Future Growth Opportunities – Urban Design Report

Appendix H

Auckland CBD Rail Link Business Case

Prepared for KiwiRail and ARTA

By AECOM, Parsons Brinckerhoff & Beca (APB&B)

19 November 2010
### Revision History

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Executive Summary

This report provides an overview of Transit Orientated Development (TOD) principles and benefits, how TOD fits with the existing vision for Auckland City, and the physical form TOD may take around station locations associated with the CBD Rail Link Project. To this end, this report demonstrates that development facilitated, at least in part, by the CBD Rail Link project, has the potential to assist in achieving densities for sustainable city growth as envisaged by the Auckland Regional and City Councils.

While a number of growth strategies currently exist for the Auckland Region, all essentially aim for a ‘centres and corridors’ approach, whereby emphasis is on the establishment of a city form based of higher density centres in conjunction with quality public transport to provide for sustainable economic, environmental, social and cultural wellbeing. Such a spatial strategy clearly points towards development of centres based on the principles of transit oriented development.

Through investigative modelling of typologies for development and gaining a thorough understanding of the existing and future growth restraints and opportunities around the proposed CBD Rail Link stations and a number of suburban stations, the potential for growth around the CBD Rail Link and suburban stations has been identified. The intention has been to highlight potential for growth in the context of sustainable ‘place making’ – attractive, memorable, human scale environments that reinvigorate the culture of the local environment – while ensuring that such growth is achievable and fits with the physical context of the environment.

For those CBD Rail Link stations located within and on the periphery of Auckland CBD, the focus of the study has been on identifying potential employment growth opportunities. Acknowledging that suburban station locations will ‘feed’ the rail network, New Lynn and Panmure have been considered as case studies with regard to their potential to provide for future residential growth. Subject to appropriate incentives, policy development and other interventions in favour of pedestrian and transit orientated city (outlined throughout this report), the investigations undertaken have found that land within close vicinity (circa 800m – 1000m radius, or ten minutes walking distance) of the following station locations has the potential to experience significant employment and/or residential growth:

<table>
<thead>
<tr>
<th>Station Location</th>
<th>Existing Density</th>
<th>Potential Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aotea Station</td>
<td>500 employees per hectare</td>
<td>1,500+ employees per hectare</td>
</tr>
<tr>
<td>K Road Station</td>
<td>500 employees per hectare</td>
<td>550+ employees per hectare</td>
</tr>
<tr>
<td>Newton Station</td>
<td>500 employees per hectare</td>
<td>460+ employees per hectare</td>
</tr>
<tr>
<td>New Lynn Station</td>
<td>Circa 20 dwellings per hectare</td>
<td>60+ dwellings per hectare</td>
</tr>
<tr>
<td>Panmure Station</td>
<td>Circa 20 dwellings per hectare</td>
<td>40 – 80 dwellings per hectare</td>
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1 Introduction

1.1 Purpose of this Report

This report provides an understanding of the growth opportunities that will be facilitated, at least in part, by the proposed CBD Rail Link Project. Written from an urban design perspective, it outlines opportunities for future employment growth in the vicinity of the proposed Aotea, K Road and Newton Station locations; and residential growth in the vicinity of suburban stations that will form part of the wider rail network connecting with the Auckland CBD.

The investigations within this report have particular regard to the vision for Auckland as postulated by the Auckland Regional and City Councils, and to the CBD regeneration benefits that are likely to occur as a result of establishing the CBD Rail Link and associated transit orientated development. Building upon existing policy development, the report explores the potential built form that could realistically occur within the vicinity of each station locations and identifies the potential increases in employment and residential densities associated with future growth. In doing so, the report also identifies key actions that will need to be undertaken by stakeholders to assist in realising the vision for sustainable growth of Auckland.

1.2 CBD Rail Link Project Scope

The CBD Rail Link aims to identify a preferred route for an underground passenger railway running beneath the CBD, linking Britomart to the western line (North Auckland Line - NAL) in the vicinity of Mount Eden. The CBD Rail Link will be approximately 3.5 km long and will include up to three underground stations, with Britomart being converted from a terminus into a through station. The Study will also consider the social, environmental and economic benefits and likely costs for the proposed rail link and possible new stations along the way, and begin the process of protecting the route for future construction.

The project methodology is broken down into three overlapping phases to enable a robust process in the timeframe available. The phases are demonstrated below:

- Phase 1: Undertake an options evaluation process to determine a preferred route alignment options, station numbers, and station locations (the deliverable for this phase being a Draft Options Evaluation Report).
- Phase 2: Develop a preferred alignment concept design and undertake the associated technical investigations; and develop the project business case.
- Phase 3: Prepare and issue Notice of Requirement (NOR) documentation to KiwiRail and ARTA.

This report forms part of the project business case being prepared as part of Phase 2 of the overall project.
2 Understanding the existing framework for the future growth of Auckland

This section on the report provides a summary of the existing planning framework for the Auckland region and an understanding as to why development patterns facilitated by TOD are considered appropriate within the context of Auckland. It also assists to provide direction in the subsequent identification of suburban TOD locations and also the development potential around the proposed CBD Rail Link station locations.

While a number of growth strategies currently exist for the Auckland Region (under the various Regional and City Councils), all essentially aim for a ‘centres and corridors’ approach, whereby emphasis is on the establishment of:

- A city form based of higher density centres in conjunction with quality public transport to provide for sustainable economic, environmental, social and cultural wellbeing.

2.1 Existing Growth Frameworks within the Auckland Region

2.1.1 Auckland Regional Growth Strategy 1999 (RGS)

In response to concerns about the long term sustainability and economic performance of the Auckland Region, Auckland Regional and City Councils voluntarily adopted the Regional Growth Strategy (RGS) in 1999. It set out a vision of how the Region could grow sustainability over the next 50 years.

The RGS aims to sustain a strong and healthy community, a high quality living environment, a region that is easy to get around and to protect the coast and surrounding environment. The RGS growth concept plan was developed to show where future growth will be accommodated, and shows a network of centres and corridors. Growth is to be concentrated around centres of various sizes to create higher density walkable centres with a variety of jobs, services, recreation and other activities (mixed use) connected by high quality public transport. In particular, the Strategy seeks the following outcomes (amongst others):

- Access and transport efficiency: more transport choices and high levels of access for all sections of the community, a closer relationship between home and work, activities, shopping, open space etc., managing traffic congestion and a better passenger transport system.
- Sustainable use of resources: more efficiency in use of natural and physical resources, including urban land, rural land, infrastructure and energy resources.

2.1.2 Auckland Regional Policy Statement: Plan Change 6 (PC6)

The Local Government Auckland Amendment Act 2004 (LGAAA) directed all territorial authorities in the region to integrate their land use and transportation provisions and to give effect to the RGS. It also established the Auckland Regional Transport Authority to plan, fund and develop the regional transport network.

A suite of plan changes by all the territorial authorities soon followed on 31 March 2005 including Plan Change 6 to the Auckland Regional Policy Statement (RPS) and Plan Change 175 to the Auckland City Distinct Plan (Isthmus).

PC6 to the RPS provided the first attempt to recognise that some centres would be important for performing functions that are important for the whole region such as the CBD while others will focus
on serving their regional or local catchments. It also provided employment and household density guidelines for centres and corridors necessary to support public transport.

PC6 affirms centres and corridors as a key mechanism to implement the Growth concept. Schedule 1 of the Plan Change identifies 1 CBD, 10 sub-regional centres, 40 town centres, and 2 corridors, requiring district plan changes for 48 centres to be commenced by 2010. The development of these areas is intended to provide for growth to 2020.

PC6 recognises that existing infrastructure investment in town centres and passenger transport nodes should be reinforced by increases in residential densities and in the diversity and quantity of mixed use activities within walking distance of high density centres creating a compact, contained urban form. Schedule 1 of PC6 sets out the areas where the strategic policy supports urban intensification (including those areas located on the Auckland rail network).

As outlined in section 2.5 of the PC6 an overview of the issues arising in the Region leads to the conclusion that to achieve the purposes of the Resource Management Act and Local Government (Auckland) Amendment Act 2004 it is necessary to:

- Contain expansion of Auckland’s urban development while still providing for population and economic growth; and
- Require that town centres, transport nodes, high density centres and corridors within the metropolitan urban limits are the focus for accommodating urban growth through intensification.

Further, specific policies seek that land use and transport shall be integrated within high density centres to assist in achieving mutually supportive outcomes. PC6 defines high density centres to include specific localities selected for urban intensification due to physical or locational characteristics that include the intensity of existing development, the locality’s generation of, or association with, significant transport movements, and/or passenger transport nodes, and the locality’s capacity for further growth. These the CBD, sub regional centres and town centres.

Section 2.6.13 outlines that the densities required in Appendix H are average minimum densities required within the high density centre or corridor. However, it is equally important that the highest densities occur closer to the transport interchange, graduating to lower densities towards the edge of the centre. Every centre however has its own characteristics and while every effort should be made to reach these densities this must be done with regard to achieving high quality urban design outcomes.

<table>
<thead>
<tr>
<th>CENTRE TYPE</th>
<th>PROPOSED LEVEL OF PUBLIC TRANSPORT PROVISION</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>RAPID TRANSIT</td>
</tr>
<tr>
<td></td>
<td>PREMIUM BUS-SERVICE QUALITY TRANSIT NETWORK [257/58 ARC 5]</td>
</tr>
<tr>
<td></td>
<td>LOCAL CONNECTOR NETWORK BUS-SERVICE [257/58 ARC 5]</td>
</tr>
<tr>
<td>SUB REGIONAL CENTRE</td>
<td>Residential Density (Gross) 60 Dwellings Per Ha. Employment Density (Gross) 300 Employees Per Ha.</td>
</tr>
<tr>
<td></td>
<td>Residential Density (Gross) 40 Dwellings Per Ha. Employment Density (Gross) 200 Employees Per Ha.</td>
</tr>
<tr>
<td>CORRIDOR</td>
<td>Residential Density (Gross) 40 Dwellings Per Ha. Employment Density (Gross) 200 Employees Per Ha.</td>
</tr>
<tr>
<td></td>
<td>Residential Density (Gross) 30 Dwellings Per Ha. Employment Density (Gross) 150 Employees Per Ha.</td>
</tr>
<tr>
<td>TOWN CENTRE</td>
<td>Residential Density (Gross) 40 Dwellings Per Ha. Employment Density (Gross) 200 Employees Per Ha.</td>
</tr>
<tr>
<td></td>
<td>Residential Density (Gross) 30 Dwellings Per Ha. Employment Density (Gross) 150 Employees Per Ha.</td>
</tr>
<tr>
<td></td>
<td>Residential Density (Gross) 20 Dwellings Per Ha. Employment Density (Gross) 50-100 Employees Per Ha.</td>
</tr>
</tbody>
</table>

Figure 1: Appendix H of PC6 – Household and Employment Densities Required in High Density Centres and Corridors to Support the Public Transport System
2.1.3 Auckland City Plan Change 175 (PC175)

PC175 inserted the Auckland City Council’s 2003 Growth Management Strategy into the District Plan. In particular, it added growth management, transport and land use integration objectives. To give effect to the RGS, specified growth areas have been identified in PC175.

Two types of these growth areas that have been specifically provided for in the Plan Change:

- **Urban living communities** are suitable for residential and mixed-use growth. These are based around town centres that already have (or have the potential to have) a variety of business activities and higher density residential living supported by the public transport, schools, open space, community services, cultural and entertainment facilities, and shops needed to create vibrant communities.

- **Business development areas** are employment areas that can support more jobs and that have good accessibility.

The intention of the Plan Change to facilitate development around centres is summarised in Objective 2.3.5 for Urban Growth:

*To manage urban growth and development in a manner that… d) provides for higher density residential and business activity in and around specific town centres that have good access to passenger transport with a variety of housing, jobs, services, recreational, cultural, entertainment and other activities*

Figure 2: Auckland City Council ‘Urban Living Communities’ Appendix 12 to the Auckland City Council’s District Plan
2.1.4 Auckland City Future Planning Framework

As outlined within the future planning framework introduction, this strategy has been developed to support Auckland City Council’s overarching vision for Auckland city and its high-level strategies… The Framework comprises a synopsis of the research recently completed, a citywide spatial framework and ten area plans. A hierarchy of centres has been developed to identify each centre’s future role in the centre’s network… Types of centres include the CBD, principal centres, town centres, local centres and neighbourhood shops.

With regard to transport and growth, section 2.8.2 states:

Auckland city’s transport system has a critical role to play in supporting Auckland city’s growth and development, reducing carbon emissions and sustaining its economy. The transport choices map shows how the transport network will be developed to improve connections in key areas and to promote transport choices.

The quality built environment map shows that the majority of future growth will be directed to centres and corridors that are on or close to major transport routes and services, particularly around suburban railway stations.

Figure 3: Auckland City Council City Quality Built Environment Map, showing proposed centres in alignment with rail network.

Appendix 6.1 of the Planning Framework outlines the Council’s approach to future residential population growth. In particular, it makes the following statements:

- The council’s approach to the location of additional growth capacity in the future planning framework is based on the following ideas:
- A more compact and sustainable city to pass on to future generations the need to develop a strong CBD and a network of strong centres linked by increasingly well-served public transport routes, arranged in a functional hierarchy. This hierarchy comprises, in order of magnitude and diversity of services: the CBD, principal centres, town centres and local centres.
Having regard to the above, the Framework outlines the following projected growth patterns:

### Table 14: Growth in centres – projected total dwellings (broad estimates)

<table>
<thead>
<tr>
<th>Location</th>
<th>Dwellings 2011</th>
<th>Dwellings 2021</th>
<th>Dwellings 2031</th>
<th>Dwellings 2051</th>
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<tr>
<td>CBD</td>
<td>12,000</td>
<td>16,000</td>
<td>20,000</td>
<td>27,000</td>
</tr>
<tr>
<td>Principal centres (1km radius)</td>
<td>6,000</td>
<td>7,000</td>
<td>9,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Town centres (800m radius)</td>
<td>26,000</td>
<td>34,000</td>
<td>43,000</td>
<td>61,000</td>
</tr>
<tr>
<td>Local centres (400m radius)</td>
<td>19,000</td>
<td>25,000</td>
<td>30,000</td>
<td>34,000</td>
</tr>
<tr>
<td>Total</td>
<td>63,000</td>
<td>82,000</td>
<td>102,000</td>
<td>137,000</td>
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</tbody>
</table>

Source: Growth Trends Model FFP run 2; (modelled take-up; total dwellings rounded). Market Economics Ltd and Statistics New Zealand

Appendix 6.2 outlines that it is estimated an additional 380,000-400,000 employees will be working in the Auckland isthmus in the year 2051, bringing the total to around 700,000 employees from 309,300 in 2007. The council aspires to accommodate this growth in employment, within the spatial context of the future planning framework, as outlined within the following table:

### Table 17: Jobs proposed across centre types by 2051

<table>
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<tr>
<th>Centre type</th>
<th>2007 employment</th>
<th>2007 share</th>
<th>2051 employment</th>
<th>2051 share</th>
<th>Growth 2007-2051</th>
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<tr>
<td>CBD</td>
<td>51,500</td>
<td>30%</td>
<td>210,000</td>
<td>30%</td>
<td>188,500</td>
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<tr>
<td>Principal centres</td>
<td>37,000</td>
<td>12%</td>
<td>140,000</td>
<td>20%</td>
<td>106,000</td>
</tr>
<tr>
<td>Town centres</td>
<td>54,800</td>
<td>18%</td>
<td>96,300</td>
<td>14%</td>
<td>41,500</td>
</tr>
<tr>
<td>Local and neighbourhood centres</td>
<td>38,300</td>
<td>13%</td>
<td>56,700</td>
<td>8%</td>
<td>18,400</td>
</tr>
<tr>
<td>Business development areas</td>
<td>66,700</td>
<td>22%</td>
<td>153,600</td>
<td>22%</td>
<td>86,900</td>
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<tr>
<td>Remainder</td>
<td>24,500</td>
<td>8%</td>
<td>48,800</td>
<td>7%</td>
<td>24,300</td>
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<tr>
<td>City total</td>
<td>309,300</td>
<td>100%</td>
<td>700,000</td>
<td>100%</td>
<td>390,700</td>
</tr>
</tbody>
</table>

Please note these figures are taken from the draft Future Planning Framework using the draft centres hierarchy and will be updated once the final Future Planning Framework has been remodeled.

2.1.5 **Manukau City Council – Towards 2060, draft 2009**

Manukau City Council’s Towards 2060 is a spatial strategy for the future growth of Manukau City. The strategy sets out six categories of centres within a hierarchy for existing urban centres ranging from Regional Centre through to Local Centres. As outlined within the strategy, the strategic intent is to provide a spatial pattern of growth and development that offers access to employment, retail, office space, services, a broader mix of housing types, recreation, leisure and community facilities and activities in the widest possible clustering and to the greatest number of people. To achieve this, planning, investment and development processes will encourage growth and redevelopment at those centres and corridors that are well-located in terms of transport accessibility and where such development is appropriate. Only limited development outside the centres and corridors will be supported.

Of note, policy intervention 1.4 seeks to promote selective intensified development and improve the sustainability of residential areas through support of high-quality, medium and higher-density residential development and housing options in centres and corridors where suited to location and community context, noting that key trip generators, such as regional, principal, district and specialist centres, and higher density residential development located on the Quality Transport Network (QTN) and Rail Transport Network (RTN), will receive priority focus.
2.1.6  Waitakere City Council Proposed Changes 13 – 18 - Growth and Transport Integration Programme

Waitakere City Council initiated a ‘Growth and Transportation Integration Programme’ to align with the RGS which has resulted in a number of Plan Changes to the Waitakere District Plan. While the proposed plan changes are not a single growth strategy, together they respond to the LGAA direction for all territorial authorities in the region to integrate their land use and transportation provisions and to give effect to the RGS.

These plan changes aim to:

- Manage and direct urban growth and rural development in an integrated manner;
- Progress the intensification of Waitakere around the major town centres, including the redevelopment of the New Lynn Town Centre; and
- Expansion of the Metropolitan Urban Limits (MUL) at Hobsonville and Massey North to allow for, in particular, the development of additional employment land to meet the needs of the growing community not able to be met in the existing urban area.

2.1.7  Waitakere City Council – Growth Management Strategy for Waitakere 2009

Waitakere City Council’s Growth management Strategy is a spatial strategy for the future growth of Waitakere City. The strategy sets what form growth could take in the future and provides more detailed area profiles for the significant and identified growth areas across the City.

The Growth Management Strategy sets out a vision, goals, pathways, and targets to deliver the spatial plan. Of note are the following Strategic Growth Management Principles:

- Most urban growth should be focused around town centres and major transport routes to create higher density communities, with a variety of housing, jobs, services, recreational and other activities (mixed use)
- This strategy supports transport efficiencies by encouraging high density mixed use development in town centres and transport nodes and limited growth in outlying rural areas. Mixed use polycentric (multiple centre) development is crucial to support public transport and minimise cross town travel, as people can work within a close proximity to where they live.

2.2  Auckland Regional Council’s Future Land Use and Transport Planning Project: Evaluation of Future Land use and Transport Scenarios

The following paragraphs are taken directly from the Auckland Regional Council’s Future Land Use and Transport Planning Project: Evaluation of Future Land use and Transport Scenarios. These represent a summary of the outcomes that are considered pertinent to this report.

The Future Land Use and Transport Planning Project (Futures Project) seeks to identify a long term spatial vision for the region, including the location of future development and supporting infrastructure, able to accommodate 2.3 million people by 2051. This report focuses on the third round evaluation of three land use and transport scenarios to determine which spatial form could best meet agreed regional outcomes. (Page 1).

Each of the three scenarios represents a different urban form. These incorporate varying levels of intensification, growth beyond metropolitan urban limits, and locations for future residential and employment growth. However, they fit into two broad categories; the compact scenarios (Scenario 1 and 4) and the Expansive Scenario (Scenario 5). (Page 1).
Overall, a compact urban form is preferable for Auckland’s future urban form. For most criteria the compact scenarios perform the best by having, for example (Pages 5-6):

- Less impact on the environment, by avoiding pristine and valued environmental areas and better protecting stream corridors and marine values;
- Improved regional productivity by enabling firms to better access skilled labour and key ports;
- Provision of a strong network of centres enabling better social cohesion and access to social facilities.

The results point to a spatial form that is based predominantly on compact principles.

The main conclusions from this evaluation for a future integrated land use and transport are:

- A need for a strong network of centres, including local centres, which provide opportunities for greater accessibility and can enhance social cohesion.
- Supporting the transport network with associated residential and employment growth as this leads to improvements in overall accessibility and regional productivity.
- Ongoing and long term investment in transport infrastructure, particularly passenger transport, to support a changing urban form and to ensure accessibility improvements continue over the long term.

It is worthwhile noting that the compact scenarios assume the construction of the CBD Rail Link along with other major transport initiatives in the future. By way of summary, the following tables (page 13 of the report) summarise the envisaged outcomes of the three scenarios, where by the compact scenarios clearly provide for development based on 70 per cent of additional dwellings and employee capacity in centres (including the CBD and CBD Fringe).

![Figure 2 Additional dwellings by area](image1)

![Figure 3 Additional employees by area](image2)

Figure 4: Additional dwellings and employees envisaged by compact and expansive scenarios within the Auckland Regional Council’s Future Land Use and Transport Planning Project: Evaluation of Future Land use and Transport Scenarios.

What is clear from the report is that Auckland regional Council’s research has shown a preference towards a compact spatial plan for Auckland and that such an approach will likely be incorporated into the future spatial plans of the Auckland Council to be formed in November 2010.
2.3 Other Matters

2.3.1 Auckland Regional Policy Statement: Plan Change 8

The Auckland Regional Policy Statement Plan Change 8 (PC8) relates to landscape and volcanic features. In regards to the future TOD locations, the volcanic features part of PC8 is relevant. PC8 recognises that the volcanic cones of Auckland are iconic, of international, national and regional significance and gives the region a unique character and identity, which sets Auckland apart from other cities in the world.

PC8 acknowledges that the physical and visual integrity of the volcanic field can be adversely affected by inappropriate development (i.e. unsympathetic building height) and compromised views to the cones. As such a precautionary approach is considered appropriate in acknowledgement of the irreversibility of many of the effects to protect and enhance the visual and physical integrity of the cones and to protect significant views to the cones. Protected viewshafts of relevance to the development within identified station locations include:

- E10 (from Onewa Interchange to Mt Eden); and
- E16 (from the Auckland Harbour Bridge to Mt Eden).
3 Transit Oriented Development (TOD)

An appropriate approach to achieve the urban growth outcomes envisaged by Auckland Regional and City Councils is through Transit Orientated Development (TOD). TOD is a mixed-use residential and/or commercial area designed to maximize access to public transport and often incorporating features to encourage transit ridership. In line with contemporary design principles, a TOD neighbourhood typically has a centre with a train/metro station, bus/tram stop, surrounded by higher density development (relative to the surrounding area) with progressively lower-density development spreading outwards from the centre. TOD is generally located within a radius of 400 to 800 m from a transit stop, as this is considered to be an appropriate scale for walking distance of between five and ten minutes.

An important aspect to TODs is that they take time to mature and will only reach their full potential with cooperation between the public and private sector. A well managed, inclusive partnership between transit agencies, local government, developers and the public is essential if the vision for a TOD is to be realised. While a proposed station will assist to facilitate development, it is not the only catalyst. Incentives to developers (such as more permissive planning regulations) and upgrades to public realm are likely to be required to attract investors, employees and residents to an area. The vision needs to be beyond numbers, but one of sustainable ‘place making’ – creating attractive, memorable, human scale environments that reinvigorate the culture of the local environment.

3.1 TOD Principles

The principles of TOD are generally agreed by practitioners and theorists. Falconer and Richardson have stated the following ten key principles that should be understood when planning and designing TODs:1

- Plan a walking scale town – the TOD will cover an area of approximately 200ha, allowing for most journeys within the TOD to be undertaken by foot or bicycle;
- A TOD should have a centre – ideally this will be a mixed use centre anchored around a rail station or other transport node;
- Quality streets and public places – active, safe, comfortable and attractive streets will be a key element in determining the success of a TOD. Streets should be of a fine grain, providing for a highly permeable, connected environment;
- A diverse mix and a sufficient size – mixed use and densities that bring vibrancy to the station location need to be facilitated;
- A public transport hub – TOD should provide opportunity for public transport interchange, which will attract people from locations other than those on the rail route, assisting the TOD location to grow as a vibrant centre;
- Low speed car access – While car access should continue to be provided, pedestrian safety and comfort should take precedence within the TOD location;
- An appropriate level of car parking – Car parking should be discouraged and provided in lower numbers relative to surrounding development.
- Location of public off-street car parks – public car parks should be provided at the periphery of the TOD location, such that conflict between pedestrians and vehicles is minimised and use of public transport is encouraged;

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1 Falconer, R and Richardson, E, Rethinking urban land use and transport planning – opportunities for transit oriented development in Australian cities, Australian Planner, Vol 47, No 1, March 2010
An appropriate level of bicycle parking – Bicycle parking should be provided within commercial and residential developments at a minimum 10% of living and working populations. Secure, attractive bicycle parking should also be provided at station locations, encouraging use between destinations.

Limit barriers to accessibility – wherever possible, barriers to accessibility, such as busy roads or areas perceived to be unsafe, should be avoided, providing opportunity to maximise safety, permeability and connectivity.

3.2 Summary of Potential TOD benefits

Literature review, including case studies, points towards a variety of benefits in relation to TOD. The benefits are wide ranging and have been identified as including\(^2\):

- Increase ridership and fare revenues;
- Potential for joint venture development opportunities;
- Better places to live, work and play – TODs have the potential to result in revitalised neighbourhoods. Through a variety of catalyst projects, such as rail station development and public realm and/or facility upgrades, TODs have the potential to breathe new life into areas that have seen little or no growth in recent years;
- Reduced crime and increased safety, through revitalisation of the TOD location (facilitated through greater passive surveillance);
- Greater mobility with ease of moving around and subsequent increase in transit ridership and decrease in congestion and private vehicle use;
- Higher, more stable property values (whilst providing for a variety of housing types and costs);
- Infill development reduces the need for green field development and associated costs, e.g. road expenditure
- Increased employment opportunities; and
- Increased foot traffic and retail sales for local businesses;
- Increased access to labour pools through enhanced local and regional connectivity;
- Increased physical activity (and subsequent health benefits) – recent studies show that public transport commuters walk up to five times the distance than that of private vehicle commuters\(^3\).

3.3 Identification Criteria for Centres suited to TOD

Auckland Regional Policy Statement PC6 lists a number of high density centres in which intensification can occur in line with the Strategy. The Plan Change outlines appropriate areas as land where the existing amenities, social infrastructure, utility systems and the transport network have capacity to service higher density forms of residential and non-residential development.

Further to this, Auckland City Council identified a number of matters within their growth management strategy that identifies if an area is an ‘area of change’ or able to accommodate increased development. These are considered relevant to the identification of suitable TOD areas and include:


\(^3\) Research undertaken by Bus Association of Victoria (The Age, Friday March 12, 2010)
Urban living communities (residential, mixed use town centres):

- Town centre with capacity for more people to live within an 800m radius;
- Primary school or another community anchor, community facilities;
- Open space;
- Passenger transport or good road access;
- Stormwater infrastructure;
- Environmental qualities not threatened by growth;
- Market interest.

Business development communities (employment and commercial areas):

- Service centre with capacity to support job increases within a 1km radius;
- Good road or passenger transport access for workers;
- Good road or rail access for goods;
- Environmental qualities not threatened by growth;
- Market interest.
4 Identification of Suburban TOD locations

In addition to outlining the potential growth opportunities around the proposed CBD Rail Link stations, this report seeks to provide an understanding of opportunities for suburban centres located on the rail network that have the potential to benefit from the CBD Rail Link project. Accordingly, this section outlines the process undertaken to identify two suburban centres within the greater Auckland region that were further investigated in terms of their potential to provide for residential and employment densities.

4.1 Matters Considered

Starting at Britomart and working out along each of the eastern, southern and western rail lines, consideration was given to each of the majority of station locations in terms of their ability to provide for the largest absolute growth potential, with particular consideration given to multifamily residential activity (e.g. apartment type development) to generate and maximise new ridership. Station locations within established industrial or business areas that were considered unlikely to see residential development in the future were not considered.

Drawing on the team’s knowledge and ‘on the ground’ understanding of the station locations, particular consideration was given to the following matters:

- Recognised potential for the area to intensify development, taking into city strategies, e.g. ACCs Future Planning Framework
- Existing amenities within the area, including open space, schools, shopping and recreation facilities, suitable for supporting residential population
- Vacant land, suitable for immediate redevelopment
- Redevelopment opportunities, e.g. industrial land; dated commercial development or residential development
- Land ownership patterns, e.g. large areas within single ownership such as Housing NZ
- Existing built character, including heritage
- Existing densities / lot sizes provide for development potential
- Potential for environment / landscape to absorb change, e.g. existing view shafts to remain protected
- Topographical or geological constraints, e.g. ability to construct buildings on stable land

In addition, consideration has been given to the following Auckland strategy documents (amongst others):

- Auckland City Council - Future Planning Framework (2009) including relevant precinct plans
- Auckland Regional Council - Future Land Use and Transport Planning Project, April 2010
- Auckland Regional Policy Statement (Plan Change 6)
- Growth strategies for Waitakere and Manukau City Councils

Consideration was given to findings of the APB&B Team in relation to the same study, particularly:

- Findings in relation to station location employment and growth analysis, as provided by Kumar Kintala on 25 and 26 July 2010
- Potential TOD locations discussion document, as provided by Neil Prosser on 25 July 2010
4.2 Suburban Centres Considered

Detailed consideration was given to the following station locations:

- Orakei
- Meadowbank
- Glen Innes
- Panmure
- Sylvia Park
- Otahuhu
- Middlemore
- Papatoetoe
- Manurewa
- Takanini
- Papakura
- Newmarket
- Ellerslie
- Penrose
- Kingsland
- Morningside
- Mt Albert
- Avondale
- New Lynn
- Glen Eden
- Henderson

In particular, consideration was given to those matters outlined in Section 2 above, with each location being rated as to its potential to respond to those matters, i.e. 0 = No potential; 1 = Low potential; 2 = Medium potential; 3 = Good potential. Attachment B ‘Summary of Station Location Potential for TOD’ is attached to this report and summarises the outcomes of the above process.

Overall, New Lynn, Panmure and Sylvia Park were identified as having the most potential as future TOD locations with significant potential for residential living opportunities. Each of these locations is discussed in further detail below.

Note: It should be acknowledged that the process used in the identification of potential TOD locations has been a high end analysis only and further detailed investigation may result in different outcomes. Notwithstanding, the identified stations would likely remain in the top tier of any further investigations and are considered to be appropriate for further investigation for the purposes of the CBD Rail Link project.

4.3 Recommended Suburban Centres for Further Investigation

4.3.1 New Lynn

Figure 5: New Lynn Google Images, with 400m and 800m distance circles around existing station location
New Lynn is located in Waitakere City and has been identified as a suitable TOD location. A plan change process to intensify commercial and residential land uses has been undertaken and investment in the integration of the train station and bus depot has commenced. Heavy investment in New Lynn aims for it to become the ‘Newmarket’ of Waitakere City and provide both residential and employment hubs. The RGS identifies New Lynn as an existing residential/mixed use area and a future sub regional centre (which is defined to accommodate 60 dwellings/ha and 300 employees/ha).

There is realistic potential for the area to develop as a TOD on the basis that:

- New Lynn area has already been signaled as a TOD development with significant work undertaken by Waitakere City Council in regard to the future planning and urban design of the area. As outlined on Waitakere City Council’s website, the concept plans show a great deal of high-rise, high-density housing close to the town centre, to house up to twice as many people as presently live in New Lynn. These will mostly be people who have adopted the urban lifestyle so common overseas: living in apartments, working close to home, owning businesses in the town centre, commuting by train and bus, walking and cycling.

- Auckland Regional Council classification as Sub-Regional Centre (refer Plan Change 6, Auckland Regional Council Policy Statement)

- Auckland City Council classification as Principal Centre (noting that this area lies outside of the Auckland City jurisdiction).

- Good provision of community amenities including library, open space, schools in close vicinity

- Close proximity to retail and employment areas

- Brownfields sites for potential (re)development

- Large landholdings, including Waitakere City Council

- Does not possess a built character or heritage that would otherwise preclude redevelopment or higher densities

- Future planning for the area anticipates higher densities with good potential to be absorbed within the surrounding landscape (e.g. there are no limitations due to adjoining landscape or view shafts etc)
4.3.2 Panmure / Tamaki

There is realistic potential for the area to develop as a TOD on the basis that:

- Auckland Regional Council classification as a Town Centre (refer Plan Change 6, Auckland Regional Council Policy Statement)
- Auckland City Council classification as a Town Centre
- Part of the overall area that will benefit from the Auckland Manukau Eastern Transport Initiative
- Very good provision of community amenities including open space, recreation (swimming pool, health centre) library, and schools in close vicinity
- Close proximity to existing retail and business areas
- Brownfields sites for potential (re)development
- Large land holdings
- Does not retain a built character or heritage that would otherwise preclude redevelopment or higher densities
- Future planning for the area anticipates higher densities with good potential to be absorbed within the surrounding landscape; however, there are height limitations over some of the area as a result of the proximity to Mt Wellington. These range from 12m-15m and cover only parts of the envisaged developable area.
- Future Planning Framework seeks the following outcomes:
  - Developing the Tāmaki Innovation Precinct and New Zealand Innovation Centre, as a hub for cutting edge technology focused businesses
  - Focusing growth in and around the Glen Innes and Panmure town centres to make the most of the great access to rail and bus services, shops and community facilities and to act as a catalyst for rejuvenating these centres
  - Advocating for Tāmaki Railway Station to be reopened, with an adjacent business node to support it
  - Making the most of the area’s volcanic landscapes and waterways, promoting their ecological values and recreational use.
5 Assessment of Growth Opportunities

Having regard to those matters outlined in section 3.2 above, the following sections outline the potential growth opportunities and benefits around the CBD Rail Link and suburban stations identified above. As has been noted early in this report, the opportunities and benefits have been considered from an urban design perspective. The intention is to highlight growth opportunities in the context of sustainable ‘place making’ (i.e. creating attractive, memorable, human scale environments that reinvigorate the culture of the local environment), and provide an understanding of the potential growth that can be physically absorbed within the each station location.

For those stations located within and on the periphery of Auckland CBD, the focus of the following sections has been on potential employment growth within these areas. While residential growth will occur within and on the periphery of the CBD, these areas are predominately attractors for employees. Conversely, suburban station locations will ‘feed’ the rail network and, accordingly, New Lynn and Panmure have been considered with regard to their potential to provide for future residential growth.

5.1 Aotea Station Precinct

The proposed Aotea Station, with a primary entrance located on the corner of Mayoral Drive and Wellesley Street, provides for access to the heart of CBD and Auckland’s commercial core. Shopping activities also remain a large draw card to the city with stores such as Smith and Caughey drawing up to 3 million people per year. Auckland City Council has also indicated the following visitor numbers to the CBD for non-residential and commercial activities within closed vicinity of the proposed Aotea Station:

- Auckland Central Library – 1.2 million
- Auckland City Art Gallery – 450,000 (anticipated with redevelopment)
- The Edge (combined Aotea Centre, Town Hall, Civic theatre) – 1 million
- SkyCity Cinema complex - 6.7 million
- SkyCity (SkyTower) - 1 million +
- University students at AUT University and University of Auckland campuses total approximately 50,000 - 60,000 per day. Significant campus redevelopment may see this grow by a further 10-20%.

As has been evidenced by similar public transport developments in other cities around the world, the benefits of station development are accrued at their highest within a five minute walking distance and, to a lesser extent, within the five to ten minute walking distance from the station. In addition to including a number of significant attractors and existing commercial development, the Aotea Station walking catchment includes a number of vacant sites (including car parking sites at the corner of Victoria and Albert Streets, and Wellesley Street and Mayoral Drive), large sites in common ownership and buildings that have reached the extent of their valued life. A ‘station premium’ is likely to assist in facilitating the redevelopment of sites within walking distance of the station. Such sites offer the potential to maximise the relationship between future development and the proposed station location, either through public private partnerships or other initiatives.

5.1.1 Planning for a revitalised CBD

A number of physical constraints currently have the potential to restrict the future attractiveness of the CBD to grow as an attractive pedestrian friendly city, including:

- Heavily trafficked roads
- Low amenity streets
- Areas of limited passive surveillance
- Areas of reduced pedestrian amenity

On-going improvements to the public realm will likely have the benefit of attracting people to use and invest in the area, and also have the potential to assist in increasing rent premiums. In particular, the following public realm potentials and opportunities have been identified within close vicinity to the proposed Aotea Station:

- Mayoral Drive: Currently there is little frontage onto this street, although the street does benefit from good sun and is relatively wide, enabling the opportunity for enhanced public realm. It is considered that the opportunity exists for buildings to front Mayoral Drive, engaging with a high amenity pedestrian friendly realm.

![Figure 7: Indicative section potential for a main Aotea Station entrance and commercial / civic tower above, at corner of Wellesley Street and Mayoral Drive. Such a development would have the potential to be integrated with high quality public realm, connecting between the station, Aotea Station and the Town Hall.](image)

- Federal Street: The opportunity exists to enhance public realm and active facades along this north south desire line.
- Aotea Square: The provision of a station and/or other catalyst project on the periphery of Aotea Square has the potential to enhance access to the city’s premier cultural and civic precinct.
- Albert and Victoria Streets: The width of Albert Street provides potential for pedestrian realm improvements. The street also provides for legible, quick connections with Victoria Street and existing bus routes. The potential exists to provide for good access down to Elliot, Darby and Queen Streets and, given the number of bus routes within the area, this area also has the potential to become a multi modal public transport interchange.
Elliot and Darby Streets: These streets are to be pedestrianised and have the potential to become high amenity, vibrant pedestrian areas

Queen Street: Auckland’s premier street has the potential to provide for safe, universal access throughout the day and evening and is continuing to undergo upgrades to enhance amenity values.

In addition to the aforementioned specific opportunities, the area also has the potential to provide for:

- Strong pedestrian, cycle and public transport connections with the wider environment.
- Pedestrian and cycle routes that respond to local desire lines.
- Enhanced public realm (streetscape and open space).
- Reduced crime and increased safety, through revitalisation and invigoration of the location (facilitated through greater passive surveillance).

5.1.2 Potential Employment Growth

Existing employment densities

At 2006 the employment population within 500m of the proposed station was approximately 44,467 persons.

2006 Statistics New Zealand mesh blocks have also been used to examine the existing employment population within 1000m of the proposed station location. Densities within this area currently range from 50 employees per hectare to 1500 employees per hectare. Based on 2006 employment population figures above, the average employment densities are approximately 500 employees per hectare.

Potential future employment densities

Analysis of future employment growth potential was undertaken as part of Phase 1 Station Location Assessment of the CBD Rail Link project. Potential future employment populations were based on a calculation of the ‘remaining development capacity’ within the CBD, provided by Auckland City Council. These figures have regard to matters such as district plan requirements, protected buildings, apartments in unit title and buildings constructed after 1999, all of which will restrict the future development of the area.
The ‘remaining development capacity’ was calculated within 500m of the proposed station location to result in the potential future population within that area. The figures assume 75% of the ‘remaining development capacity’ will be developed, at a commercial/residential ratio of 4:1, and an employee occupancy of one person per 25sqm. Based on these assumptions, the following employee numbers were calculated:

<table>
<thead>
<tr>
<th>2006 Employment Population within 500m of Aotea Station</th>
<th>Realistic Future Employment Population within 500m of Aotea Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>44,467</td>
<td>79,788</td>
</tr>
</tbody>
</table>

Figure 9: Auckland City Council mapping of existing sites with capacity for future development pursuant to existing policy.

While the above numbers represent a significant increase in employee numbers, they nonetheless remain relatively low at approximately 1000 employees per hectare. Building upon the above indicative calculations, Attachment A – ‘Indicative Development Typologies for CBD Rail Link Station Locations’ outlines four typologies for the Aotea Station Precinct, which are indicative of the type of future built form that may occur in the area, particularly should public transport improvements be facilitated. Such improvements are likely to lead to a ‘station premium’ within the five to ten minute walking catchment of the station, whereby commercial land values will see a noticeable increase over time.
Each typology has been applied to a specific site. The four typologies, illustrated on pages 3, 4 and 5 of Attachment A, are summarised as:

- Typology A - tall tower, 45 storeys
- Typology B - mid-rise tower, 25 storeys
- Typology C - low rise slab on a podium, 10 storeys
- Typology D - mid rise podium and tower development, 11 storeys

The table below provides an indicative breakdown of employment densities in relation to the typologies investigated:

<table>
<thead>
<tr>
<th>Typology</th>
<th>Employment Density over Site (employee/ha)</th>
<th>Floor Area Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>11,712</td>
<td>35.60 : 1</td>
</tr>
<tr>
<td>B</td>
<td>2,161</td>
<td>5.75 : 1</td>
</tr>
<tr>
<td>C</td>
<td>1,090</td>
<td>2.37 : 1</td>
</tr>
<tr>
<td>D</td>
<td>2,286</td>
<td>6.14 : 1</td>
</tr>
</tbody>
</table>

The above densities relate to a range of development types that could realistically occur within the Auckland CBD. Based on the combined aggregate employment density per hectare, and taking into account provision for roads, public spaces and other non-developable areas, it is considered that an average density of 1,500 – 2,250 employees per hectare could be expected to develop within commercial blocks in the surrounding 800m – 1000m catchment of the proposed station location between now and 2041, subject to appropriate policy initiatives and other interventions⁵. Without the CBD Rail Link, any significant increase in employment densities is unlikely to be facilitated in the area.

5.1.3 Future Planning Considerations

To achieve those densities described above, consideration needs to be given to incentives for future investment. In particular, consideration should be given to:

- Implementing those opportunities described in section 5.1.1.above
- Zoning / plan changes to enable as of right development (including increased height allowance)
- Incentives for amalgamations
- Incentives for infill development of small sites
- Tax / rates incentives

⁴ Site densities are based on the gross area of built form on a particular site, and should not be interpreted as being applicable to the wider area.

⁵ Based on a 50%-80% uptake of the combined aggregate employment densities per hectare; and assuming an entirely commercial land use.
- Potential for mixed use development
- Establishment of catalyst projects (such as new public buildings) to attract further use of the area
- Achieving environmentally, socially and culturally sustainable outcomes, in addition to economic benefits.

5.1.4 Summary

In summary, it is considered that Auckland CBD, through the establishment of the CBD Rail Link and other catalyst projects in favour of the public, has the potential to provide for significant employment growth. In particular, it is considered that current employment densities within commercial blocks could realistically see up to a four-fold increase within the 1000m catchment of the proposed Aotea Station. Such growth would be subject to appropriate incentives such as may include policy initiatives, public realm upgrades and/or other catalyst projects within the area.

5.2 Karangahape Road Station Precinct

The proposed K Road Station is located in an area defined by mixed use, commercial and intermittent residential land uses. The proposed K Road Station is well located, 30 metres from the corner of K Road and Pitt Street. K Road is a popular destination for shoppers during the day, and offers a range of pubs, cafes and nightclubs for evening goers. Auckland Hospital, the School of Medicine and southern parts of AUT and Auckland University are located to the east and northeast of the study area. While these areas are not within the immediate vicinity, they are within a 10-15 minute walking distance over relatively flat topography.

Myers Park, located to the north of K Road and accessible via St Kevins Arcade, provides a significant amenity for local residents and employees in the area. As well as containing a playground and kindergarten, the park provides a ‘backyard’ for residents living in nearby apartments, and offers a ‘green lung’ in an otherwise urbanised area.

As has been described above, the benefits of station development are accrued at their highest within a five minute walking distance and, to a lesser extent, within the five to ten minute walking distance from the station. The K Road Station walking catchment includes a number of vacant sites, large sites in common ownership and buildings that have reached the extent of their valued life (refer Attachment C - Land Use and Height Studies for Newton and K Road Station Locations). In particular, land to the south of K Road, moving down towards the CMJ, is underutilised, restricted by planning regulations (e.g. height rules) and lacking quality public realm that could otherwise incentivise growth. A ‘station premium’ is likely to assist in facilitating the redevelopment of sites within walking distance of the station. Such sites offer the potential to maximise the relationship between future development and the proposed station location, either through public private partnerships or other initiatives.
Figure 10: Ten minute walking catchment from proposed K Road Station

Figure 11: Perspective aerial illustrating large areas of underutilised land to the south of K Road
5.2.1 Revitalising the K Road Area

A number of physical constraints currently have the potential to restrict the future attractiveness of the CBD to grow as an attractive pedestrian friendly city, including:

- Heavily trafficked roads
- The Central Motorway Junction (CMJ)
- Low amenity streets
- Areas of limited passive surveillance

On-going improvements to the public realm will likely have the benefit of attracting people to use and invest in the area, and also have the potential to assist in increasing rent premiums. In particular, the following public realm potentials and opportunities have been identified:

- K Road heritage buildings and high street character: K Road is currently a well utilised community precinct / centre, enjoyed by a variety of people throughout the day and night. The street provides for continuous active facades over the majority of its length. The flat topography and wide streets provide the potential for universal access and long views down the length of the street. Retention of the historic fabric and ‘high street’ character will preserve the area's unique character, which is likely to continue to grow as an attracting quality. Reinforcing existing attractors such as community amenities, local cafes, restaurants and bars will also act as an attractor for many people.

- Beresford Square: This small plaza has the potential to have strong connections with the surrounding environment, connecting with existing and future desire lines. This area is well located adjacent to K Road and still on the ridgeline. Beresford Square has been identified as an appropriate location for the K Road Station and offers excellent opportunities for the development of high quality public space, integrated with surrounding built fabric and existing and future land uses.

![Figure 12: Indicative section showing vision for K Road Station at Beresford Square](image-url)

- Maximise development potential: As described in the following section, the K Road area has the potential to further maximise its development potential over and above that currently allowed for by the district plan, without compromising local or city wide amenity values.

- Myers Park: Myers Park is a ‘green lung’ in an otherwise urban area. Future development on the park periphery should seek to establish a greater relationship with the park by fronting on to the green space wherever possible.
In addition to the aforementioned specific opportunities, the area also has the potential to provide for:

- Strong pedestrian, cycle and public transport connections with the wider environment
- Internal pedestrian and cycle routes that respond to local desire lines
- Capitalise on existing street vistas
- Establish additional routes along desire lines (e.g. between Beresford Square and Queen Street along Poynton Terrace)
- Pedestrian and cycle routes that respond to local desire lines
- Enhanced public realm (streetscape and open space) and establish a pedestrian priority environment

### 5.2.2 Potential Employment Growth

**Existing employment densities**

At 2006 the employment population within 500m of the proposed station was approximately 6,928 persons.

2006 Statistics New Zealand mesh blocks have also been used to examine the existing employment population within 1000m of the proposed station location. Densities within this area currently range from below 50 employees per hectare (in the vicinity of K Road) to above 800 employees per hectare (in the vicinity of Vincent Street, to the north of the proposed station location). Based on 2006 employment population figures above, the average employment densities are approximately 90 employees per hectare.

**Potential future employment densities**

Analysis of future employment growth potential was undertaken as part of Phase 1 Station Location Assessment of the CBD Rail Link project. Potential future employment populations were based on a calculation of the ‘remaining development capacity’ within the CBD, provided by Auckland City Council. These figures have regard to matters such as district plan requirements, protected buildings, apartments in unit title and buildings constructed after 1999, all of which will restrict the future development of the area (refer figure 9 above).
The ‘remaining development capacity’ was calculated within 500m of the proposed station location to result in the potential future population within that area. The figures assume 75% of the ‘remaining development capacity’ will be developed, at a commercial/residential ratio of 4:1, and an employee occupancy of one person per 25sqm. Based on these assumptions, the following employee numbers were calculated:

<table>
<thead>
<tr>
<th>2006 Employment Population within 500m of Aotea Station</th>
<th>Realistic Future Employment Population within 500m of Aotea Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>6,928</td>
<td>17,864</td>
</tr>
</tbody>
</table>

While the above numbers represent a significant increase in employee numbers, they nonetheless remain relatively low at approximately 230 employees per hectare. Building upon the above indicative calculations, Attachment A – ‘Indicative Development Typologies for CBD Rail Link Station Locations’ outlines five typologies for the K Road Station Precinct, which are indicative of the type of future built form that may occur in the area, particularly should public transport improvements be facilitated. Such improvements are likely to lead to a ‘station premium’ within the five to ten minute walking catchment of the station, whereby commercial land values will see a noticeable increase over time.

Each typology has been applied to a specific site. The five typologies, illustrated on pages 7 and 8 of Attachment A, are summarised as:

- Typology E - mid-rise corner slab, 7 storeys
- Typology F - amalgamated site (combination of typologies G, H and I) providing frontage on three sides, between 5 and 7 storeys
- Typology G - low rise corner slab, 5 storeys
- Typology H - low-rise mid-block slab, 5 storeys
- Typology I - low-rise corner gateway, 4 storeys with 7 storey pop up

The table below provides an estimated breakdown of employment densities in relation to the typologies investigated.

<table>
<thead>
<tr>
<th>Typology</th>
<th>Employment Density over Site (employee/ha)</th>
<th>Floor Area Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>1,960</td>
<td>7 : 1</td>
</tr>
<tr>
<td>F</td>
<td>1,027</td>
<td>3.67 : 1</td>
</tr>
<tr>
<td>G</td>
<td>1,088</td>
<td>3.11 : 1</td>
</tr>
<tr>
<td>H</td>
<td>622</td>
<td>1.78 : 1</td>
</tr>
<tr>
<td>I</td>
<td>1,599</td>
<td>4.71 : 1</td>
</tr>
</tbody>
</table>

The above densities provide for a range of development types that could realistically occur within the K Road area. Based on the combined aggregate employment density per hectare, and taking into account provision for roads, public spaces and other non-developable areas, it is considered
that an average density of 550 – 850 employees per hectare could be expected to develop within commercial blocks in the surrounding 800m – 1000m catchment of the proposed station location between now and 2041, subject to appropriate policy initiatives and other interventions\textsuperscript{6}. Without the CBD Rail Link, any significant increase in employment densities is unlikely to be facilitated in the area.

5.2.3 Future Planning Considerations

Currently, the Auckland City Council District Plan Central Area general and specific height controls provide limitations on the development potential of the area. In particular, the area located south of K Road and sloping towards the Central Motorway Junction (refer also figure 34) is largely limited to 15m while still lying at least 30m below the view protection plane to Mount Eden. Potential exists to provide for increased height throughout this area, thus opening up development potential which, if undertaken in conjunction with ongoing public realm improvements, has the potential to increase the local employee and residential population and add positively to the amenity values of the area.

![Figure 14: Indicative section indicating potential for increased height allowance for development on the southern slopes off K Road](image)

In addition to the above, consideration needs to be given to incentives for future investment. In particular, consideration should be given to:

- Other zoning / plan changes to enable as of right development
- Incentives for amalgamations
- Incentives for infill development of small sites
- Tax / rates incentives
- Potential for mixed use development
- Establishment of catalyst projects (such as new public buildings) to attract further use of the area

\textsuperscript{6} Based on a 50%-80% uptake of the combined aggregate employment densities per hectare; and assuming an entirely commercial land use.
Notwithstanding the above, all future development should remain subject to achieving environmentally, socially and culturally sustainable outcomes, in addition to economic benefits.

5.2.4 Summary

In summary, it is considered that K Road, through the establishment of the CBD Rail Link and other catalyst projects in favour of the public, has the potential to provide for significant employment growth. In particular, it is considered that current employment densities within commercial blocks could realistically see a four-fold increase within the 1000m catchment of the proposed K Road Station. Notwithstanding, such growth would require significant incentives such as may include policy initiatives, public realm upgrades and/or other catalyst projects within the area.

5.3 Newton Station Precinct

The proposed Newton Station is located in an area defined by commercial and residential (primarily apartment) land uses. Symonds Street, running north south along the ridge line, retains a high street character with potential to be enhanced and become an attractive destination for residents, works and visitors to the area.

Figure 15: Ten minute walking catchment from proposed Newton Station

Newton is also a destination for shoppers during the day, and offers a range of cafes and restaurants catering for the local resident and employee population. Symonds Street offers a number of speciality stores (such as cycling, skateboarding, kite flying and arts) and is currently perceived as a somewhat ‘alternative’ centre. The Auckland City Council has set out a strong vision for Newton within Auckland’s Future Planning Framework. That vision will see the growth of Newton
as a vibrant, high amenity mixed use town centre, with strong pedestrian, cycle and public transport connections to the CBD and wider environment.

Figure 16: Newton Study Area – Extract from Auckland City Council’s Future Planning Framework (Newmarket/Parnell Area Outcomes 2030)

Auckland Hospital and the School of Medicine are located to the northeast of the study area. While these areas are not within the immediate vicinity, they are within a 10-15 minute walking distance over relatively flat topography.

Basque Park sits at the centre of the study area and is a welcome respite from the otherwise urbanised area. It is well landscaped and includes a number of features including a water fountain and seating area. The park appears to be popular with locals; however, it is not well connected to the surrounding environment and remains somewhat hidden and underutilised.

Newton is served by a number of bus routes from all areas and is located on a steep ridgeline along Symonds Street which falls steeply to the west. The Newton Station is proposed at the junction of Symonds Street/New North Road/Mt Eden Road. This assessment is concerned primarily with that area of land within a ten minute walking catchment (approximately 800m – 1000m walking distance) of the proposed station location.

As has been described above, the benefits of station development are accrued at their highest within a five minute walking distance and, to a lesser extent, within the five to ten minute walking distance from the station. The Newton Station walking catchment includes a number of vacant sites and parking lots, large sites in common ownership and buildings that have reached the extent of their valued life (refer Attachment C - Land Use and Height Studies for Newton and K Road Station Locations). In particular, land to the northwest and south / southeast of the proposed station provides potential for intensification, currently underutilised, restricted by planning regulations (e.g. height rules) and lacking quality public realm that could otherwise incentivise growth. A ‘station premium’ is likely to assist in facilitating the redevelopment of sites within walking distance of the station.
Figure 17: Newton Study Area – Opportunity Sites

Figure 18: Existing opportunity sites: underutilised sites and existing car parking have the potential to be (re)developed
5.3.1 Revitalising the Newton Area

A number of physical constraints currently have the potential to restrict the future attractiveness of the CBD to grow as an attractive pedestrian friendly city, including:

- Mt Eden Station – currently provides a barrier between Mt Eden and Newton
- Steep topography to the west of the study area reduces the walkability of the area
- Heavily trafficked roads
- The Central Motorway Junction (CMJ)
- Low amenity streets
- Areas of limited passive surveillance

Within the Newton study area the following potentials and opportunities have been identified:

- Newton heritage buildings and high street character: Newton is currently a well utilised community precinct / centre. Retention of the historic fabric and ‘high street’ character will preserve the area’s unique character, which is likely to continue to grow as an attracting quality. Reinforcing existing attractors such as community amenities, local cafes, restaurants and bars will also act as an attractor for many people.
- Respond to topography: The flat topography and width of Symonds Street provide the potential for universal access and long views down the length of the street.

![Indicative section at the corner of Mt Eden Road and Symonds Street](image)

Figure 19: Indicative section at the corner of Mt Eden Road and Symonds Street; indicating potential for public transport interchanges and amenity / community space integrated with existing environment and proposed Newton Station.

- Basque Park: Basque Park is an underutilised green open space. The potential exists for future land use to establish a strong relationship with the park, where commercial and residential uses face over the open space, enhancing passive surveillance of the area and benefiting from its openness and amenity.
- Establish internal open spaces: The study area currently lacks quality open space. Open space that adjoins Ian McKinnon Drive and faces the CMJ is of low amenity. Consideration should be given to land swaps to redistribute this land in a manner that will be more meaningful to future employees and residents within the area. Providing public parks ‘within’ the urban fabric would enhance urban amenity and provide employees and residents with quality recreation space.
- Maximise development potential: As described in the following section, the Newton area has the potential to further maximise its development potential over and above that currently allowed for by the district plan, without compromising local or city wide amenity values. In particular, regard needs to be given to protection of the views to Mt Eden, as identified by the Auckland City District Plan’s Isthmus Section (views E10 and E16). These views add significantly to the character of Auckland and are widely enjoyed from many areas. Achieving Auckland City Council’s future vision of Newton as a mixed use town centre will require careful forward planning and investment to creating a quality environment that is attractive to future investors and employees.
In addition to the aforementioned specific opportunities, the study area also has the potential to provide for:

- Strong pedestrian, cycle and public transport connections with the wider environment.
- Internal pedestrian and cycle routes that respond to local desire lines.
- Enhanced public realm (streetscape and open space).
- Capitalise on existing street vistas along Symonds Street and Khyber Pass.
- Establish additional routes along desire lines that have the potential to ‘open up’ the back streets of the area (e.g. Providing for additional east west access off each side of Symonds Street).
- Enhance and increase public realm and create a pedestrian priority environment.

5.3.2 Potential Employment Growth

Existing employment densities

At 2006 the employment population within 500m of the proposed station was approximately 7,208 persons.

2006 Statistics New Zealand mesh blocks have also been used to examine the existing employment population within 1000m of the proposed station location. Densities within this area currently range from 50 employees per hectare to around 300 employees per hectare (along Khyber Pass), with 80-100 employees per hectare being the predominant density. This correlates with the 2006 employment population figures above, which suggest an average employment density of approximately 90 employees per hectare (similar to that of the K Road area).

Potential future employment densities

Analysis of future employment growth potential was undertaken as part of Phase 1 Station Location Assessment of the CBD Rail Link project. Potential future residential populations have been based on a calculation of the ‘realistic additional future floor area’ within the study area. The ‘realistic additional future floor area’ figures have been provided by Auckland City Council and have regard to matters such as district plan requirement (such as height and parking requirements), and assumed economic drivers for redevelopment.

The ‘realistic additional future floor area’ has been combined with the 500m walking radius from the proposed station locations to result in the potential future population within that area. The figures assume a maximum development scenario at a commercial/residential ratio of 3:2, and an employee occupancy of one person per 25sqm.

<table>
<thead>
<tr>
<th>2006 Employment Population within 500m of Aotea Station</th>
<th>Realistic Future Employment Population within 500m of Aotea Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>7,208</td>
<td>21,093</td>
</tr>
</tbody>
</table>

While the above numbers represent a significant increase in employee numbers, they nonetheless remain relatively low at approximately 270 employees per hectare. Building upon the above indicative calculations, Attachment A – ‘Indicative Development Typologies for CBD Rail Link Station Locations’ outlines five commercial typologies for the Newton Station Precinct, which are indicative of the type of future built form that may occur in the area, particularly should public transport improvements be facilitated. Such improvements are likely to lead to a ‘station premium’ within the five to ten minute walking catchment of the station, whereby commercial land values will see a noticeable increase over time.
Each typology has been applied to a specific site. The five typologies, illustrated on pages 10, 11 and 12 of Attachment A, are summarised as:

- Typology J – mid-rise corner slab on an irregular shaped lot, 6 storeys
- Typology K – mid-rise corner slab, 6 storeys
- Typology L – low rise mid-block slab, 6 storeys
- Typology M – low-rise development incorporating several buildings, between 2 and 4 storeys

The table below provides an estimated breakdown of employment densities in relation to the typologies investigated.

<table>
<thead>
<tr>
<th>Typology</th>
<th>Employment Density over Site (employee/ha)</th>
<th>Floor Area Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>J</td>
<td>1,234</td>
<td>3.67 : 1</td>
</tr>
<tr>
<td>K</td>
<td>1,680</td>
<td>5 : 1</td>
</tr>
<tr>
<td>L</td>
<td>1,129</td>
<td>3.53 : 1</td>
</tr>
<tr>
<td>M</td>
<td>736</td>
<td>2.3 : 1</td>
</tr>
</tbody>
</table>

The above densities provide for a range of development types that could realistically occur within the Newton area. Based on the combined aggregate employment density per hectare, and taking into account provision for roads, public spaces and other non-developable areas, it is considered that an average density of 460 – 725 employees per hectare could be expected to develop within commercial blocks in the surrounding 800m – 1000m catchment of the proposed station location between now and 2041, subject to appropriate policy initiatives and other interventions\(^7\). Without the CBD Rail Link, any significant increase in employment densities is unlikely to be facilitated in the area.

### 5.3.3 Future Planning Considerations

Currently, the Auckland City Council District Plan Isthmus Section controls provide limitations on the development potential of the area; however, such restrictions can be alleviated without compromising the wider environment. In particular, potential exists to provide for increased height throughout this area (to approximately six stories), thus opening up development potential which, if undertaken in conjunction with development incentives and on-going public realm improvements, has the potential to add positively to the amenity value of the area and attract investment, employees and residents to the area.

\(^7\) Based on a 50%-80% uptake of the combined aggregate employment densities per hectare; and assuming an entirely commercial land use.
In addition to the above, consideration needs to be given to incentives for future investment, such as may include:

- Other zoning / plan changes to enable as of right development
- Incentives for amalgamations
- Incentives for infill development of small sites
- Tax / rates incentives
- Potential for mixed use development
- Establishment of catalyst projects (such as new public buildings) to attract further use of the area

Notwithstanding the above, all future development should remain subject to achieving environmentally, socially and culturally sustainable outcomes, in addition to economic benefits.

5.3.4 Summary

In summary, it is considered that Newton, through the establishment of the CBD Rail Link and other catalyst projects in favour of the public, has the potential to provide for significant employment growth. Overall, it is considered that employment densities within the 1000m catchment of the proposed K Road Station could realistically see a fourfold, if not greater, increase within commercial blocks. Notwithstanding, such growth would require significant incentives such as may include policy initiatives, public realm upgrades and/or other catalyst projects within the area.
5.4 New Lynn Station Precinct

As outlined in section 4.3.1 above, New Lynn has been identified by Waitakere City Council as a suitable TOD location, a sentiment that is shared through regional and city policy documents:

- Auckland Regional Council classification as Sub-Regional Centre (refer Plan Change 6, Auckland Regional Council Policy Statement)
- Auckland City Council classification as Principal Centre (noting that this area lies outside of the Auckland City jurisdiction).

Figure 21: Extract from Auckland City Council City Quality Built Environment Map, showing New Lynn TOD location

New Lynn’s TOD looks to achieve intensification of development in the New Lynn Town Centre, and in doing so encouraging growth in both population and employment. ‘New Lynn – An Urban Regeneration Framework for New Lynn’s Town Centre’ (September 2008, Waitakere City Council) outlines the Council’s vision for the TOD, with employment densities in the range of 300 employees per hectares and residential densities up to 60 dwellings per hectare. This approach is consistent with Auckland Regional Policy Statement: Plan Change 6 (PC6), which outlines the same densities for sub regional centres.

To achieve the vision, the Regeneration Framework outlines a number of key interventions, including:

- Develop the new Railway Station within the Hetana Street, Totara Avenue and Clark Street urban development block
- Reposition the New Lynn Bus Station onto a bus only street directly adjacent to the railway station entrance and exit point
- Expand and enhance the existing social infrastructure provision within the town centre to support the increased population within New Lynn and surrounding catchment.
- Create an integrated mix in retail, commercial and residential land uses within the town centre linked through safe and legible pedestrian and cycle connections
- Intensify residential precincts within walking distance to the T.O.D. in particular the Living 5 and 6 precincts
The Regeneration Framework also acknowledges that envisaged residential growth is reliant on the development of a successful TOD that fits into the city and regional policy system. In particular, the Framework cites the following international examples:

- **Portland, Oregon** sets an internationally-recognised precedent for the creation of an urban growth boundary system. Nine regional centres were developed and interconnected by rail links which enabled up to 85% of new growth in the region to occur within a five minute walk of a transit stop.

- **Singapore’s basic urban structure plan** was designed to create a series of radial and circumferential public transport lines with major and minor subcentre nodes each containing higher density residential development and retail opportunities at smaller nodes and commercial land uses at larger nodes.

These examples stress that the need for the ability of residents in TOD locations to be able to access other destinations on the wider network remains imperative to a successful TOD. The CBD Rail Link is set to open up in excess of two thirds of the Auckland CBD to Rail and, subsequently, to New Lynn. Without the CBD Rail Link, it is unlikely that incentives would remain for as many individuals and families to locate themselves within the New Lynn TOD and, accordingly, the residential densities envisaged (and the overall vision) for New Lynn would unlikely to be achieved.

Based on 2006 census data, the area subject to the New Lynn TOD (approximately 160 hectares) currently has a residential population of 1,941 persons (approximately 618 households). Proposed development envisages growth of an additional 6,000 residents between 2002 and 2021, and up to 10,000 residents in the long term. The residential growth would see a threefold increase over the medium term and fivefold increase over the long term.

Figure 22: New Lynn – An Urban Regeneration Framework for New Lynn’s Town Centre: Crown Lynn Residential Quarter Concept Development Plan – in the range of 60 dwellings per hectare.
5.5 Panmure / Tamaki

As outlined in section 4.3.1 above, Panmure has been identified by Auckland City Council as a future growth area, a sentiment that is iterated through regional and city policy documents:

- Auckland Regional Council classification as Town Centre (refer Plan Change 6, Auckland Regional Council Policy Statement)
- Auckland City Council classification as Town Centre

![Figure 23: Extract from Auckland City Council City Quality Built Environment Map, showing Panmure Town Centre, potential TOD location](image)

As part of the area affected by the Auckland Manukau Eastern Transport Initiative, Panmure will benefit from a range of transport improvements in the future. Together with enhanced bus / rail integration, town centre upgrades and Auckland City Council’s Tamaki Innovation Precinct plans facilitate a reinvigorate area and assist to establish a mixed use destination. Of particular note is that both the Tamaki Innovation Plan and Future Planning Framework foresee significant areas of residential and mixed use development around the Panmure Rail Station and the (currently commercial) Tamaki Station. Significantly large land holdings exist in the area, currently in providing for industrial land use. These have the potential to be converted to residential and mixed land use and, in doing so, provide a new relationship between public open space (such as Mt Wellington) and the existing and future Panmure / Tamaki community.

Existing residential densities

Currently the walking catchment (refer Figure 24) from Panmure Station is limited by barriers such as busy roads and the rail line, reducing what could by a catchment of up to 200 hectares to approximately 100 hectares. In addition, the residential population (census 2006) in the areas remains relatively low at just over 1000 persons or approximately 350 dwellings. The existing residential density throughout the Panmure Station catchment is estimated to be no more than 20 dwellings per hectare.
Figure 24: Ten minute walking catchment from proposed Panmure Station

Potential future residential densities

Attachment A – ‘Indicative Development Typologies for CBD Rail Link Station Locations’ outlines two residential typologies for the Panmure Station Precinct, which are indicative of the type of future built form that may occur in the area, particularly should public transport improvements be facilitated. Such improvements are likely to lead to a ‘station premium’ within the five to ten minute walking catchment of the station, whereby residential land values will see a noticeable increase over time.

Each typology has been applied to a specific site. The typologies, illustrated on pages 14 and 15 of Attachment A, are summarised as:

- Typology N - terraced housing development.
- Typology O - mixed use development - retail at podium level, two residential / apartment towers and one commercial tower.

The table below provides an estimated breakdown of employment densities in relation to the typologies investigated.

<table>
<thead>
<tr>
<th>Typology</th>
<th>Residential Density over Site (residents/ha)</th>
<th>Floor Area Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>331</td>
<td>2 : 1</td>
</tr>
<tr>
<td>O</td>
<td>218</td>
<td>1.24 : 1</td>
</tr>
</tbody>
</table>
The above densities provide for a range high density development types that could realistically occur within the Panmure area. Taking into account provision for roads, public spaces and other non-developable areas, it is considered that an average density between 40 - 80 dwellings per hectare\(^8\) could be expected to develop within residential and/or mixed use areas in the surrounding 800m – 1000m catchment of the proposed station location between now and 2041, subject to appropriate policy initiatives and other interventions.

**Other Matters**

Important to note is that high density does not require high rise. The typologies show that as little as three storeys can achieve densities as high as 80 dwellings per hectare. Such building typologies are, in the contact of suburban areas, inherently more sustainable than taller buildings, and assist in retaining the qualities that add to the liability of such areas.

As described above, the need for the ability of residents in TOD locations to be able to access other destinations on the wider network remains imperative to a successful TOD and generating the densities envisaged. Without the CBD Rail Link, it is unlikely that incentives would remain for as many individuals and families to locate themselves within the Panmure area and, accordingly, the residential densities envisaged (and the overall vision) for Panmure would unlikely to be achieved.

Essential to the success of TOD at Panmure will also be facilitating the public realm vision for the area (as provided for by the Panmure Growth Area Structure Plan – Auckland City District Plan Isthmus Section, and the Tamaki Innovation Precinct plan) and enhancing connections throughout the area. Enhanced connections will dramatically open up the catchment from Panmure Station and also accessibility to public amenities such as the Panmure town centre and Mt Wellington. These qualities, alongside ease of access to the Auckland CBD via quality rail connections, will be significant influencing factors in attracting people to live in the area and, subsequently, moving towards the vision of compact, sustainable city growth.

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\(^8\) Based on a 50%-70% uptake of land designated for residential and/or mixed use, and a household population of 2.9 persons.
6 Towards a Pedestrian Orientated Auckland CBD

This section provides a brief summary of Auckland’s current policy around a pedestrian focused city, and some of the matters that will need to be further considered as the city moves towards transit oriented design.

Auckland City Council has produced two documents which outline urban design aspirations for the city: the Citywide Urban Design Framework and the City Centre Urban Design Framework. Having specific regard to recent studies of public life in Auckland by Jan Gehl Architects, carried out on behalf of Auckland City Council, 2010, this section aims to highlight areas within these documents where it may be appropriate to expand the existing guidance in light of the changes and growth that will be facilitated by the proposed CBD Rail Link, and assist in achieving those growth aspirations outlined earlier in this report.

Pedestrian Flows

The City Wide Urban Design Framework discusses the desire to reduce the size of urban blocks, to make walking easier and improve pedestrian connections within the city. The conflict between pedestrians and roads / railway lines is acknowledged, with convenient crossing points in key locations outlined as a key objective.

The City Centre Urban Design Framework discusses the need for universal access within the central city and emphasizes equitable access for old, young, able and less able. The promotion and prioritisation of walking, cycling and public transport is also mentioned in this document.

It is considered that in addition to those matters outlined above, the following matters should be further emphasised within the future planning and urban design framework for the city and other growth areas:

- Identify key pedestrian streets. Recent studies of public life in Auckland resulted in a plan which establishes a network of city centre streets and highlights primary, secondary and fine grain walking routes (see figure 25) which should form the basis for a future pedestrian strategy.
- The Urban Design Frameworks must determine what measures need to be undertaken to achieve pedestrian priority on identified streets. Potential measures include; footpath widening, removal of obstacles within the footpath, provision of shorter waiting times at lights, creation of a consistent and high quality footpath surface, ensure pedestrian priority streets are attractive to people of all ages and abilities.
- Provide convenient and safe connections to public transport. Clear connections should be provided to pedestrian priority streets, encouraging sustainable modes of transport and discouraging reliance on the private vehicle.
- Encourage pedestrians to use main streets after business hours. Main streets should not only be used during the weekdays but also during week nights and weekend days. Land use along key streets should provide a mixture of daytime and night time uses – including retail, commercial, residential and hospitality such as café’s, restaurants and bars.
Key Pedestrian / Retail Streets

The City Wide Urban Design Framework outlines the need to deliver high quality streets and public spaces. It highlights the desire for direct, connected and appealing streets with cycling and pedestrian routes that have high levels of passive surveillance and accessibility. The framework considers that the design quality of streets should be improved to become social spaces for communities. The City Centre Urban Design Framework considers that Auckland should have a vibrant retail offering and diverse dining experience within the city centre.

Additional considerations with regard to key pedestrian / retail streets that could be addressed in these documents include:

- Create a distinct city centre street hierarchy. Recent studies of public life in Auckland resulted in a plan which highlights a clear street hierarchy within the central city – from the main street, to a waterfront esplanade, city boulevards and urban city streets (see figure 26). This plan should form the basis for a future street hierarchy aimed at the pedestrian.
- Require greater street level activation. Primary pedestrian and retail streets should have street level activation, enabling passive surveillance and creating a sense of vibrancy, improving the pedestrian environment.
- Connect key pedestrian and shopping streets. Connect pedestrian and retail streets and ensure there aren’t significant barriers (main vehicle routes / railway lines).
Building Height

The City Centre Urban Design Framework outlines the need to intensify the city centre through development of tall buildings in appropriate locations and ensuring efficient use of land. Dense and mixed use developments are promoted. The creation of a human scale environment in which buildings address the public realm is also highlighted. Creation of a distinctive skyline is also mentioned in this framework.

While it is encouraging to see that the City Centre Urban Design Framework acknowledges the need for increased density and intensification in the city, consideration should also be given to building heights:

- Identify areas where additional height would be acceptable / beneficial within the city centre. Investigate and determine how this additional height would be dealt with from a greound level perspective (human scale); how will issues such as overshadowing will be addressed; and whether an continuous scale that should be promoted for streets / buildings?
- Determine how the skyline should be protected and what cultural / aesthetic contribution buildings should make to the skyline.

Intimate Public Spaces

The City Wide Urban Design Framework outlines the need to provide attractive public open spaces in the city, to compensate for a reduced provision of private open space as intensification of residential developments occurs in the central city. The City Centre Urban Design Framework encourages a network of streets, lanes and public spaces and the creation of events and places for
people to meet and mingle within the central city. Notwithstanding, additional considerations with regard to public spaces may include:

- Determine how and where key pedestrian streets and public spaces can be linked. Provide places to meet mingle, stop and reflect along main pedestrian routes.
- Ensure public spaces are provided in close proximity to dense residential developments.

**Street Furniture / Lighting**

Neither the City Wide nor the City Centre Urban Design Frameworks discuss street furniture or lighting within Auckland. Studies carried out by Jan Gehl Architects on behalf of Auckland City Council found that the central city provides sufficient opportunities for sitting in the inner city (measured through provision of public benches). It is considered that additional considerations with regard to street furniture and lighting need to be acknowledged and addressed in the urban design framework documents.

- Ensure sufficient lighting is provided in streets / laneways. Ensure lighting is provided in central areas to encourage walking after dark, activating city streets and promoting walking as a safe mode of transit in the city centre.

**Parking**

It is considered that there are significant gaps in the urban design frameworks in relation to parking matters. Studies by Jan Gehl Architects found that there is extensive provision of inner city parking compared with other cities. Additional considerations with regard to parking provision in the central city need to be acknowledged and addressed in the urban design framework documents.

- Reduce public parking within the inner city and encourage more sustainable modes of transit, such as rail and bus.
- Place inner city parking, where required, underground, and maximize efficiency of land use.
- Provide for people to be able to live, work and play in close proximity, reducing vehicle reliance.

**Connections to Surrounding Neighbourhoods**

Neither the City Wide nor City Centre Urban Design Framework discuss connections to surrounding neighbourhoods. Additional considerations with regard to neighbourhood connections need to be acknowledged and addressed within Council policy, including:

- Expansion the public transport system.
- Reduction of walking distances between public transit stops and key destinations.
- Creation of safe, easy connections between bus, train and ferry systems.
- Provide public transit connections in an east-west direction as well as the predominant north-south connections.
Figure 27: Improved city connections, Jan Gehl Auckland City Council Presentation 2010.
Attachment A – Indicative Development Typologies for CBD Rail Link Station Locations
This Attachment has not been included as it identifies specific re-development sites used for illustrative purposes in the Development of the CBD Rail Link Business Case, but which have not been subject to consultation with landowners.
Attachment B – Suburban TOD Location Assessment Matrix
## Suburban TOD Location Assessment Matrix

<table>
<thead>
<tr>
<th></th>
<th>Eastern Line</th>
<th>Southern Line</th>
<th>Western Line</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Orakei</td>
<td>Meadowbank</td>
<td>Glen Innes</td>
</tr>
<tr>
<td>Recognised zoning / growth strategy potential for the area to intensify residential growth</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Existing facilities within the area, e.g. schools, parks, public amenities</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Existing lot sizes provide for development potential</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Minimal built character / heritage constraints</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Minimal topographical or geological constraints</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Potential for environment / landscape to absorb change</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Potential offered through land ownership patterns</td>
<td>2</td>
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<td>3</td>
</tr>
<tr>
<td>Remaining development capacity within built environment</td>
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<td>2</td>
</tr>
<tr>
<td>Vacant land available (including car parking)</td>
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<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>11</td>
<td>23</td>
</tr>
</tbody>
</table>
Attachment C – Land Use and Height Studies for Newton and K Road Station Locations