

whangarei 20/20 plus  
analysis

02 Analysis

## URBAN FORM AND STRUCTURE

Whangarei was never a planned city. Rather, it grew in response to various uncoordinated factors. In order to better understand the fundamental issues affecting the city centre, the team investigated the underlying foundation of the urban form of Whangarei by using "figure ground" (street, open space and block arrangements) comparison between major global cities; London, New York, Copenhagen, Los Angeles and Amsterdam. This comparison reveals urban structure of cities in terms of block size, configuration, street density, orientation and hierarchy.



Whangarei, NZ

In comparison, the study of Whangarei CBD reveals a number of weak urban forms:

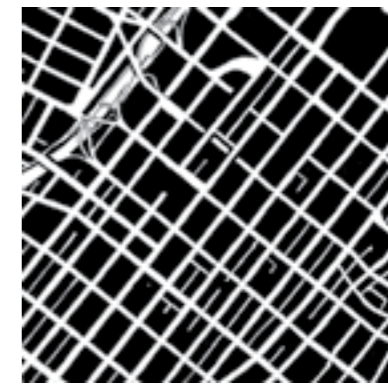
- Relatively few streets
- Large block sizes - sizes similar to that of Los Angeles - less pedestrian friendly
- Poor water connection - water edge blocked off by buildings
- Poor street hierarchy - all streets seem the same width,
- Poor connections - streets don't join up well
- Poor open space provision



New York City, USA



Copenhagen, Denmark



Los Angeles, USA



London, UK



Amsterdam, The Netherlands

## REGIONAL CITIES COMPARISON

Nationally Whangarei is comparable to other regional cities of similar size. The key findings of a same scale comparison are:

- Less diverse landuse in CBD
- Less open spaces in CBD
- Lower streetscape amenity and fewer new public facilities



Whangarei CBD  
City pop. 47,000 (2001)  
District area pop. 68,000 (2001)

- KEY
- New facility
  - Street upgrade



Hastings CBD



Tauranga CBD



Gisborne CBD



New Plymouth CBD



Rotorua CBD



Napier CBD

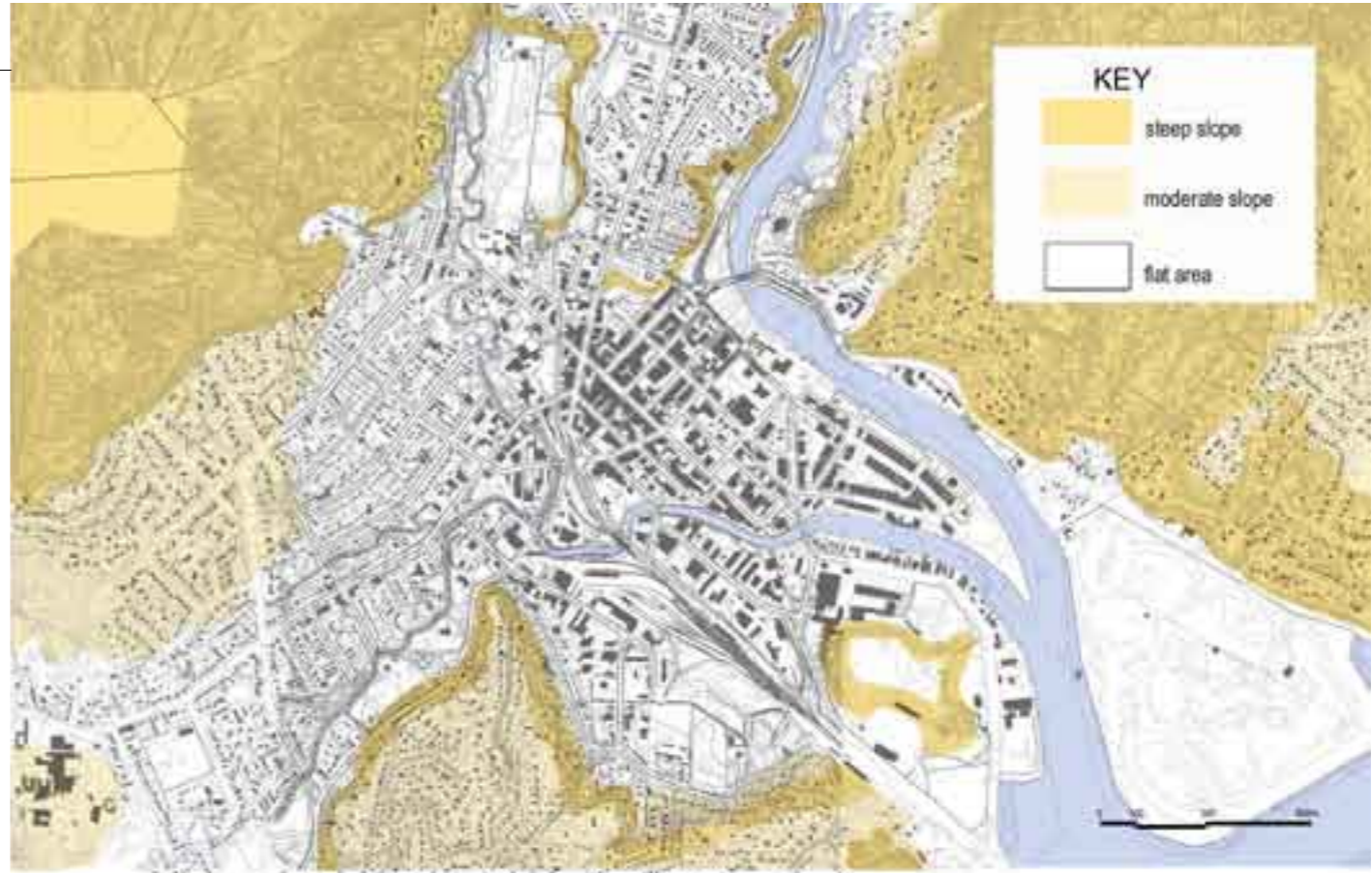
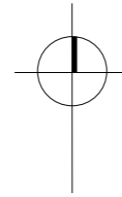


## TOPOGRAPHY

Mapped from 2m contours the plan reveals a strong topographical character to the city.

- Two steep hills to east and west are dominant
- The city form appears to be squeezed between the hills
- The CBD lies on a largely reclaimed peninsula that branches out from a narrow valley strip running north south.

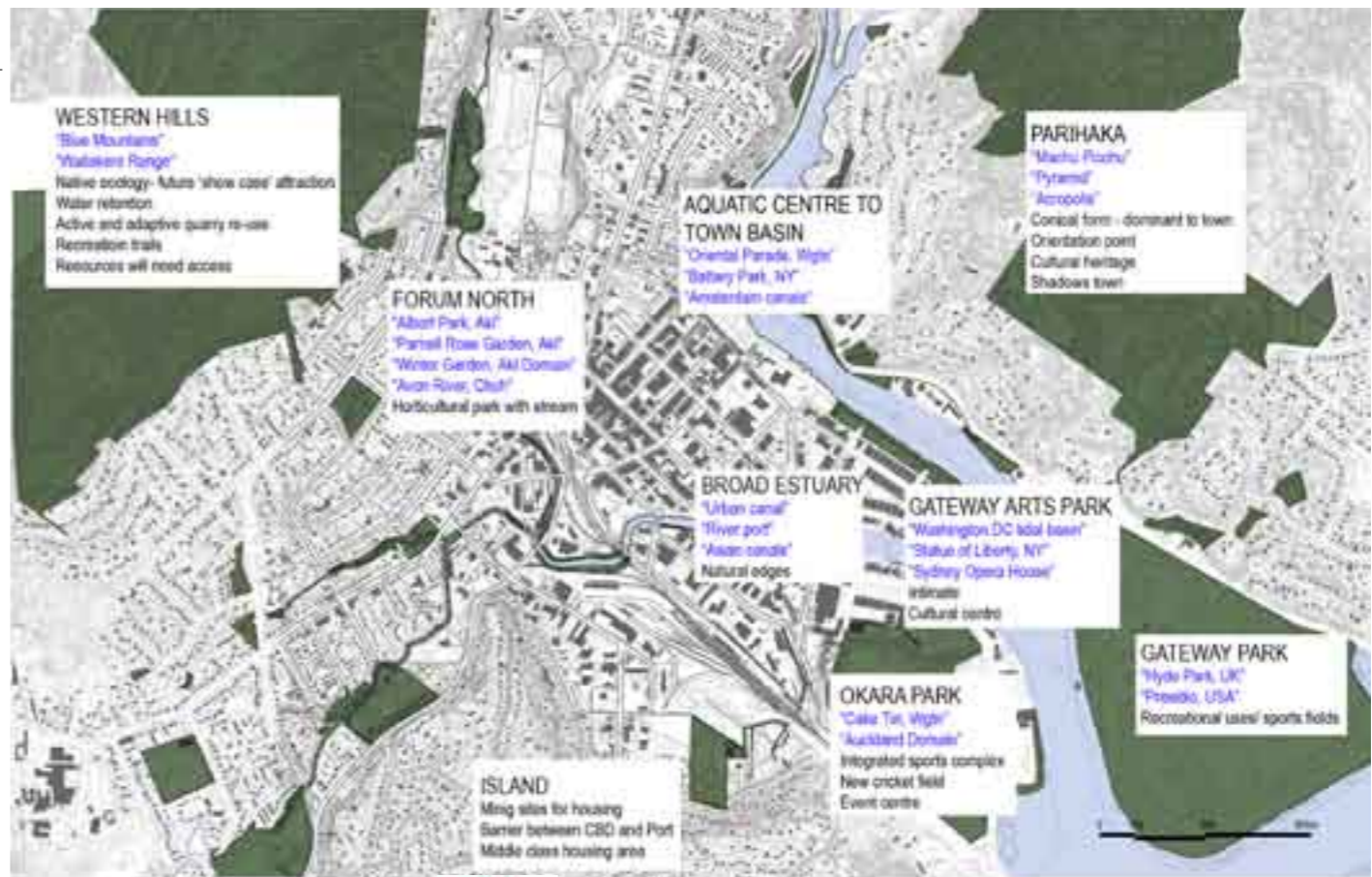
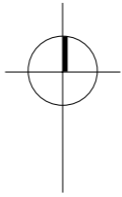
This unique topography provides strong character to the identity of Whangarei City. The hills not only enframe but provide visual backdrop and physical landmarks. The narrow piece of flat land allows intimate compact city development as seen in Wellington, however, at the same time, it may constrain growing patterns of the city. This modified and often reclaimed area of CBD also creates technical building considerations and potential flood risk. Hence some of the earlier buildings sought to develop on the slightly elevated area of Bank Street away from the waters edge.



## TYOLOGY

A typology identification exercise was carried out that listed some of the main sites identified around Whangarei, together with places that share similar characteristics from New Zealand and around the globe. This qualitative exercise maps out types and associations which can more clearly identify characteristics, associations and development scenarios.

The strength of the surrounding hills were associated with dramatic icons such as Sydney's "blue mountains" to the west and the "Greek Acropolis" to the east. Inner city open spaces were divided into two categories, those of large scale sports areas (recalling "Auckland Domain") and the river edge (which drew comparisons to Christchurch's "Avon River" and Amsterdam's canals). The frequency and strength of these typological associations underlines Whangarei's outstanding potential.

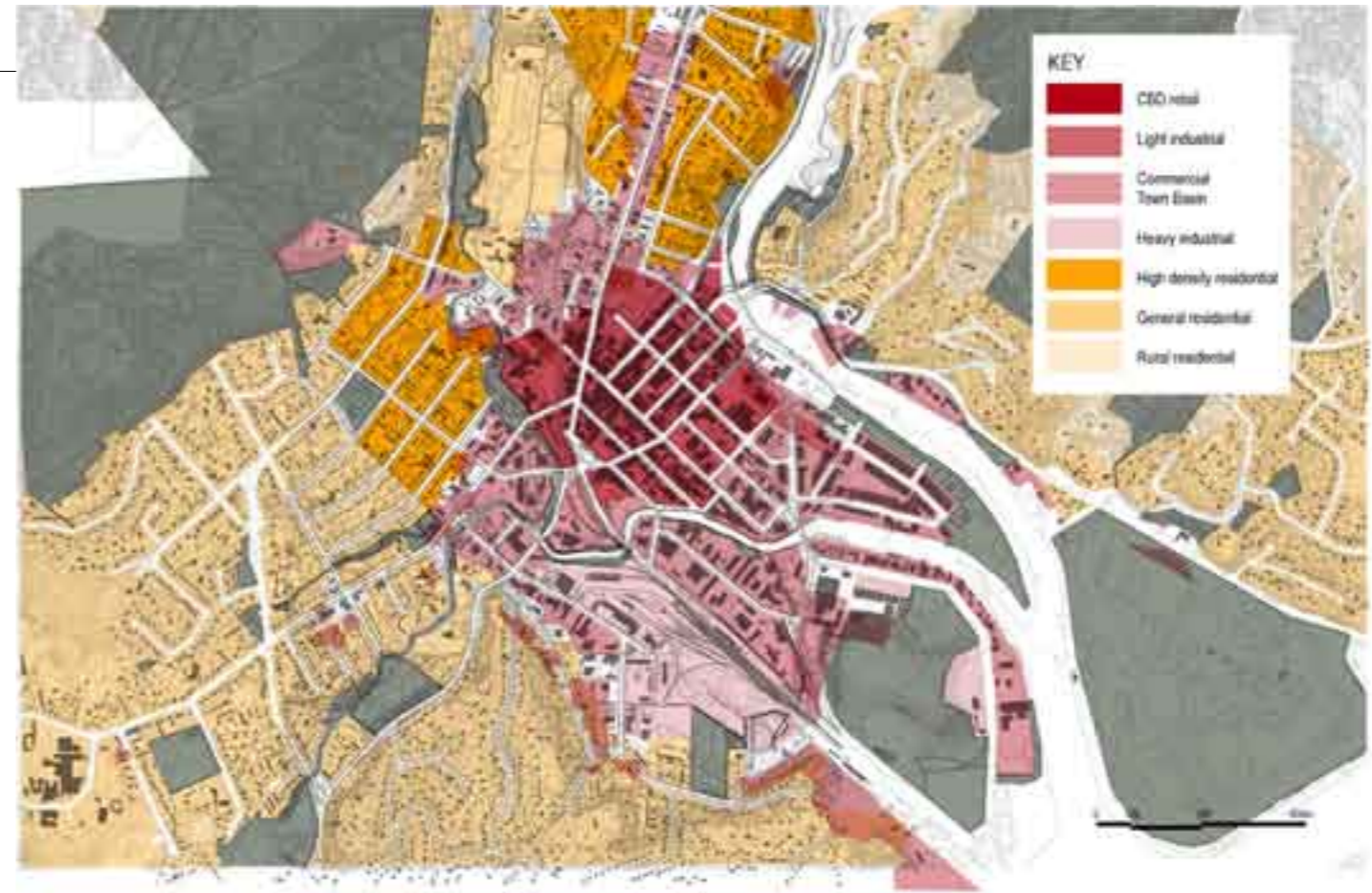




## LANDUSE

Current landuse, as defined by the controlling Whangarei District Plan, shows distinct landuse segregation of business, retail, commercial and light industrial concentration in the CBD and residential uses in outer Whangarei. This layout of landuse displays the classic urban pattern of the "Doughnut Phenomenon". This is characteristic of conventional suburban development that relies on private car transportation. Consequences apart from commuter congestion are an empty CBD core after hours and weekends that restrict economic activity and create safety issues.

It is of significance that the extent of the light commercial (car yards, panel beaters, timber yards and warehouses) is large for the city's population and shows the importance of the regional service the area provides.



## CHARACTER

Another sieving exercise was related to the identification of precincts. Good urban centres often display a range of strong precincts, which are well-defined urban areas that share common themes such as a Maritime area or a Chinatown.

The analysis of existing patterns reveals weaknesses in this area with several small and disjointed marine areas bordering parts of the river, behind which there is a large low rise light commercial area and the discrete downtown area of small shops and offices of usually two-storeys. Historic precincts or ethnic areas are absent.





## OPEN SPACES

Open space analysis was conducted by mapping out existing open spaces in 9 classifications as per the Whangarei District Plan.

The analysis reveals overall a weak provision, especially in the centre:

- Strong framing of the city by large native forest in east and west sides and a distinct river corridor framing CBD
- Fragmentation of green / open spaces
- Very few useable green spaces apparent within the CBD
- Lack of a variety of open spaces in CBD- from wild areas to playgrounds to plazas
- Weak and discontinuous stream edge green, especially along Raumanga Stream

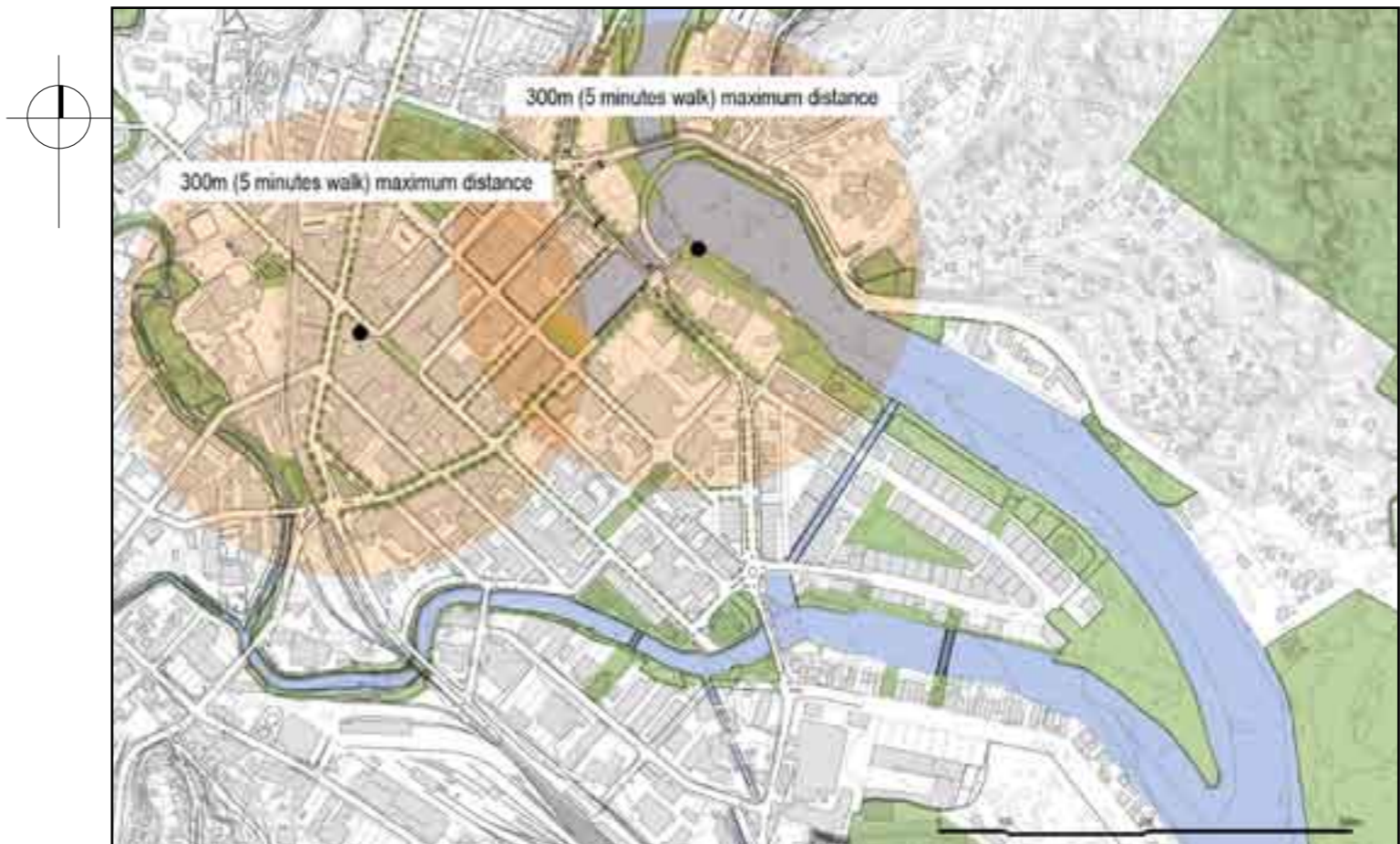
Ideally, as densities increase there should be greater provision and access to public open space and increased quality.



## CBD WALKING DISTANCES

A five minute walking distance for an average person is roughly 300-400m. This distance is an indication of how far people might travel on foot before considering getting into a car and driving. The distance is plotted out on the CBD map to understand how far people might be willing to walk from the Town Basin and to the Cameron Street Mall in the heart of the traditional CBD retail area.

The analysis reveals that the greater Whangarei CBD is too large in area to consider as one walkable precinct. In order to create a pedestrian connected environment, there is a need to concentrate downtown activities into one area, or a series of intermediary areas containing different characters, destinations and functions and/or better connections.





## BUILDING TYPOLOGY

The building fabric is characteristically simple and functional. The compact core of pre 1960's buildings around Bank Street features small retail shops and larger institutional buildings.

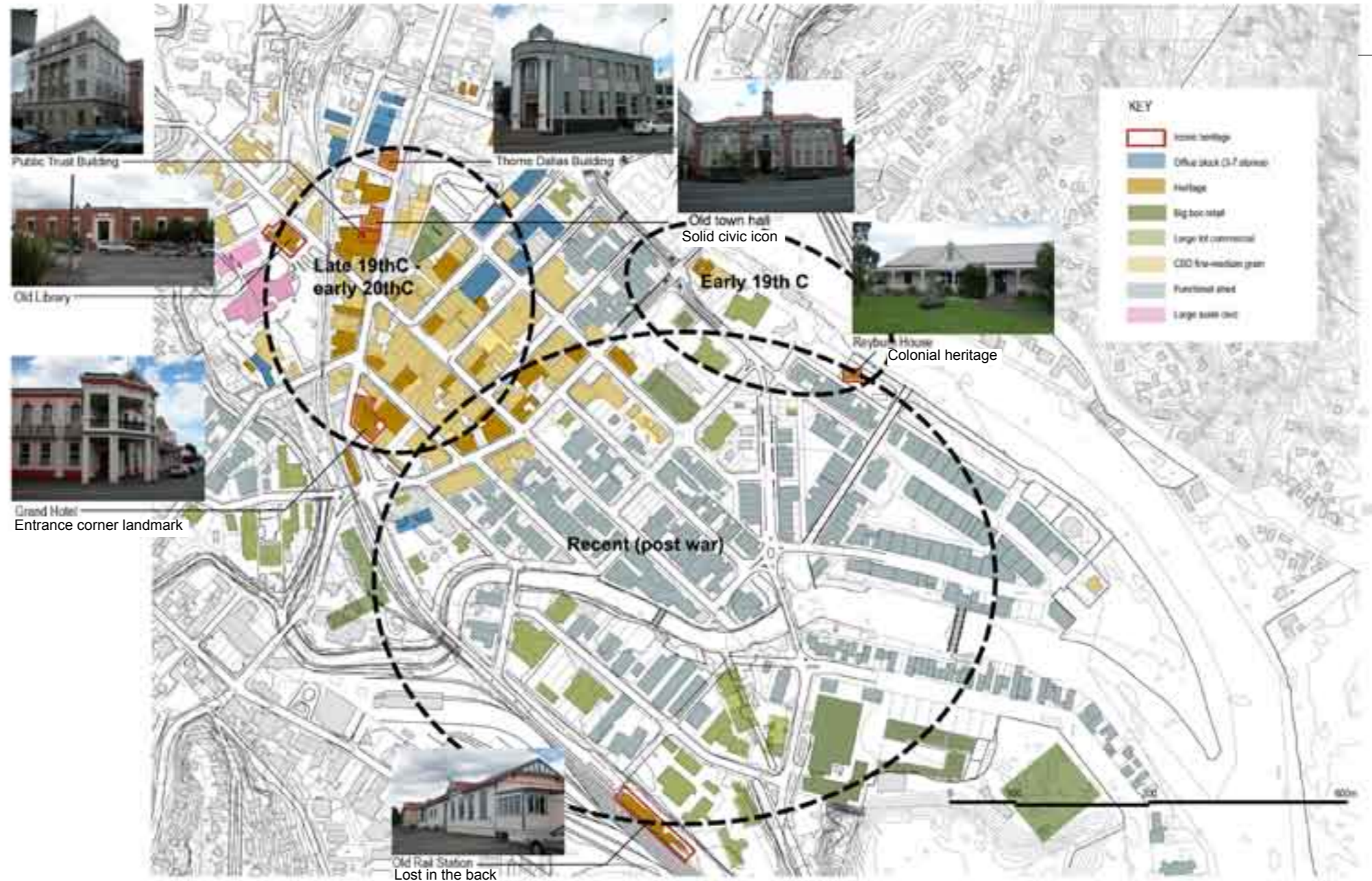
Other features of the building stock are:

- Few listed heritage buildings
- Few buildings above three stories
- Large extent of low-rise commercial 'functional' sheds
- Cross section of styles - eclectic character

In general there are three distinct areas of building development that have emerged over the last 150 years:

- An early focus on the Hatea River edge in the 19th Century
- Later development on an elevated ridge nearby creating a town centre
- Post war development of reclaimed flat lands alongside the rivers for light commercial use

In terms of changing buildings use, redevelopment of larger buildings is evident though few are extending to residential conversion. Low cost functional shed types can be flexibly rearranged in the short term or removed.



Office blocks



Heritage



Big box retail



Large lot commercial



CBD fine-med grain



Functional sheds



Large scale civic



## LAND OWNERSHIP

The map of current public-owned land reveals that a large portion of CBD Whangarei is owned by Whangarei District Council (WDC) and Northland Regional Council (NRC). This land ownership of Whangarei CBD provides a possibility for Council led initiatives or joint development ventures within the private sector, which will act as a catalyst. Close relationship between WDC and NRC will be important for integrated development of the area.



## CONCEPT “Green Necklace”

Two central themes appear to emerge from the analysis -the green necklace (or the “Emerald Necklace” after the Boston example) and the CBD as the gathering area for the wider region.

The CBD core will be the point where green fingers of the necklace culminate, where people meet and where activity should happen. It will also be a base of culture, information, entertainment and services to greater Whangarei city and Northland region.

The green necklace provides for continuous public pedestrian access along the rivers edge connecting the harbour back to the surrounding hills. The rivers edge will feature pathways, boardwalks and redeveloped parks with enhanced plantings.





## MOVEMENT - PRINCIPLES

The Whangarei traffic network is currently operating under significant pressure at peak times. The Whangarei Refined Transport Deficiency Assessment (2001-2021) carried out by Gabites Porter Consultants points out that the population within the district is expected to grow from 67,959 in 2001, to 74,488 in 2011, and 79,347 by 2021. Employment within the city is expected to grow from 21,719 in 2001, to 23,775 in 2011, and 25,334 by 2021. Likewise, the number of cars is expected to grow from 36,408 in 2001, to 41,285 in 2011 and 45,219 by 2021. The report anticipates all factors combining to increase traffic volumes at a much greater rate and calls for Council to urgently address a number of identified deficiencies.

An integrated approach to land transport funding and management in a manner that improves the long-term planning and investment in land transport is sought. As such, the existing form and function of the Whangarei transportation system needs to be updated to reflect the new statutory provisions by improving the poor passenger transport services and providing for cyclists and pedestrians in a way that will help reduce reliance on car transport.

Two basic principles of providing accessibility and connectivity for all residents remain integral to achieving a sustainable system. As a whole, the updated system for Whangarei cannot and should not rely on movement by private car, but needs to optimise movement opportunities that include options to travel by bus, rail, shuttle, ferry, water taxi, cycle and foot. Improving the connections between road, cycle, pedestrian and passenger transport is central to the aim of giving residents access to a variety of modes of transport that will improve their access to jobs and services while also reducing environmental costs.

Key strategies for further consideration include:

1. Plan for a simple, well connected transport network
2. Improve access to efficient and useful passenger transport services, and ensure they serve their catchments and destinations efficiently
3. Provide for residents to choose alternate transport modes
4. Upgrade the road network to improve logical connections and provide certainty for new roading routes and alignments
5. Balance transport efficiency with streetscape quality, pedestrian safety and comfort
6. Manage and develop carparking to ensure a convenient availability for shoppers and visitors near their destinations, with commuter parking located close to the arterial ring road.

Overall a holistic approach is required to transportation planning in the district in a manner that will assist in enabling the objectives and vision of Whangarei 20/20 Plus to be realised, while also providing for the future sustainability of transportation in the city

### THE DEFINITION OF STREETS

Street hierarchy is particularly lacking and required in Whangarei. Four principal levels of street hierarchy can be set in providing for an upgrade of the transport network. In so doing, the system should provide for a variety of users and should be designed as passages of movement rather than as physical barriers within the city.

In implementing an improved system, the sequence of network deficiency treatment projects is crucial to increasing capacity evenly across the network over time and to reducing the risk of moving bottlenecks to different parts of the city. Proper programming also allows Council time to budget for the improvements. As a whole, the future transportation system of Whangarei will provide multi-modal travel choice and be developed to include convenient options for access to passenger transport, cycling and walking facilities so that an integrated and sustainable movement and transport solution is achieved.

The efficient movement of people to and from the central area by car needs to be supported by the ability to find a convenient parking space. It is therefore important that carparking resources be distributed across the central and fringe areas, and that a sufficient supply is provided to meet future demands. To this end, improved carparking resources are to be established within and across the central and fringe areas. Strategically, parking resources within the ring road are planned to be managed in the form of controlled parking for short-stay shoppers and visitors, while provisions for commuters are planned in close proximity to the ring road to facilitate easy access to and from the central area without compromising the short-stay supply.

As a key element in supporting a sustainable transport system, the existing bus facilities in Rose Street are planned to be expanded as a modern transport centre that provides the main Whangarei hub for arriving and departing buses. This established location remains as the preferred location since it includes the fundamental requirements of being readily accessible from the ring road and wider arterial network, as well as being close to the destinations and attractions of the central area.



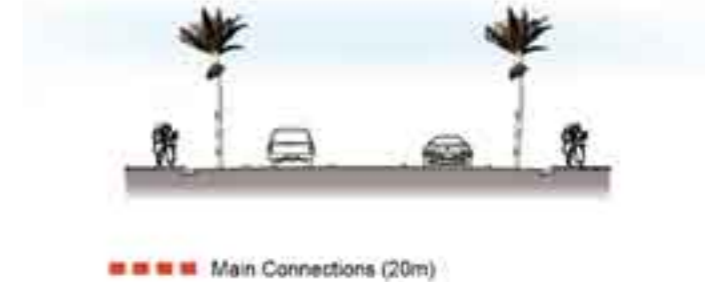
- Strategic Corridors (highways)
  - provide for through-traffic travel high speed with
  - high supporting safety characteristics
  - multi-lane where needed
  - wide corridor
  - integrated transit routes
  - separate cycling and walking routes



- Primary Routes (arterial)
  - provide uncongested movement along major desire lines.
  - medium speed
  - include cycle, pedestrian and transit facilities
  - limited property access



- Arterial Ring Road (CBD ring)
  - separates through-traffic from CBD traffic
  - provides good access to CBD
  - provides good connections to parking facilities
  - connects with primary routes to wider city
  - includes cycle, pedestrian and transit facilities



- Main Connections (collector roads)
  - purpose to connect local streets with arterials
  - generally 50km/h speeds
  - corridor to provide efficient two-way movement
  - housing and commercial can front both sides, subject to good access
  - provide good pedestrian and cycle facilities



## MOVEMENT - ANALYSIS

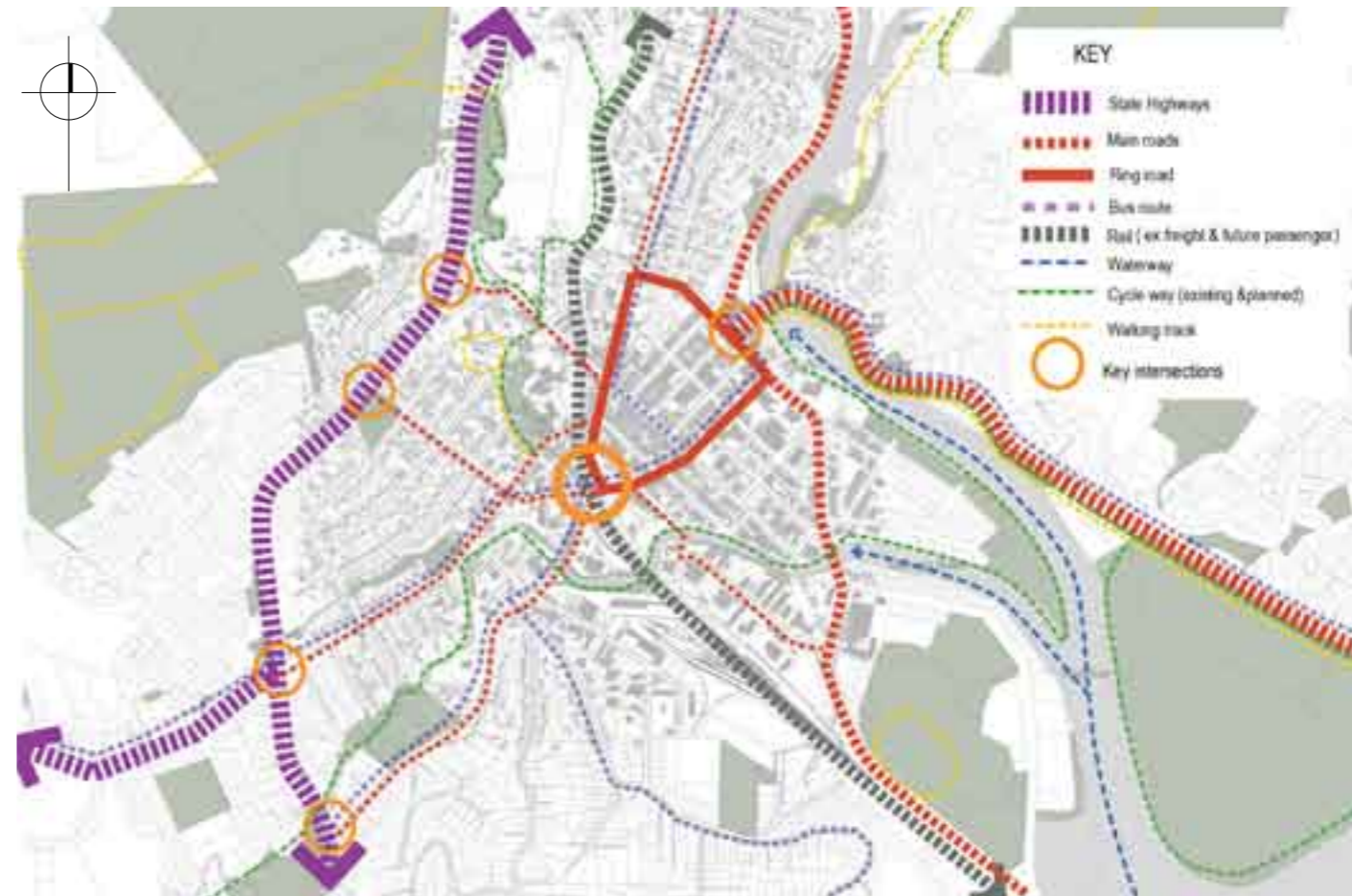
### EXISTING

Movement analysis is conducted by mapping out major vehicle routes, bus routes, waterways, cycling and walking tracks. It reveals:

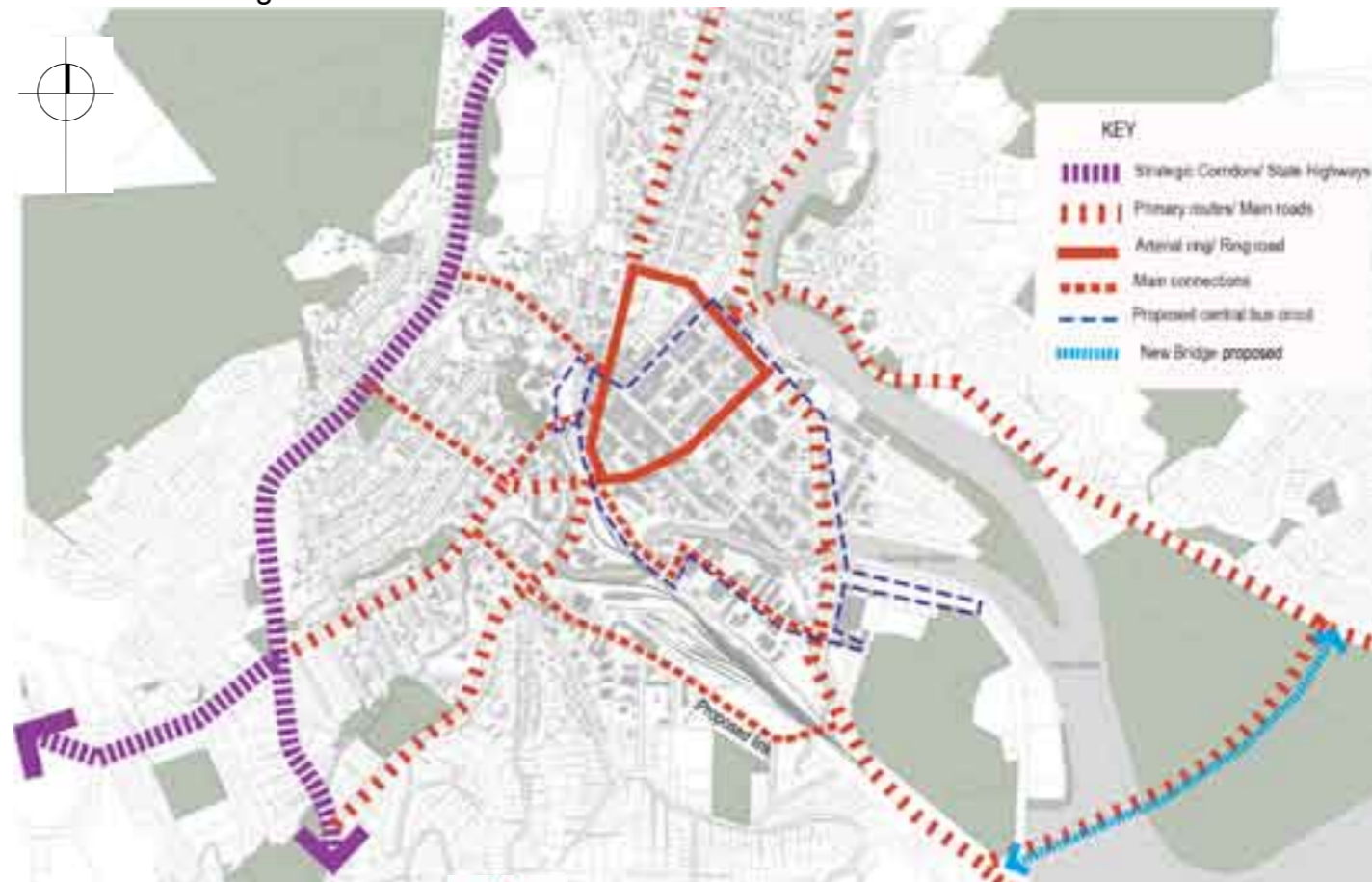
- Two major vehicular routes (SH1, SH14) leading to and from Whangarei
- SH1 runs tangential to and bypasses the CBD
- Weak connection between major north-south routes
- Weak entry from SH1 to CBD
- Weak connection from the airport to SH1
- Main roads converge at the northern and southern ends of the CBD
- East-west connections limited by physical barrier of railway

### OPPORTUNITY

- Second harbour crossing bridge identified as a required element of the future road network
- 4 distinct roading forms to street hierarchy to improve legibility
- Avoid one-way roads to improve accessibility and connectivity
- Bypass route from airport via second harbour crossing bridge through rail side to SH1
- Retain arterial ring road in CBD
- Locate key parking facilities close to arterial ring
- 4km central bus circuit loop, providing public transport opportunities every 15-20 minutes within CBD
- Alternative public transport modes (water taxi, tram etc) need to be considered for pedestrian oriented CBD with less car traffic



All modes existing

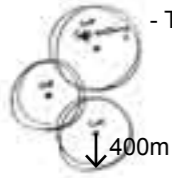


Proposed vehicle modes



## DEVELOPMENT SCENARIOS

Given the urban context several development models were considered as appropriate guides to follow:



**- The cell model**

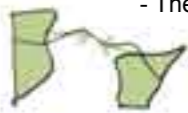
Development based on creation of a series of optimally self-sustaining cells. Each cell is a cluster of mixed activities and landuse, scaled to walking distance (around 300 to 400m metres) to function as a community neighbourhood.

These cells are often conceived as precincts and feature a pedestrian friendly size, specific characteristics, core facilities and hierarchy of movement linkages.



**- The nodal extension model**

Develop base nodes outwards to connect with other nodes. Original 20/20 took this approach, focusing on Town Basin and Cameron Street Mall as base nodes. The scenario under these terms is to rollout connections and renovate blocks to connect the separated entities. Maintaining the dominance of the established core.



**- The open space and road network model**

Program led by focusing on development of open space network. Roading corridors and intersections are upgraded, there is creation of new open spaces to form a network of highly visible public development to set the high standards and to work as catalysts for adjacent private development.

In order to address issues in a balanced manner, a combination of all three development models is introduced as the basis for development of a framework plan.

## DEVELOPMENT DEVICES

Surveying successful CBD development projects internationally, a recurrent feature common to most was the proactive use of a series of devices to stimulate integrated redevelopment. These devices are categorised below and made into an inventory in the adjacent table:

**- Destinations/ iconic facilities**

Attraction as well as to act as catalysis for further development. Examples are libraries and museums such as the Bilbao Guggenheim Museum in Northern Spain.

**- Inner city parks**

Introducing or renovating central green areas to provide amenity for residents and focus for surrounding development. The Piccadilly Gardens in central Manchester is such an example stimulating markets, cafes and new retail around it.

**- Waterfronts**

The attraction of public access to the water is central in many major redevelopments of previously industrial land. Wide promenades artworks and gathering spaces feature in projects like New York's Battery Park.

**- Extending Mix of Land Use**

The promotion of inner city living has been the stimulus to new commercial opportunities, extended trading hours and less crime. The Temple Bar district in Dublin with its vibrant mix and evening economy is a recently developed example.

**- Events**

An annual calendar of events festivals and celebrations with a strong marketing strategy relating to local setting, produce and lifestyle.



City Centre Park



Iconic Building in Key location



Waterfront development



Waterfront promenades

	Facility Area (Footprint)	Parking Demand	Tourist or Local Destination	Precinct/Adj Land Use	Transit Linkage	Day Or Night Use	Benchmark Or Precedent	Youth/Visitor Attraction
Arts Campus	Multi Block Fac (small bldgs)	Yes - 20-50	Local	Gallery Dining	Yes	Both (esp day)	Anderson Ranch	Youth and Visitor
Marine Museum	Large	Yes Lots 150+	Tourist Local	Hotel Entert Dining	Yes	Day Or Night Use		Youth and Visitor
Art Gallery	Small-Med	Yes 12+				Day Or Night Use	Puke Ariki Museum- New Plymouth	Visitor
3-4 Star Hotel	Large	Yes (garage)	Tourist	Retail Entert/Dining Spa Visitor Info	Yes (empl)	Both	Devonport Hotel-Tauranga	Visitor
Parking Building	Large	200+	Both	CBD magnets Good road + signage	Yes	Both		Visitor
Arts Centre	Med	25-100	Local	Civic Parks		Day		Youth
Youth Facility	Small-Med		Local some visitor		Yes	Day; some evening	Naper Youth Website	Youth
Central Park Space	1/2 block minimum		Local	Office, Retail, Shopping, CBD attractions				
Retirement Village			Local	Health Care, Shopping	Yes			
Theatre		Yes Lots 150+	Local		Yes			
Higher Educational Campus		Yes Lots 150+	Local		Yes			
Multi-use Day-Night Sports Facility			Local and visitor		Yes			
Market		Yes 75+ (use existing on-street supply)	Local some visitor				Avondale	
Band Shell/Pavilion	500 seat capacity		Local and visitor		Yes	Both	Sound Shell (Rotorua)	
Conference Facility	500 sq metre	use existing on-street supply		hotels, restaurants, retail			Rotorua Civic Theatre/Convention	

Inventory of Facilities and Their Association