tackling these challenges.

The proposed subject site is identified as a location where new neighbourhood can be provided in a urban zone and can be supported by new transport infrastructure.

- The site's improved connectivity to other modes such as public transport, walking, and cycling are identified and will provide choice of travel mode and a higher level of accessibility for the subject site;
- Short term strategies for managing network demands and improving safety, such as introducing smart technologies or improving efficiency of intersections, will continue to be implemented while new roading infrastructure is developed in the medium to long term; and
- A new road network will also be investigated in the wider Pukekohe area when the area begins to develop, providing more local road options for travel.

### 7.2 Auckland Regional Land Transport Plan 2021-2031

The Auckland Regional Land Transport Plan 2021-2031 sets out the land transport objectives, policies, and measures for the Auckland region over the next 10 years. It includes the land transport activities of Auckland Transport, Auckland Council, Waka Kotahi NZ Transport Agency, KiwiRail, and other agencies.

The Plan sets out the direction for the region's transport systems. It identifies what is needed to achieve an affordable, integrated, safe, responsive, and sustainable land transport system that can cope with population growth and the changing economic environment. The provision of intensified residential housing in Pukekohe will promote walking and cycling to nearby activities, thus removing some vehicles making short trips from the network.

### 7.3 Auckland Regional Public Transport Plan 2018

The Auckland Regional Public Transport Plan 2018 seeks to deliver an improved public transport network in Auckland by increasing public transport frequency along key transport corridors. Future public transport services are anticipated, and the site is considered well located to support further growth in public transport use.

## 8.0 CONCLUSIONS

The following conclusions can be made in respect of the proposal to rezone the subject site to Business – Neighbourhood Centre Zone:

- The proposed Neighbourhood Centre is anticipated to generate a negligible number of trips external to the precinct.
- Compared to the residential zone, the net increase of trip generation associated with the plan change and external to the area would be consistent during the peak hour, which is negligible.
- The estimated traffic generated by the proposal can be accommodated on the surrounding network while maintaining acceptable levels of safety and performance.
- The site will have a high level of accessibility to public transportation, walking, and cycling and the effects of private car travel from the development area will likely be reduced.
- The proposed precinct provision enable any future development to be designed to adequately cater for all travel modes and to mitigate the traffic impact on the wider transport network.
- Any development enabled by the proposed plan change is consistent with and encourages key regional and district transport policies.
- The proposal does not seek to modify any of the transport provisions recently approved within PC76, therefore any detailed assessments related to transport can be taken care of during resource consent.

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