

2 Auckland city today

2.1 Where we are now

This chapter examines key aspects of Auckland city, and what they mean in terms of planning for the city's future. It describes the significant challenges Auckland city faces, but also its many unique cultural, economic, and environmental attributes. There is great opportunity to build on and leverage these in planning for a great future for Auckland city.

Most of the information comes from research that has been carried out in preparation for this future planning framework and summarises the research findings. This research, and what it has told us about Auckland city today, has been used to develop the citywide spatial framework and 10 area plans.

Copies of the full research reports are available online at www.itsmybackyard.co.nz

2.2 Auckland city's location

The Auckland region is one of 16 regions in New Zealand but is home to over one third of the national population (approximately 1.3 million people). The Auckland region has a much higher population relative to the national population than neighbouring cities such as Sydney (which is home to 22 per cent of Australia's population). It covers a total area of 6000 km² and is governed by one regional council, four city councils and three district councils.

Auckland city refers to the area governed by Auckland City Council. It is the largest city in the region and the country, with a population of just over 400,000 people. The next largest cities in the region in terms of their population, are Manukau and North Shore.

Auckland city has a distinctive natural heritage, being located on a narrow isthmus flanked by the Manukau Harbour to the south and the Waitematā Harbour to the north and east. Numerous inhabited and uninhabited islands are located in the Hauraki Gulf, some of which were formed from volcanic activity. The city also boasts a number of volcanoes.

The Auckland region has New Zealand's largest international airport that sees the most arrivals to, and departures from, the country, as well as many transit passengers. Seventy per cent of all international arrivals to the country come through Auckland Airport.

The region has connections to 160 other ports and is a hub for 4 million tonnes of cargo. It is the principal logistics centre for 40 per cent of New Zealand's exports through its air and sea ports.

The Auckland region is socially and culturally diverse. In Māori, Auckland is known as Tāmaki Makaurau, or by its transliterated name of Akarana. Of New Zealand's new migrants, 70 per cent settle in the region, with one-third of all people who call Auckland home born overseas.



Figure 5: Map of the Auckland Region

2.3 Auckland city's historic urban landscape

To gain a clearer picture of how Auckland city could best manage its natural and cultural heritage, a review of methods of identifying, recognising and purposefully preserving heritage by other international cities was undertaken.

The approach taken by the council as expressed below represents a combination of our current approach as expressed in the current district plan with international best practice, primarily from the United Kingdom and Australia.

The historic urban landscape reflects the roots of our society and records its natural and cultural evolution. The historic environment helps define a sense of place and provides a context for daily life. Its appreciation and purposeful preservation helps foster the distinctiveness of Auckland city.

It is the combination of the natural, built, historic and cultural, and community values that structures our understanding of the historic urban landscape.

This is demonstrated in the following diagram:

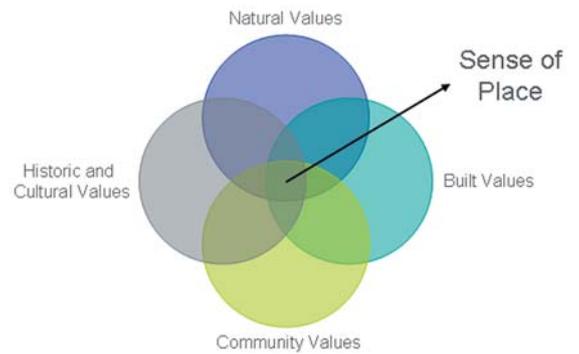


Figure 6: Sense of place

The following elements make up the historic urban landscape:

- iconic natural or cultural features, eg Tāmaki cliff edge, volcanic landscape, pa sites, Ponsonby post office
- groups of iconic features, eg the grouping of the Domain, Auckland Museum, Wintergardens and Cenotaph
- areas of residential heritage and adjoining town centres that exhibit characteristics of the various eras in Auckland's growth, eg areas in Balmoral, Grey Lynn, Onehunga, Mt Eden, Otāhuhu.

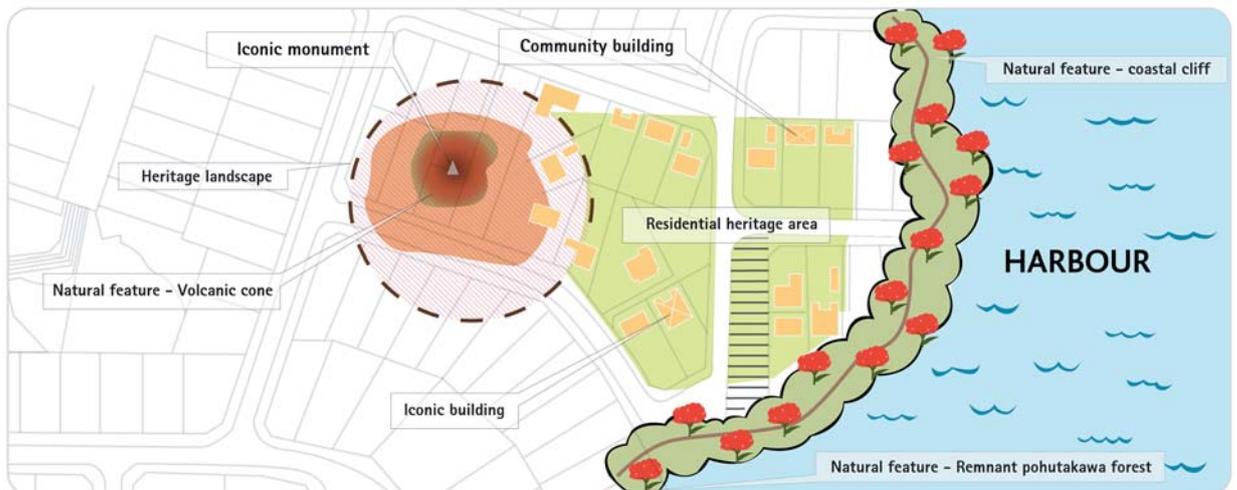


Figure 7 Historic urban landscape components (see 6.5 Appendix E for map legends).

The following section focuses on cultural heritage (built, archaeology, Māori, landscape) values and natural heritage (ecology, trees and geology).

What are the elements that have contributed to the heritage values of our city?

The Auckland isthmus is a unique and complex combination of landform features and settlement patterns.

A rich geological and geomorphological history underpins the isthmus landscape. A complex arrangement of the interaction of landforms, waterbodies and volcanic features has developed over the last 140,000 years.

The volcanic features of the isthmus have been used for a range of cultural purposes by both tangata whenua and later settlers.

These varied uses and associations have left a highly visible cultural legacy on our volcanic landscape. Combined with the Manukau and Waitematā harbours, the volcanic landscape significantly contributes to Auckland city's distinctive historic urban landscape. These aspects of Auckland city are highly valued in the contribution they make not only to our understanding of the past but also in our recreation and lifestyle choices as well as the unique character value they add to our sense of place.

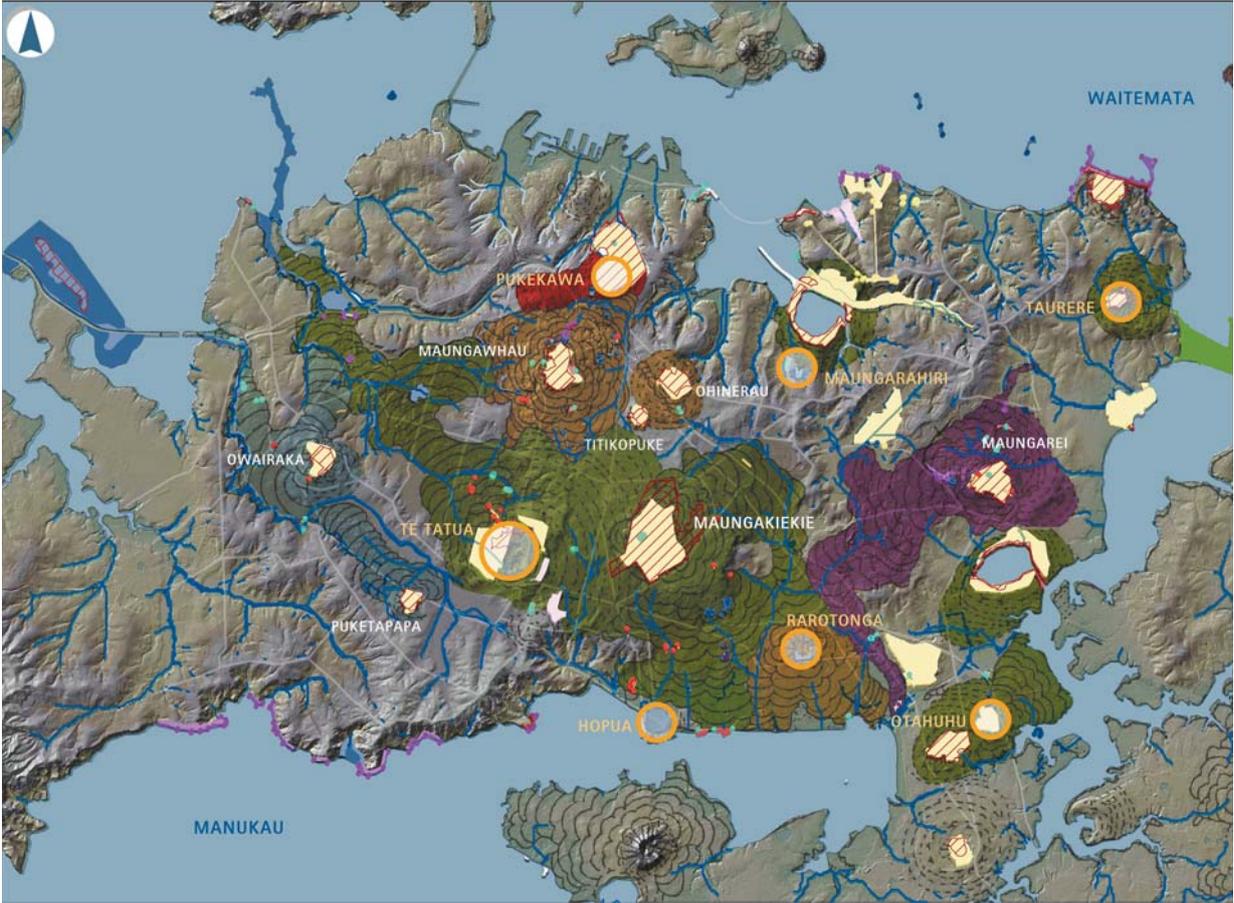


Figure 8 Land and water

2.3.1 Natural heritage values

Auckland city's unique natural heritage is of primary value within our historic urban landscape. Due to its volcanic nature the city has rare ground water systems and drainage patterns which continue to have important cultural and environmental values. Few of the city's open streams remain, and of those that do, many have limited catchments and are in poor condition.

The council has identified eight eco-zones and analysed these to better understand what is remaining of our indigenous ecosystems. There has been a dramatic demise in natural habitats with the isthmus' development into a major city. It is estimated that only 6.3 per cent of the original vegetation cover of the isthmus remains. The council has identified opportunities for further identification, enhancement and restoration of areas of natural heritage value.

Green links

There are opportunities to create integrated ecological linkages through council and privately owned land in order to support biodiversity by increasing areas of natural habitat and linkages between them. Opportunities also exist to provide linkages and habitat refuges through the network of street trees within the city.

Similar opportunities exist along the coastline with its potential to link directly with interior freshwater drainage systems. Some of the benefits of increased green linkages include increased public access to ecological sites, improved systems.

Some of the benefits of increased green linkages include increased public access to ecological sites, improved water quality, restored legibility of the city's volcanic heritage, and improved neighbourhood values with increased habitats for native wildlife. Existing and possible future green links are shown in section 3.5.

2.3.2 Cultural heritage values

The historic urban landscape is a major source of information about our ancestors, the evolution of our society and the characteristics of past environments. Māori heritage sites, archaeology and historic buildings and objects make a major contribution to the aesthetic quality of townscapes and landscapes. The historic urban environment can make a significant contribution to economic development by encouraging tourism. Also, more generally, it supports viable communities by creating good environments where people will prefer to live and work because of a rich sense of place. Longer-lived buildings usually make better use of energy and resources that were used during their construction, and adaptive reuse is usually more economic than demolition and redevelopment. Purposeful preservation is inherently sustainable. The historic urban environment plays a significant role in providing for people's recreation and enjoyment. By incorporating the past and its remains in the present as vital parts of people's everyday life and experiences its continued presence in the future is better safe guarded.

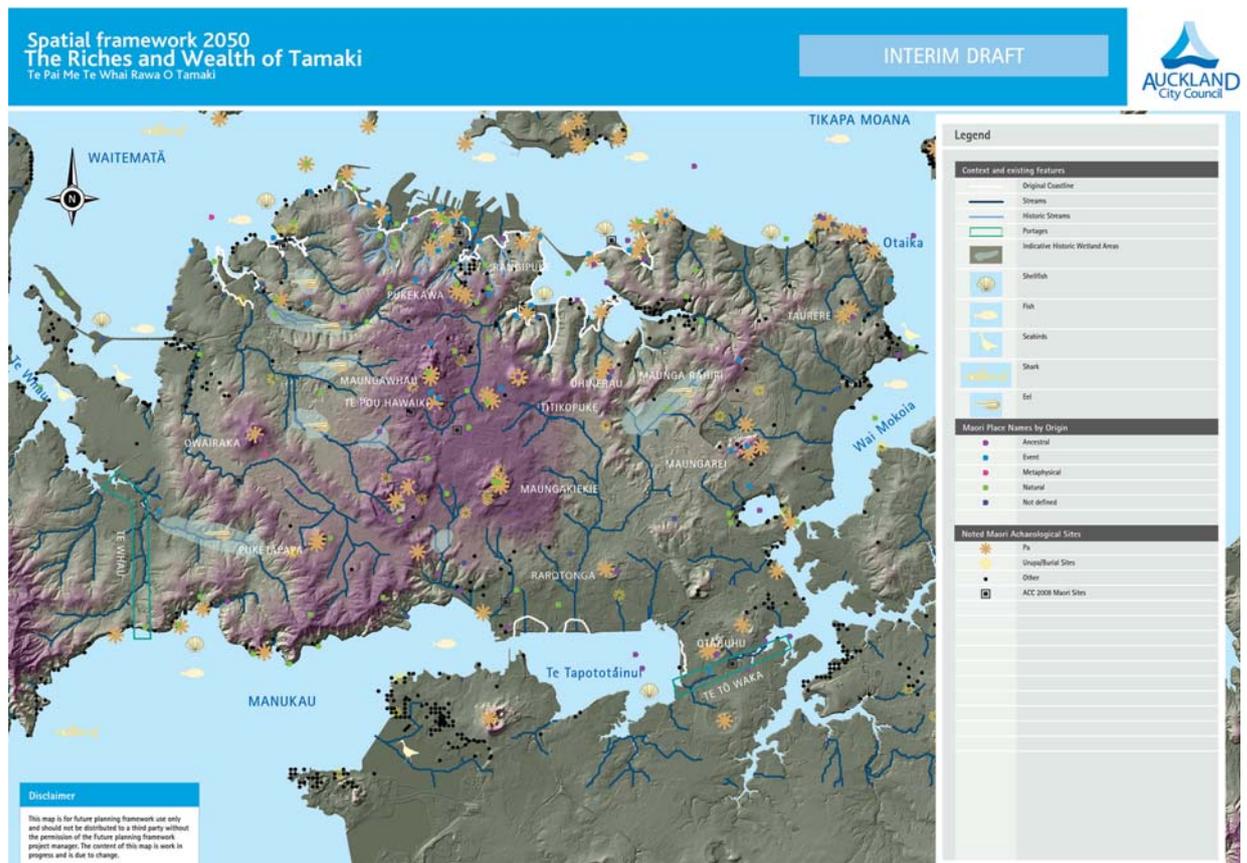


Figure 9: Te Pai Me te Whai Rawa O Tāmaki – The Riches and Wealth of Tāmaki (see 6.5 Appendix E for map legends)

Settlement and growth

The isthmus has a unique Māori cultural landscape, experienced in a spiritual and physical manner. The Aotea, Arawa, Mataatua and Tainui waka all visited the isthmus. These and other more spiritual connections and associations are apparent in Māori place names that affirm ancestral ties to the isthmus. Identifying cultural resources provide insights into areas that were (and remain) important. The stories and understandings that stem from these associations provide the underpinning layer for a modern understanding of Auckland's isthmus historic urban landscape.

The twin ports of Onehunga and Auckland CBD stimulated early European settlement patterns across the isthmus. The Port of Auckland achieved dominance with the reclamation of Commercial Bay between 1860 and 1886, becoming the trading capital of New Zealand.

The Auckland isthmus has become fully urbanised in a series of clear growth eras, each with distinct characteristics and patterns of development. Iconic features and areas of residential heritage will represent characteristics of each of these eras contributing to a quality built environment.

More information about development eras can be found in section 4.1.

2.3.3 Implications for planning – living heritage

Identifying, recognising and purposefully managing these items, sites, groups of items or areas so that they contribute to enriching Aucklanders' lives is the role of the council's heritage framework, which can be viewed at www.itsmybackyard.co.nz/resources/thematicreview.

In planning for the city's future, the council needs to develop this policy in balance with catering for the need to grow and change, creating new histories for the city.

2.4 Urban design and sustainability

2.4.1 Urban design goals

The council's Urban Design Framework's six goals support Auckland city's vision to be First City of the Pacific. Meeting these six goals is essential to achieving successful urban environments.

The six goals and how they relate to the six strategies are explained below. Read more about how these goals are translated into tangible on-the-ground outcomes in chapter 4.

The urban design framework can be found at: <http://www.aucklandcity.govt.nz/council/documents/urbanframework/default.asp>

Becoming a more distinctive city - which reflects its tangata whenua, Māori, Pacific and multicultural identity and is visibly recognised as a place of the South Pacific.

Becoming a more compact city - containing high-quality, compact, walkable, mixed use environments that help reduce the need to travel long distances for everyday tasks.

Becoming a more connected city - where people have a choice of transport options that are comfortable, convenient, efficient and affordable.

Becoming a more beautiful city - where the design of our buildings and spaces (including ordinary, everyday spaces) contribute to creating beautiful places worthy of the truly unique and stunning city that is Auckland city.

Becoming a more human city - where our built environment is much more respectful of people and how we experience the city – giving people more priority over cars.

Becoming a more sustainable city - where land use, the natural environment and the built form lead the way to a more sustainable city. The council's sustainability policy Keeping Auckland's Future Bright supports this goal and can be found at: <http://www.aucklandcity.govt.nz/council/documents/bright/default.asp>

The policy addresses the themes shown in the diagram below and contains additional goals relating to sustainability.

The future planning framework and the subsequent work on a district plan for Auckland are an opportunity to make significant progress across most of these themes. However, the areas that will be particularly influenced by this plan are land use, buildings, transport and economic development.

The citywide spatial framework detailed in chapter 3, addresses these and other issues within the structure of the six strategies, and shows in a series of maps, a proposed future urban form for Auckland city that is sustainable and achievable.

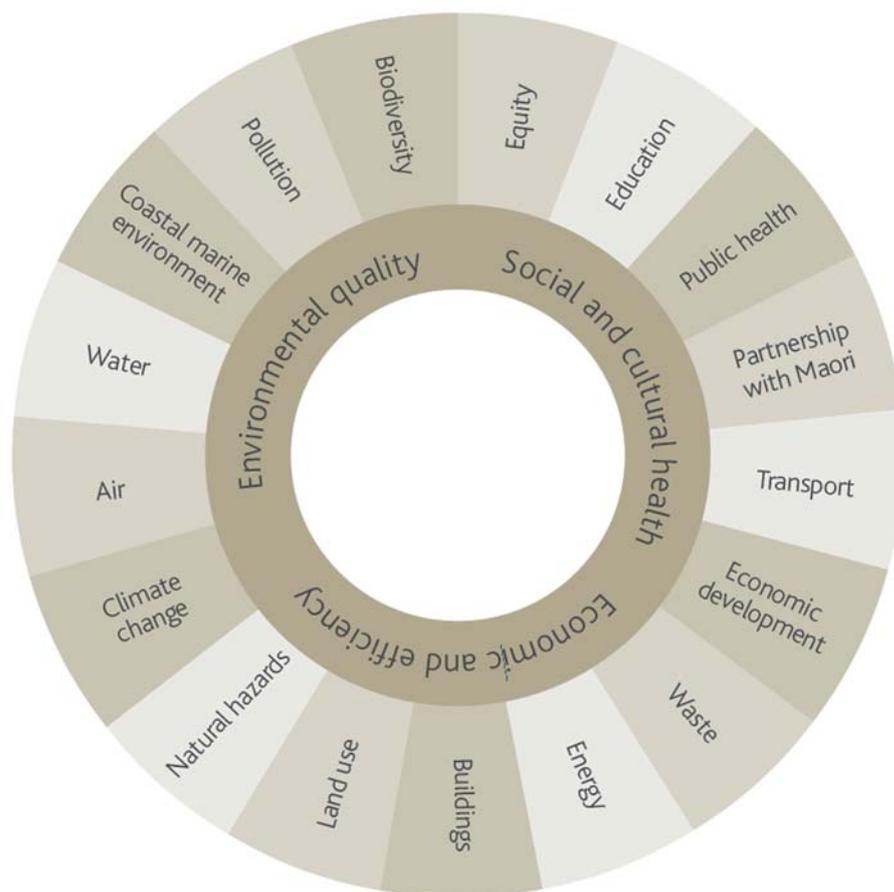


Figure 10: Sustainability themes

2.5 How well is Auckland performing

It is important to understand how Auckland is performing as a city, compared with other cities in New Zealand and with elsewhere in the world. By looking at key aspects of city living that affect residents' overall quality of life, and comparing them with similar cities here and overseas, we can draw a picture of how well Auckland city is doing in its quest to be First City of the Pacific.

2.5.1 Auckland city – compared with the rest of New Zealand

In the Quality of Life Survey 2007¹ Auckland and the following 11 New Zealand cities were studied to provide comparisons on a wide range of quality of life issues:

Rodney	Porirua
North Shore	Hutt City
Waitakere	Wellington
Manukau	Christchurch
Hamilton	Dunedin
Tauranga	

Population

Over the past 100 years, Auckland city's and the region's population has grown significantly faster than the rest of New Zealand, and by 2050 the region is expected to be home to 40 per cent of New Zealanders. A higher proportion of the city's residents are aged between 15 and 44 than elsewhere in the country, due to the many work and education opportunities available. Yet despite its popularity, Auckland city's residents sense of pride in the way their city looks and feels is lower than many other New Zealand cities. More information on the city's population is provided in section 2.6.

Open space

Although in general Aucklanders find it easy to access open space, there is some variation between communities (some communities have more space available to them than others) and demographic groups (some find it easier to use the space). Because the city is not surrounded by rural land, it is particularly important that existing open spaces are well-managed and protected, and that new developments include sufficient open space.

A significant contrast to some other cities is the high level of access to the coastal and marine environment of the two harbours and the Hauraki Gulf, which is unique and critically important to Aucklanders' perceptions and experiences regarding open space.

Health

Aucklanders' life expectancy is similar to that of residents in other New Zealand cities, although overall Aucklanders felt less positive about their health. Aucklanders' most popular leisure activities are socialising, playing sports or other physical activity, and watching television.

Safety

Auckland city has a high overall rate of recorded offences compared to other New Zealand cities, and (like residents in other cities) Aucklanders feel safer during the day than after dark, particularly in the city centre.

Housing

Compared with other New Zealand cities, Auckland city has:

- the lowest percentage of privately owned dwellings (with home ownership even lower among Māori and Pacific Islands people)
- by far the most new apartments as a percentage of new residential buildings (although this has dropped in recent years as demand has eased off).

Social connection

Most Aucklanders (91 per cent) feel they have a good quality of life, although only 54 per cent said they felt a sense of community in their local neighbourhood.

In 2006, the city had the highest share of new citizens, with most of these people coming from Asia (Oceania, Africa and the Middle East were also well represented).

After English, Samoan is the most commonly spoken language, and one-fifth of the Māori population speak Te reo Māori (which is slightly lower than the national average).

2.5.2 Auckland city – compared with the rest of the world

In pursuing its goal of being First City of the Pacific, Auckland city is competing against other globally important Pacific-rim cities, such as Hong Kong, Singapore, Brisbane and Sydney. However Auckland Region has a special place and role in the Pacific, drawing from its unique mix and representation of Pacific cultures, and its political influence in the region.

To gain a clearer picture of how Auckland city compares to other international cities, the Council has used two different sources of information:

- world ranking surveys
- a city performance analysis.

¹ Quality of Life 2007 Quality of Life in Twelve of New Zealand's cities 2007

World ranking surveys

World ranking surveys examine specific aspects of life in international cities and then afford the cities a comparative ranking.

The studies looked at as part of the future planning framework research include:

- Mercer Quality of Living Survey (2007)
- Economic Intelligence Unit Quality of Life Index (2007)
- Mercer Cost of Living Survey (2007)
- Demographia Housing Affordability Index (2008)
- Jones Lang LaSalle City Governance Index (2004).

For the most part, these studies look at Auckland region rather than Auckland city, but for the purposes of international comparison this is still useful.

Auckland region generally scores highly across these surveys, although it is shown to be a moderately expensive city to live in and, by world standards, housing is considered 'severely unaffordable'.

Compared to other international cities, the Auckland region affords its residents a good quality of life. This is illustrated in the diagram below, which shows Auckland region's relative performance in the 2007 Mercer Quality of Living Survey. The cities shown in colour have relevance to the city performance analysis which is discussed in the next section.

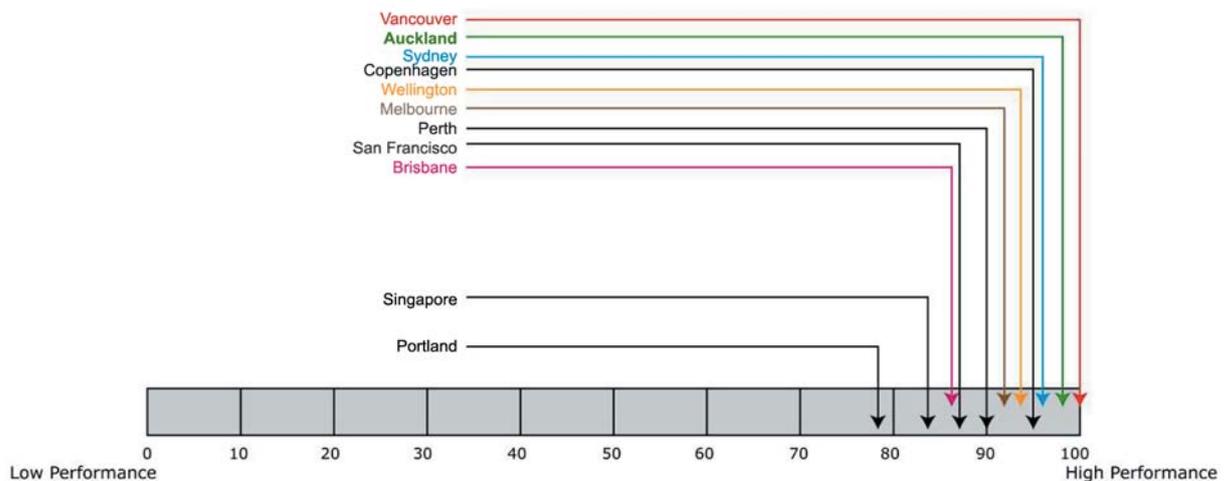


Figure 11: Quality of living survey (Source: Auckland City Performance Analysis Final Report, SGS, June 2008.)

City performance analysis

To supplement the information from the world ranking surveys, the council has recently completed a city performance analysis.

The analysis identified seven key elements that make an internationally successful city. These were:

- a skilled labour force
- innovative capacity
- liveability
- connectivity
- cultural capital
- environmental performance
- effective governance.

The analysis then compared Auckland city's performance for each of these elements against the performance of five other cities: Wellington, Brisbane, Sydney, Melbourne and Vancouver.

Auckland city's (and the other cities') performance for each element was measured using a number of indicators. The indicators used, and Auckland city's relative performance with respect to each, are shown in table 1 (1 is the highest rank; 6 is the lowest). The study sought to use data for the city, but data for the region was used where this was not possible.

Table 1: Summary performance results

(Source: Auckland City Performance Analysis Final Report, SGS, June 2008.)

Indicators	Ranking	Auckland's relative rating
Skilled labour force		
percentage of population secondary school completion	5 out of 6	Poor
percentage of population with tertiary qualifications	6 out of 6	Poor
percentage of employees in advanced producer services	5 out of 6	Poor
Innovative capacity		
number of universities per 100,000 persons	2 out of 6	Excellent
patent applications per capita	1 out of 5	Excellent
Liveability		
income inequality	4 out of 5	Poor
housing affordability	3 out of 6	Average
violent crimes recorded per 100,000 persons (lowest to highest)	2 out of 6	Excellent
Connectivity		
percentage of households with access to internet	5 out of 5	Poor
airport passenger numbers per year	4 out of 6	Poor
kilometres of fixed rail per km ²	6 out of 6	Poor
transport mode share for journey to work	3 out of 6	Average
Cultural offer		
percentage of employees in cultural services industry	5 out of 6	Poor
number of international visitor nights stayed	5 out of 6	Poor
percentage of foreign born persons	3 out of 6	Average
Environmental performance		
solid waste to landfill	2 out of 4	Average to excellent
walking and cycling to work	5 out of 6	Poor
residential recycling	1 out of 4	Excellent
Effective governance		
council budget net surplus 2006/2007 (\$NZ)	2 out of 6	Excellent
council rates revenue 2006/2007 (\$NZ) per capita	1 out of 6	Excellent

From world ranking surveys and the city performance analysis, the report's author concludes that the following developments will be necessary if Auckland city/region is to compete successfully with other national and international cities as a place to live, work, visit, invest and do business. Future planning for the city should enable these things to happen.

- Develop a skilled labour force
- attract and retain highly skilled workers
- provide attractive working environments.
- Develop innovative capacity
- Auckland city needs premium buildings and premium locations
- innovative industries need to be in clusters
- high-quality public spaces and mixed use precincts
- improved connections – IT and transport.
- Improve liveability
- promote a quality urban environment including improved public transport, walking, cycling
- promote housing choice and affordability.
- Improve connectivity
- achieve integrated public transport
- focus growth around transport nodes – encourage walking and cycling
- improve IT infrastructure.
- Build cultural capital
- foster niches that encourage repeat visitation
- develop lively hubs
- reduce barriers for investment
- provide more local and national events.
- Improve environmental performance
- anticipate attitude change in upcoming generations
- require infrastructure that improves environmental performance.

The future planning framework supports all of these improvements.

This citywide performance analysis is the first study of its kind comparing Auckland with cities in other countries. Future replications of this study, including a broader set of measures, will provide an increasingly sophisticated understanding of Auckland city's performance in an international context.

2.6 Demographics and growth

2.6.1 Population size

Between the 2001 and 2006 census, Auckland city's population had grown by 10 per cent from 2001 to 404,658 people². This growth is projected to continue into the future, with the Auckland region (in particular Auckland city and Manukau city) remaining the fastest growing area nationwide.

If projections are correct, Auckland city's population will exceed 500,000 by 2021 (possibly even earlier), and by the middle of the century will be between 600,000 and 750,000 people. At this point, Auckland region's population is likely to have grown to 2.5 million (representing around 40 per cent of New Zealand's total population).

² Auckland Regional Council 2006 The People of the Auckland Region 2006 Census Series

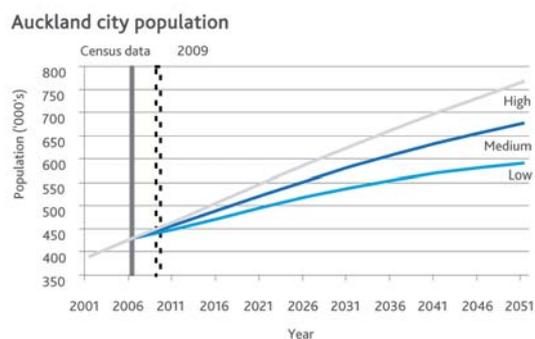


Figure 12: Population projections (Source: adapted from Statistics New Zealand and Infometrics Ltd)

2.6.2 Population movements

Not only is Auckland city's population growing, it is ever-changing – potentially half of the city's current population will live elsewhere in 10 years. Many of these people come from overseas and from the rest of New Zealand, and many of them subsequently move on to other countries and places in the Auckland region.

2.6.3 Population characteristics

Age

The median age of Auckland city residents is 33, although this is predicted to reach 39 by 2031 (in line with the rest of New Zealand, the city's population is aging).

Ethnicity

With 187 nationalities, Auckland city's population is the most ethnically diverse in New Zealand. In 2006, 51.4 per cent of residents identified themselves as New Zealand European, 7.4 per cent as Māori, 12.4 per cent as Pacific Islanders and 23.1 per cent as Asian, but this is set to change in the future. By 2026, 44 per cent of the city's population will identify themselves as Asian, compared with 41 per cent as European, and many more people will have English as a second language³.

At present, 68 per cent of the city's residents were born in New Zealand⁴.

Qualifications

Auckland city has a higher proportion of people with post-secondary and degree level qualifications than the rest of New Zealand, and a lower proportion of people with no qualifications at all⁵.

³ Quality of Life 2007 Quality of Life in Twelve of New Zealand's Cities 2007

⁴ Ascari Partners 2008 Environmental Snapshot key issues facing the Auckland city-region

⁵ Auckland Regional Council 2006 The People of the Auckland Region 2006 Census Series

2.6.4 Households and housing

The most common households in Auckland city are one family (62.1 per cent), one person (23.2 per cent) and multi-person (8.2 per cent). While the average household size for New Zealand declined between 1996 and 2006 from 2.8 to 2.7 people, in Auckland it remained static at 2.7⁶.

Population growth means that an extra 50,000 dwellings will be needed in Auckland city by 2021, 78,000 by 2031, and potentially as many as 127,000 new dwellings by 2051. The number of new dwellings required is predicted to increase faster than population growth, meaning that on average fewer people will occupy each dwelling⁷.

2.6.5 Implications for planning - demographics

It is crucial that we plan for Auckland city's continued population growth, including changes in residents' ages and ethnicities, and the makeup of their households. How and where we will house the city's future population is a key issue for the council, as it is for other councils in the broader Auckland region.

Population growth brings with it both challenges and opportunities. Growth creates extra demand for services, goods and commodities, and can place pressure on the natural environment, all of which need to be planned for and accommodated. Read more about how population growth will be managed in chapter 3 and in Appendix A.

However, a larger population supports a larger economy, provides greater choice in terms of entertainment and recreation opportunities and increases the cultural and social diversity that already distinguishes Auckland city from many other New Zealand urban centres.

2.7 The economy

2.7.1 Employment

The Auckland region and its core Auckland city have long been New Zealand's economic engine room. The port, airport and other key infrastructure, together with the density of the city's population and businesses, give the region its economic edge. Almost 350,000 people were employed in the city in March 2008, accounting for 16 per cent of total employment in New Zealand⁸.

Property and business services contribute the most jobs, employing more than a quarter of the city's workers, while the wholesale and retail trades employ around 17 per cent, and the manufacturing sub-industries another 10 per cent.

Auckland city's concentration of jobs in the crucial information and communications technology ICT and creative sectors has grown recently, with 41 per cent of the nation's ICT jobs (19,000 employees), and 39 per cent of the creative sector jobs (14,000 people) based in the city⁹.

6 Quality of Life 2007 Quality of Life in Twelve of New Zealand's cities 2007

7 *ibid*

8 Auckland City Council 2008 Auckland city business and economy report 2008

9 Auckland City Council 2007 Auckland city business and economy report 2007

Auckland city has the country's largest cluster of education and research activities. The city is home to a number of industry training organisations, private training establishments, and two large research-led universities with international reputations (The University of Auckland and AUT University). Auckland city contains 46 per cent of the region's education and training employment and 78 per cent of the region's tertiary education employment. Education and training was the second largest employment growth sector in Auckland city over the last eight years. The Learning Quarter, located within the CBD, has New Zealand's largest concentration of students, researchers, teachers, innovators and creators clustered in and around the university campuses. Employment in tertiary education is becoming increasingly concentrated into the CBD and has grown faster in the CBD than the rest of the city.

2.7.2 Manufacturing

Although there are strong manufacturing bases scattered throughout Auckland city, fewer people are being employed in the sector and the city is less reliant on it for employment than neighbouring cities. This may be because of the higher land prices in Auckland city.

Auckland city's manufacturing sector generated approximately \$3.1 billion in GDP in 2003, comprising 13 per cent of the city's total GDP.¹⁰ Overall, there is a move towards high-value, high-tech, innovation-focused manufacturing with a primary sector bias, eg food technology, as the best direction for the sector to take for the future.

2.7.3 Role of the CBD

Auckland's CBD plays many roles in the regional and national economy. It provides a hub for professional services, a centre for culture, recreation and leisure, and a focal point for higher education. It is also home to New Zealand's largest container port, a significant marine industry, and a small but important fishing industry.

Over 260,000 people use the CBD everyday; 7 per cent are residents, 30 per cent workers, 30 per cent students and 5 per cent overseas visitors¹¹.

The CBD is a key employment centre for the Auckland region, providing 13 per cent of the region's jobs (for 78,444 employees and 9461 businesses, in 2006). Many of these jobs are in large office-based firms and the CBD provides 1.2 million m² in office space.¹²

It is also a key retail centre, catering to 1.34 million residents from throughout the region in 2005.¹³ Tourists are also a substantial part of the CBD's retail traffic, accounting for approximately 23 per cent of total sales.

The number of people choosing to live in the CBD has increased exponentially in recent years, with approximately 18 per cent growth each year from 2001–2006.

10 Auckland City Council 2008, Manufacturing in Auckland City Technical Report

11 Auckland City Council 2008 Auckland's CBD Into the Future: CBD Action Plan 2008–2011

12 *ibid*.

13 Essential Economics 2006 Auckland CBD Retail Strategy

2.7.4 Retail

In 2007, Auckland city had around 1.3 million m² of retail floor space, concentrated in the town centres (25 per cent is in the CBD alone). Demand for floor space is projected to grow to 2.1 million m² by 2026¹⁴.

At present there is a shortfall between this demand and how much floor space the city's business zones can accommodate, either in or adjacent to existing town and local centres, or in other business areas. A substantial share of the additional capacity is around smaller centres, with capacity more limited around larger centres where much of the retail space has already been taken up¹⁵.

The past decade has seen a growth in the number of large format retail stores locating in business areas, removed from local or town centres¹⁶.

2.7.5 Implications for planning – Auckland city's economy

Auckland city's economy will be improved by investment in infrastructure (in particular for transport and broadband), and the provision and protection of quality business land. These things can change while our location in relation to international markets is something we can't change.

Solving Auckland city's accessibility problems will be key to regional economic sustainability. Good broadband will enable businesses to perform on the global economic stage, while strengthening the city's transport corridors will improve productivity and performance.

Agglomeration (or clustering) of businesses brings many benefits such as economies of scale, and the greater ease of doing business, and is likely to become more pronounced as the city's population and its employment densities increase. However, it will be important to ensure that high levels of amenities and accessibility are provided in employment areas, if the city is to attract the innovation and knowledge-based sectors necessary for its future growth.

Promoting the CBD as New Zealand's pre-eminent economic centre will also foster the benefits of agglomeration.

Issues surrounding the location of large format retail in business areas away from town centres need to be addressed. Not only does this have an undermining effect on centres but there are implications for the city's productivity if land needed for manufacturing and service industries is being developed for retail activities. However, if a centres-based planning strategy is to be pursued, then we need to ensure that there is adequate capacity for growth, including for large format retail, within and around these centres.

Read more about how the future planning framework will support a sustainable economy in chapter 3.

2.8 Key infrastructure

Infrastructure provides the support systems that help the city to function properly. Below is a snapshot of the main infrastructure types and some of the issues associated with this infrastructure. The council is responsible for some of this infrastructure and charges development contributions to help pay for it (mainly for roads and open space). An important function of this plan is to provide a clear picture of future growth and development that both recognises the constraints that existing infrastructure imposes, while indicating where future infrastructure may be needed to support this growth.

A district plan has an important role to play in terms of protecting infrastructure corridors (designations) and a process for establishing new infrastructure routes.

2.8.1 Transport

The Auckland region's transport system is currently undergoing extensive development, driven by the region's rapidly growing population and economy. Auckland city sits in the centre of this system and serves as a through-route for regional trips, as well as a major destination in its own right.

Congestion and parking

Congestion is a significant issue for Auckland region, costing about \$1 billion a year.¹⁷ During peak hours, Auckland region has lower travel speeds than any other Australasian city (at 40km/hr compared to the Australasian range of 41 to 53km/hr). Regional forecasts predict that congestion levels will deteriorate further over the next decade, as an additional 195,000 cars take to Auckland region's roads, increasing traffic levels by nearly 25 per cent.¹⁸

However, congestion may encourage people to walk, cycle and use public transport, and can result in a safer traffic environment due to slower traffic speed.

Cars are the main form of transport used by Auckland city residents for trips to work. In 2006, Aucklanders made 61.5 per cent of trips to work in cars, compared to 8 per cent on public transport, 1.2 per cent cycling, and 7 per cent walking or jogging.

Parking is an important factor in the transport mix, and one on which the council, through a district plan and parking policies, has considerable influence. Traditionally the district plan has imposed minimum parking standards for certain types of new development. However, a different approach is now required to address the wider effects of parking, both in terms of the overall transport network and the need to encourage other transport modes and more efficient land use.

14 Auckland City Council & Auckland Regional Council 2008
Auckland City and Auckland Region's Emerging Retail Trends &
Future Retail Needs Assessment

15 *ibid*

16 *ibid*

17 Auckland Regional Council 2004 State of the Auckland Region
Report

18 Abusah, S. & de Bruyn, C. 2007 Getting Auckland on Track:
Public Transport and New Zealand's Economic Transformation,
Ministry of Economic Development Working Paper

Public transport

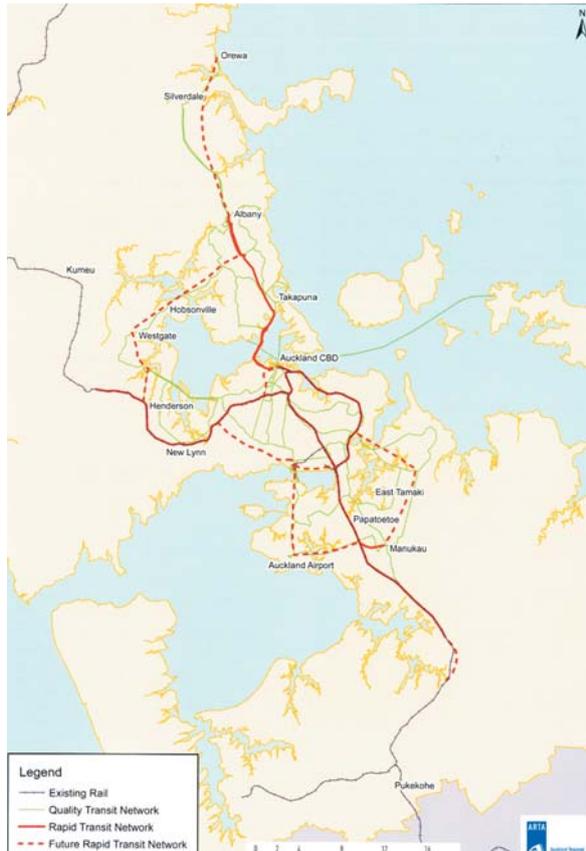


Figure 13: Regional public transport (Source: Auckland Regional Transport Authority)

Auckland region's public transport system is not well patronised compared with other cities but this is expected to change in coming years. Total patronage for the year to 30 June 2008 increased to 54.4 million journeys, which was 4.4 per cent higher than the previous year. Suburban rail use, in particular, rose significantly, which may be attributable to more stable and regular services.

The number of people arriving in the CBD by passenger transport each weekday morning increased by 9.4 per cent between 2007 and 2008. Approximately half of the increase was from additional rail passengers and half from Northern Busway passengers.¹⁹

Auckland region's railway system, long neglected, is now resurgent. Recent improvements have increased patronage and the government's investment in the rail sector will further expand the system's capacity.

The Auckland Regional Transport Authority (ARTA) is responsible for planning and delivery of passenger transport services across the Auckland region. ARTA's Passenger Transport Network Plan 2006-2016 identifies passenger transport routes across the region (refer Figure 13). The rapid transit network and quality transit network are key elements of this network and are defined in the glossary of terms. Also relevant are the local connector network and targeted services, which are defined in the glossary of terms.

2.8.2 Implications for planning – transport

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.

2.8.3 Wastewater

Auckland city is serviced by an extensive wastewater drainage system. This includes private pipes from individual properties and a local wastewater system owned and operated by Metro Water Ltd. This also includes a trunk wastewater network, and regional treatment and disposal plants owned and operated by Watercare Services Ltd.

A secure, efficient and environmentally sustainable wastewater treatment and disposal system is vital for the Auckland region's economy and quality of life.

Growth has the potential to increase volumes of wet weather overflows until improvements on the networks are complete. The extent and timing of development next to public watercourses where overflows discharge, needs to be carefully controlled to maintain the amenity of these areas, reduce ecological impacts and prevent public health issues.

Work to increase the wastewater network's capacity is growth led. Priority areas for growth become priority areas for infrastructure improvements to enable growth to occur.

There needs to be alignment between areas where growth is planned and areas where programmes are underway to improve the combined wastewater system. On-site storage for storm water is an option in these areas.

2.8.4 Water supply

Auckland city's bulk water supply on the isthmus (including distribution and treatment) is provided by Watercare Services Limited. The bulk water supply is adequate to provide for growth. Watercare operates 43 water supply reservoirs throughout the region.

The city's local water supply network is owned and operated by Metro Water Ltd. Metro Water has carried out extensive repair work recently to reduce leaks. It operates five above-ground reservoirs, two of which are on volcanic cones. Water demand has reduced in recent years, which may show that the city is on its way to becoming more water efficient.

Auckland city's water network will need to be partially upgraded by 2026 to allow for population growth (mainly in the CBD).

¹⁹ Auckland Regional Transport Authority, Annual Report 2007/2008, 2008.



Figure 14: Regional water supply (Source: Watercare Services Ltd)

2.8.5 Stormwater

Auckland region has 38 stormwater catchments or drainage management areas. The catchments are relatively small and steep, and are highly urbanised, giving rise to significant impervious areas causing high rates of runoff during rainfall.

Stormwater can contain harmful contaminants including sediment, metals, organic components, nutrients and micro-organisms. Ninety per cent of stormwater overflows in the city occur from the combined wastewater and stormwater network. Separation work is currently occurring on this network, which will reduce overflows.

Metro Water Ltd manages, on behalf of Auckland City Council under a service contract, all of the city's stormwater infrastructure. Including pipes, watercourses and overland flow paths.

Urban streams are also used for conveying stormwater, and around one third of the city uses ground soakage. Around 20 per cent of the city's stormwater is disposed of this way.

During exceptionally heavy rainfall (such as might occur once every 50 years), around 1250 homes across the city could be flooded.

There are many ways in which planning for the city, and in particular a district plan, can lead to improvements in water management, including improvements in stormwater quantity, stormwater quality and enhancement of the city's watercourses and wetlands. One example is using low impact design practices which use natural systems and low impact technologies to manage stormwater.

Stormwater infrastructure improvements are mentioned in the area plans in chapter 5.

2.8.6 Electricity

Reliable electricity supply is crucial for Auckland city, but the current transmission system's ability to securely deliver electricity is decreasing as regional demand increases.

In order to cater for population and economic growth within Auckland city it is important to provide for the key infrastructure required to support this growth. In doing so care has to be taken to ensure that this infrastructure does not have adverse effects, such as visual effects on nearby residential areas.

Demand management, for example through the insulation of existing housing stock, may become necessary to manage the risk of under supply for a growing Auckland city.

2.8.7 Information Communications Technology Infrastructure

Good information communications technology (ICT) infrastructure in Auckland city is necessary if the city's businesses are to perform in the global economy. Better infrastructure, such as for broadband, will be needed to achieve this, and the timing and planning of this infrastructure will be critical.

Improved ICT infrastructure will have flow-on effects for residents' quality of life, making Auckland city more attractive as a place for skilled people to settle. It also has benefits in terms of flexible work practices and choices about place of work for people requiring broadband in their work.

The roll out of ICT infrastructure, such as broadband, may have impacts in terms of disruption and potential visual effects of any new wires above ground. As this document is being prepared a number of significant initiatives, including a third mobile network are under consideration or in the early stages of implementation.

2.8.8 Social infrastructure

The council currently provides a range of infrastructure in the city including swimming pools, libraries, recreation and community centres, and open spaces. As the city grows, so will demand for social infrastructure. In particular, the trend towards more intensified living will make access to high-quality open spaces and community and recreational facilities even more important.

Current gaps in the provision of social infrastructure, disparities in where facilities are located, and new facilities to meet future demand, all need to be planned for and provided by the council and other agencies. Locating social infrastructure in or around key centres will strengthen these centres as community hubs and help achieve more sustainable urban environments. The lifestyle choices map and strong and healthy communities map in chapter 3 show the location of existing infrastructure across the isthmus.