20-min city in Aotearoa
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Introduction

Globally our cities have been growing rapidly and by 2050 two thirds of the projected world population will live in urban centres. Here in Aotearoa, around 86% of our population live in cities – and this is projected to continue or increase. By 2048, nearly half of our population (44%) is projected to live in just three cities alone: Auckland, Hamilton and Tauranga.

With increased urbanisation comes a multitude of challenges. Meeting this growth, managing the impact on infrastructure and services, minimising environmental impact and ensuring residents enjoy equitable access to excellent public amenity has been an ongoing issue for city leaders and planners.

It’s widely acknowledged that we can’t continue to build the way we have been. Our cities have largely been designed on the post war principles of people living in suburbs commuting to work in a CBD by motor vehicle. With 70 years of urbanisation came densification and grid locked cities. This necessitated a re-think in city planning. Combined with shifts in social behaviour that embraces flexible working, active and environmentally sustainable travel options along with a digitally enabled world where everything is at our finger tips and on demand – is driving a return to localism.

In the UN 2012 Manifesto for Cities there is a bold declaration that “the battle for a more sustainable future will be won or lost in cities.” Again, drawing from the UN, how we plan, build, and manage our cities now will determine the outcome of our efforts to achieve a sustainable and harmonious development tomorrow.

In 2016 Carlos Moreno proposed the concept of a 15-min city to combat the dysfunction of living in a city. Rather than long commutes, noisy streets and underutilised spaces, he proposed communities where inhabitants have access to all the services they need to live, learn and thrive within their immediate vicinity, making urban areas adapt to humans, not the other way around.

Cities including Helsinki, London, Melbourne, Paris, Singapore, Sydney and Toronto have embraced the principles of a 20 minute city or neighbourhood. WSP is working with many of these cities to help them realise their vision.

The 2021 COVID-19 pandemic has simply accelerated this – making at once both more attainable and desirable. Under lockdown restrictions, neighbourhoods were the only place to fulfil essential activities, and we discovered simpler pleasures. We began to appreciate suburban space—back gardens with veggie patches and trampolines, coffee from the rediscovered neighbourhood café, walks and cycle rides around the local park became highly satisfying experiences and met our need for social interaction, albeit at a social distance. We realised that technology can facilitate working from home very effectively and productively without the grind of a daily office commute.

In this report we take insights from leading global cities, and explore what a Future Ready® 20-min city or neighbourhood could look like in Aotearoa New Zealand.

David Kidd
WSP Director Client Experience and Strategic Advisory
What is Future Ready®?

WSP Future Ready® originated from our UK business and is now a global strategic planning and design methodology.

Using a research-led, evidence-based approach, WSP Future Ready® enables clients to understand the future more clearly in a way that allows people to take meaningful action today.

Future Ready® leverages primary and secondary research to understand the future implications of key global and local trends across climate, society, technology and resources, and the implications on the built and natural environment.

### CLIMATE

- How our projects, infrastructure and communities hold up against the effects of global warming, flooding and rising sea levels, and more disruptive storms.
- Wetter, wilder and more extreme weather
- Sea level rise
- Drier and hotter
- Greater risk of forest fires

### SOCIETY

- The way we move around our cities, the way we design our neighbourhoods, and the way we plan infrastructure are all impacted by changes in social and cultural norms.
- Ageing and population diversity
- Increasing loneliness
- Obesity epidemic
- Changing workforce

### TECHNOLOGY

- The speed of technological advancement has no historical precedent. It is upsetting almost every industry in every country, and the breadth and depth of changes is transforming entire systems of production, management, and governance.
- Modular and accelerated construction
- Smart cities
- Multi-modal transport
- Smart data and cyber security

### RESOURCES

- By changing our thinking on how we produce what we need, we can create an economy that allows us to do so much more, with less.
- Decarbonisation
- Circular economy
- Sustainable practices
- Water management
What does a Future Ready city look like?

The built environment is with us for the long-term and it’s incumbent on us to understand how people are likely to live, work and play over this timeframe, and develop built infrastructure to support this.

Buildings, for example, are designed to have a lifespan of 100+ years. The cost to pull down a large high-rise building is significantly more than the cost to put it up.

That’s why globally only five sky scrapers have ever been pulled down in a planned way.

Likewise, roads and key supporting infrastructure such as water are designed with a lifespan of between 50 to 70 years.

Given the rapid rate of change the world is undergoing, how do we create adaptive, resilient infrastructure?

WSP’s 2018 Global Cities Index compared and ranked 24 cities based on how they were identifying and responding to the challenges they will face in the coming two decades, and beyond.

This research combined with our Future Ready® Megatrends research shows that to create a Future Ready® city:

Long-term planning is critical:
Copenhagen is an example of a city looking out to the horizon and getting a dividend from prior foresight. The cities with long-term plans (beyond 2035) are Auckland, Seoul, Sydney, Melbourne, Stockholm and London.
Key issues demand attention:
Both the impact and magnitude of climate change in New Zealand continues to grow, as we increasingly experience warmer, wetter and wilder weather conditions. Floods, storms, droughts and fires will become more frequent unless action is taken to reduce greenhouse gas emissions.

While, housing, both the cost and availability, followed by public transport are universal priorities.

Amenity matters:
Investment in more parks and public spaces, street space for pedestrians and bicycles as well as parking provisions make cities more liveable.

Future mobility is key:
The movement of people and goods is being shaped by converging technological and social trends including the rapid growth of car and ride sharing, electric cars and, self-driving and autonomous vehicles.

Technology and the built environment are intersecting:
The digital transformation of cities is creating smart and engaged communities where data is the new currency. Seattle, Washington DC, Seoul, Stockholm and Calgary all lead in this area.

Urban systems are transitioning towards sustainability:
Power generation and distribution, water treatment and distribution as well as waste management are increasingly important and North American cities are leading the charge.

We also need to incorporate Future Ready® societal trends, which reflect the changing face of Aotearoa. These include:

**Ageing population**
Increasing life expectancy and decreasing birth rates mean New Zealand’s average age is likely to increase. By 2068, it’s projected more than one in four people living in New Zealand will be aged 65+. (Source, Stats NZ)

**Loneliness**
Loneliness is going to increase as we look to the future. Young people aged 15-24 are most at risk of feeling lonely. 17% of New Zealanders aged 15+ reported feeling lonely at least some of the time. (Source, Helen Clark Foundation / WSP)

**Obesity epidemic**
Obesity is a growing challenge in New Zealand with an array of implications for our communities and healthcare system. One in three adult New Zealanders (over 15 years) and one in ten children are classified as obese. (Source – Stats NZ)

**Increasing diversity**
New Zealand’s population is becoming more ethnically diverse which is changing our household makeup. By 2038, more than 50% of New Zealand’s population will have Māori, Asian, or Pacific ethnicity. (Source, Stats NZ)
Urban population growth

Urban population growth is driving land and density and scarcity challenges. By 2043, c.46% of New Zealand’s population is likely to live in Auckland, Hamilton and Tauranga (the Golden Triangle). (Source – Stats NZ)

Meanwhile, JLL’s 2018 City Momentum Index identified cities that have invested in a sustainable future and laid the groundwork for ongoing success. According to JLL, key elements of future-proofing include the ability to drive and manage technological change, infrastructure that contributes to a high quality of life, a long-term city vision, and attracting and retaining talent.

Unsurprisingly, San Francisco, Silicon Valley and New York ranked in the top three. Both Sydney (#14) and Melbourne (#17) ranked in the middle of the top 30 cities, as did Edinburgh (#24) and Helsinki (#27).

From this work, as well as WSP’s, we find that a Future Ready® city is:

- Agile
- Able to attract and retain talent, and foster innovation
- Resilient
- Sustainable

Future Ready opportunities in a post-COVID-19 world

COVID-19 has accelerated trends that were happening as new patterns in urban life developed and this will impact provision of supporting infrastructure.

Remote working

With the majority of the world having experienced some form of lockdown, many organisations discovered they could operate efficiently after embracing a work from home culture. During COVID-19 Level 4 and 3 lockdowns more than 40% of NZ’s workforce worked from home. This trend will impact office design, office space demand, transport, and further city design. Many organisations are now beginning to think if and how this concept can become some form of strategy. However, international research carried out by JLL shows that while employees have embraced flexible work options post-COVID-19, a strong affinity for the office remains. The Human Experience Report found that 70% of office workers believe the office environment is more conducive to connecting with teammates to solve complex issues, manage direct reports and connect with leadership.

Future workplaces and workforce

Over the coming months and years, individuals and organisations will make their own assessments about the role and value of a dedicated workplace, and they may reach very different conclusions. Technology and the evolution of work will drive this, in the last four decades manufacturing jobs declined 60% and jobs in professional services grew 279%. By 2030 automation is projected to create 900,000 new jobs but 700,000 jobs will no longer exist. But one thing is for sure: if we decide that the office is still important – for productivity, for collaboration, for identity – it will have to become a destination of choice.

Successful offices of the future may have more in common with retail or entertainment venues that compete for every visit by offering a compelling, constantly evolving experience. We need to eliminate the barriers or frictions that make offices uncomfortable or unpopular, enhance and complement the positive, and go beyond.

Suburban revival

We’ve seen how flexible working, virtual connection, and less travel proved to benefit. If this trend stays for long, the suburbs could no longer be just residential places and there could be potential to have more mixed-use development with home offices. If most people will work from home, questions about why we live in the city might come up soon.

The benefits of the suburban revival extend beyond productivity, people commuting towards concentrated city hubs are mass producers of pollution and hotspots for disease spreads. Greenhouse gas emissions fell 4.8% in 2020, largely due to transport emissions reducing from people travelling less. Furthermore, transmission of seasonal flu reduced so significantly that some strains may possibly have gone extinct.
Building back public transport

As a result of COVID-19, the public transport sector underwent steep ridership declines and the need to meet major health and safety considerations. This forced transit agencies, local governments and related stakeholders to urgently rethink how to address mobility needs in our cities. Far-reaching challenges lie ahead, but opportunity exists for public transport to evolve and once again connect people to each other and destinations both in and beyond their communities. There is significant opportunity to advance the development of integrated, efficient and accessible public transport systems.

Global WSP transport experts advise:

- See the opportunity in new passenger demand: driven by agile work practices, rather than highly populated offices, new passengers could be served by smart, fixed and dynamic route planning.
- Engage with the community: gather transit riders’ feedback and partner with local research labs to foster innovative technical solutions and system-wide redesign as well as improve commuting journeys.
- Rethink how to improve system efficiencies: comb through internal and external processes to identify which ones could be left behind and what new measures adopted during COVID-19 can be carried forward to improve system efficiencies.

Social behaviour

With new trends emerging in how we work and live, social behaviours are changing. Mental health issues affect nearly one in four New Zealanders and loneliness tripled as a result of COVID-19 while, at the same time, we’re connecting with each other more personally. Work meetings now frequently happen in home office environments. We are aware that built infrastructure can have an impact on social behaviours, and hence all these signs are crucial in designing new spaces.

Active transport

With the spotlight on bikes and walkability, cities need proper infrastructure especially with the growing trend of obesity where around one in three adults and one in ten children are classified as obese. Currently, many cities have engaged in redesigning for aligning themselves with this trend.

E-commerce

Online retail has shaped consumer habits that have a higher potential of long-lasting effect. In 2020 New Zealanders spent $5.8Bn online, a 25% increase from the previous year. In line with this, more logistics hubs and stores can potentially arise.

Virtual mobility

This has gone beyond the office meetings. Big international events / political meetings / online initiatives by museums and art galleries—it is all happening virtually. E-sports revenues is predicted to top USD$1Bn in 2021 with over 728 million people watching online. The thought that the purpose of the meeting can be solved using technology is going to impact many related sectors.
What is a 20-min city?

It’s a city or neighbourhood that enables residents to access most of the activities needed for good living within a 20-minute walk, cycle or public transport trip from their homes. This includes shops for everyday essentials, health and community facilities, education, parks and playgrounds, and employment.

Each neighbourhood should fulfil six social functions: living, working, supplying, caring, learning and enjoying.
Core principles of a 20-min city

- Residents of every neighbourhood have easy access to goods and services, particularly groceries, fresh food and healthcare.
- Every neighbourhood has a variety of housing types, of different sizes and levels of affordability, to accommodate many types of households and enable more people to live closer to where they work.
- Residents of every neighbourhood can breathe clean air, free of harmful air pollutants, there are green spaces for everyone to enjoy.
- More people can work close to home or remotely, thanks to the presence of smaller-scale offices, retail and hospitality, and co-working spaces.


As a concept, it’s in direct contrast to the social planning of the past 100 years which separates residential from business, retail, industry and entertainment. We’re also aware that it needs to align with – or enhance - Resource Management Act reforms and the increase in spatial planning that will occur as a result.

According to the C40 Cities knowledge hub, the 20-min city offers:

**A boost to the local economy.**

More footfall for local high streets, more local and diverse employment opportunities and the more productive use of buildings and street space.

**A more equitable, inclusive city and stronger sense of community.**

Equity and inclusivity is at the heart of any successful approach, from prioritising the most underserved areas to designing streets and active travel schemes for the most vulnerable users. A 20-min city strategy creates, in close collaboration with local people, more public spaces in which to play, mix and socialise, supporting neighbourhood businesses and entrepreneurs and enabling people to spend more time with their loved ones, local area and the things they enjoy doing.

**Better health and wellbeing.**

The physical and mental health benefits of active travel, cleaner air, easy access to healthy food options, quality green space, and stronger community ties that reduce loneliness are vast and well documented. Follow the links to learn more. More trees, vegetation and green space also ease the urban heat-island effect, reduce flood risk and improve biodiversity, delivering further health and economic benefits.

**Lower transport emissions and better air quality.**

A 20-min strategy will reduce unnecessary and unwanted travel and promote a modal shift away from private vehicles, delivering all the rewards of green and healthy transport and cleaner air.
International examples
Portland
Portland, Oregon has set an objective for 2030 calling for vibrant neighbourhoods in which 90% of Portland residents can easily walk or bicycle to meet all basic daily, non-work needs. It has prioritised underserved, low-income areas for targeted improvements.

London
WSP supported the London Borough of Hammersmith and Fulham’s (LBHF) submission to the Greater London Authority Future Neighbourhood 2030 programme. This included the development of a sustainability strategy and a number of exemplar projects within selected neighbourhoods. The Future Neighbourhoods 2030 programme is an opportunity to build on current project successes to date, and propose other projects that can mitigate the impacts of climate change and improve air quality, along with other outcomes. WSP worked closely with LBHF to develop a compelling funding proposal and identified a variety of innovative and low-carbon projects to assist council in reaching its net zero targets.

Paris
In 2020 the mayor of Paris, Anne Hidalgo, announced ambitious plans to make Paris a 15-min city. The plan includes continuing pedestrianisation of the city, to have a bike lane in every street by 2024 and remove 60,000 parking spaces for private cars. Main roads through Paris will be inaccessible to motor vehicles, “children streets” will be created next to schools for term time, and the schools turned over to local residents during weekends and holidays. Paris is also undertaking the largest transport project in Europe. Grand Paris Express and is a fundamental rethink, redesign and focus on the public transport network on the scale of the metropolitan area. The purpose is to avail Grand Paris with multimodal transport solutions, more integrated transport services, hence supporting a model of polycentric development.

Barcelona
In 2016 Barcelona introduced the superblock model, neighbourhoods of nine blocks, where traffic is restricted to major roads around the outside, opening up entire groups of streets to pedestrians and cyclists. A study by Barcelona Institute for Global Health estimated that if, as planned, 503 potential superblocks are realised across the city, journeys by private vehicle would fall by 230,000 a week, as people switch to public transport, walking or cycling.

Espoo
WSP consultants were part of the visionary team that created CO-OP City, New Nordic Neighbourhood for the Nordic Built Cities challenge.

CO-OP City focuses on community planning and involvement; local circular economy solutions; gradual transformation and building of the district, its public spaces and structures. The industrial site of Kera is going through a complete transformation in the coming decades and it hosts vast industrial halls, which would be utilised in several ways during the construction process for example for storage and temporary use, and once demolished as a source of landscaping and construction materials. CO-OP City emphasises the importance of great public spaces and neighbourhoods which connect the residents to their home district.
Dubai

The principals of a happy city and 20-min city are very similar and Dubai’s Happy City plan aims to meet the needs of fast growing population and economy.

Currently Dubai has a fragmented urban fabric with low levels of walkability and high dependency on private vehicles. The Dubai Plan 2021 aims to create an inclusive city in line with the needs and perspectives of its inhabitants. Specifically, Dubai seeks to balance the need to enhance the liveability and quality of its urban fabric to enhance quality of life, while maintaining a high-performing, efficient road and transport system.

Chengdu

Chengdu, China, is building a Great City on its outskirts. The satellite city will have amenities available within a 15-min walk of the pedestrianised centre and connected to current urban centres via mass transit. Within the 1.3km² city area, 15% of land will be devoted to parks and landscaped space, 25% allocated for infrastructure like roads (of which only half will be accessible to cars, as many residents will be expected not to need them) and 60% will hold tall, glass-and-steel tower blocks. Public transport stations will be in the middle and the perimeter.

With an estimated population of 80,000, the Great City would have a population density of 61,538 people per square kilometre.

Singapore

Singapore’s recent Land Transport Master Plan 2040 is based on shaping the city and its transport systems to achieve 20-minute towns within a 45-min city.

Sydney

The Greater Sydney Region Plan: A Metropolis of Three Cities defines three CBDs and 40 other strategic centres. Its vision is a city where most people live within 30-min of their jobs, schools, health facilities, other services and leisure destinations. WSP experts in Sydney have played a key role in the shaping of the Parramatta CBD – the second largest in Sydney – as part of the light rail project. We identified the growth potential of corridors and centres for jobs and housing as well as opportunities for improved access to land uses such as health, education, recreation and social housing.

Melbourne

Plan Melbourne 2017-2050 is the Victorian Government’s long-term planning strategy, guiding the way the city will grow and change to 2050.

Plan Melbourne is supported by the principle of 20-min neighbourhoods. The 20-min neighbourhood is all about ‘living locally’—giving people the ability to meet most of their daily needs within a 20-min return walk from home, with access to safe cycling and local transport options.
The level of change required to transition to low-emissions, sustainable and thriving urban environments is huge. Successful implementations are underpinned by coordinated, collaborative community partnerships.

Often the loudest voices are those of extreme supporters and opponents, and this is played out through traditional and social media platforms. Changes to infrastructure are highly political, and negative public opinion can significantly impact success.

Starting early with the community and taking them on the journey with the project is key to reducing the opposition to change. People become outraged when they feel coerced, it’s unfamiliar, they don’t have control on the future and lack trust in the decision makers. As such we need to keep the community at the heart of change having clear rationale and the story about ‘why’. Engaging with the loud voices early and seeking to deeply understand their opposition will help development of a robust engagement strategy.

Here we look at specific issues experienced in international 20-min city implementations and identify mitigation strategies.
<table>
<thead>
<tr>
<th>IMPLEMENTATION</th>
<th>KEY ISSUES</th>
<th>INSIGHTS MITIGATION STRATEGY</th>
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<tbody>
<tr>
<td>The Poblenou Superblock, the first in Barcelona</td>
<td>Disruption of driving patterns, traffic and buses pushed to the periphery, confusion over routes</td>
<td>Working with Google Maps to update changes as they happen</td>
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<td></td>
<td>Lack of consultation, limited and unclear communication meant that residents and neighbours didn’t understand whether it was a temporary pilot or permanent</td>
<td>Deliberate and participatory model with strong co-design.</td>
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<td></td>
<td>Poblenou residents were not asked if they wanted a bunch of new public space; they were confronted with it and asked what they’d like to make of it. Pilot project used tactical urbanism – placements of tyres, ground markings and potted trees.</td>
<td>After intensive consultation with the neighbours, the city built a more permanent playground, planted several green areas, and put in the picnic tables. Public approval swelled.</td>
</tr>
<tr>
<td>Oslo’s Car-free Liveability Program</td>
<td>Stakeholders, such as shop owners and trade associations, feared the consequences on customer access to shops in the city centre.</td>
<td>NGOs and companies invested in Oslo’s city centre have been involved in the physical design, upgrading and conversion of city streets. Council modified plans to ensure the transport of goods to shops. Central delivery point allocated, and localised deliveries made by electric bikes. Success metrics determined, and outcomes shared: Traffic data shows car traffic reduced by 11% in the period 2016 to 2018, and by 19% between 2018 and 2019. Surveys show that measures haven’t impacted on origin-destination patterns within the city centre, although drivers are making fewer trips by car.</td>
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<td></td>
<td>Measures to reduce private vehicle travel are seen as a threat, a loss.</td>
<td>A staged, gradual model that makes it increasingly difficult to drive or get around by car, with strong alternatives in place.</td>
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<td></td>
<td>Ban on cars seen as too dramatic.</td>
<td>Removal of on street car parking and replaced with public realm installations – playgrounds, cultural events.</td>
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<tr>
<td></td>
<td>Lack of uptake of cycling</td>
<td>Council funding to purchase electric bikes, a second round to target families with funding for cargo bikes.</td>
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Here in Aotearoa, we have an opportunity to create our own definition of the 20-min city – one that incorporates our unique cultural identity.

One of the key principles behind the 15-min city, as developed by Professor Carlos Moreno, is that all six core social functions are provided for locally. The challenge becomes how do you define those neighbourhoods and what do you need to put in place for the city to become a polycentric city with 15-min clusters, interconnected by green infrastructure and public transport.

Achieving this won’t be easy and will require the undoing of decades of infrastructure planning that is car-centric and favours greenfield sprawl over brownfield development.

Many international cities have evolved over centuries and cities such as Paris, London and New York started as a series of villages that became connected over time by transport routes. As such, many of the essential services that a community needs were already in place, and within walking distance. While this has changed over time, the blueprint exists within medium-high density neighbourhoods.

As a much younger nation with seemingly abundant land, New Zealand took an American approach to land use and sprawled. This is noticeable in cities such as Auckland, Tauranga and Nelson, which aren’t as restricted by the typography as the geographically-contained Wellington city centre.

This sprawl has come at a cost. According to Our Land 2021, produced by the Ministry for the Environment and Statistics NZ, highly productive land is at risk of becoming unavailable for agriculture due to housing developments. The area of highly productive land that was unavailable for agriculture (because it had a house on it) increased by 54% for 2002 to 2019. New greenfield developments mean higher infrastructure costs for local authorities and less transit connections to access work, amenities and recreational spaces, meaning a greater reliance on vehicles, or ensuring masterplanning of infrastructure and early investment in public transport to ensure they are connected.
Until recently much of the residential development has been driven by commercial interests, most often operated for profit, where broader outcomes haven’t been a key focus. Where developers have incorporated sustainable elements, these haven’t been on a scale to achieve significant change. Developments of 20-30 titles simply don’t offer the scale of change that those above 500 do.

However, this is changing. Kiwibuild partnerships with private developers have resulted in the delivery of mixed developments that prioritise shared spaces, a sense of community and are located close to public transport.

The most significant change will be delivered by Kāinga Ora, which is undertaking the largest urban regeneration programme in the history of Aotearoa.

In 2020 Geospatial and Transport specialists at Abley tested the 15-min city concept for Auckland. They built a walking network from OpenStreetMap data, modelling routes along pedestrian paths and roads. They also collated data to represent four living functions:

- Enjoying: open spaces and cafés
- Supplying: supermarkets
- Learning: primary schools
- Caring: GPs

They found the ‘living’ and ‘working’ functions harder to pinpoint as ‘living’ (and ‘working’ for remote-workers) are home and therefore the starting point of journeys. For non-remote workers, ‘working’ is constrained by skills, industries, and experience. While a person may live within 15-mins walk of employment, it may not be the right employment for them.

Their findings were fascinating:

- Aucklanders have excellent access to open space (‘enjoying’) with almost all the city covered. Picking up a flat white from the local café is almost essential for remote workers. You can do this on foot for many of the inner Auckland suburbs.
- Ability to walk to supermarkets (‘supplying’) is less consistent. Supermarkets in Auckland are often driven to. Perhaps more local living will lead to greater use of dairies, or possible consolidation away from independent owners creating the mini supermarkets common in larger cities like London and Paris.
- Access to primary schools (‘learning’) is relatively good but using a walking speed more typical of children would reduce the size of these catchments. The school rush is a major cause for traffic congestion, so good spatial coverage of primary schools within 15-mins walk can help alleviate road network demand.
- Access to GPs (‘caring’) is good within central Auckland but inconsistent elsewhere. Access to specialist health services is a less helpful indicator, for example living within 15-min walk of a paediatrician is of little relevance when an ophthalmologist is needed. Using technology going forward here is key. There are new GP ‘apps’ where you have a video consultant and only go into the practice if necessary, reducing reliance on travel for minor health issues.

The final map shows areas of Auckland where all four living functions are walkable within 15-min and include the urban centres of Sandringham, Onehunga, Devonport and Avondale.

While interesting, to be truly equitable for Tāmaki Makaurau – and applicable to Aotearoa – the study would require the application of additional lenses to represent minority groups.
There is disproportionate impact on change for Māori – and the same can be said for other minority groups including those with disability. This has been shown time and again, most recently in the Still Alone Together report, which looked at the impact of COVID-19 on loneliness.

Figures show those most affected by loneliness include the unemployed, low-income earners, single parents, young people, recent migrants, Māori and disabled people.

As such it’s important to assess what known and unknown impacts changes to our infrastructure would have. This is the only way to reverse embedded segregation. Injecting region-wide design changes, such as bike lanes and parklets, into a neighbourhood won’t bring change where there is existing disparity.

Furthermore, many of these services are interconnected. The function of the marae includes caring, learning, supplying and enjoying, while whānau homes provide caring, learning and enjoying.

Ultimately, success for Aotearoa would be in applying the Māori principle of sustainability and stewardship, Kaitiakitanga.

Kaitiakitanga is important to whakapapa as it honours the legacy of tīpuna, protects and nurtures generations here and prepares for the generations to follow. It is of reciprocal nature and so involves a whole community of people.

To support Māori communities, the 20-min city functions need to include:

- **Enjoying**
  - Close to whānau
  - Close to sport centres
  - Close to church / community centres

- **Learning**
  - Kōhanga Reo
  - Kura Kaupapa
  - Kindergarten
  - Community centres
  - Language centres
  - Job centres
  - Libraries
  - Training and polytechnical institutes
  - Marae

- **Supplying**
  - Close to cultural supply chains such as Chinese supermarkets, flea markets, large supermarket, liquor store, butcher.
  - Banks

- **Caring**
  - Ministry of Social Development
  - Hospital
  - GP services
  - Church
Recommendations:
A bottom-up approach to redesigning streets and neighbourhoods that allows people to make their own decisions on design right outside their doorstep. International insights show the need to plan at the “hyper-local” level and resist an urge to blanket a neighbourhood or city with a top-down, technocratic approach to planning.

What some experts see as obvious neighbourhood improvements — bike lanes came to mind — are interpreted quite differently by residents, who may view these improvements as agents for gentrification and the eventual loss of affordable homes. A bottom-up approach would enhance trust building between the ‘top’ agency and the community and it would reduce the opposition to changes.

Other recommendations include:

- Embracing the opportunity technology can deliver. For example, using a health app to enable video consultation, reducing reliance on travel for minor health issues.
- Local weekday public transport services running every 10 minutes during peak and 15-20 mins off peak.
- Neighbourhoods should be designed so that we can live, work and thrive so we don’t have to constantly commute given that more time is lost in commuting than any other activity.
- Changing the embedded societal mindset of cars as a necessity. This could mean more subsidies for biking, electric vehicles, micromobility and public transport.
- Success is about economic growth, development and infrastructure working in harmony with behavioural change – notably the biggest challenge. If these aren’t aligned one will undermine the others
- When it comes to community and business engagement, it’s not about the telling, it’s about the asking and understanding
- Transport needs to be affordable and access equitable
- Everything is also about the economy - spending money, having a business
- Where possible have transport hubs with inter / co-dependencies. Plan for live, learn, work, play, connect and travel. Stations also need to promote cycle and scooter access, charging and parking
- Use urban heat mapping and air quality to demonstrate change benefits. Communities like to know the sacrifices for change are making a difference.
- We must join the dots and tackles the right issues and areas first
- The built environment has always been people first, thinking now needs to change to people and natural environment benefitting equally.
- There is no one 20-min city, rather a series of unique neighbourhoods.
As we increasingly acknowledge the importance of te ao Māori in our approach to infrastructure – particularly in climate change adaptation – we also need to recognise the valuable insights to be gained from applying kaupapa Māori to urban planning. Approximately 85% of Māori live in urban centres but over many decades their connection to the land has been rewritten and made invisible. Furthermore, Māori and Pacific peoples are disproportionately affected by inadequate housing, with impacts across generations. More than half of those in severe housing deprivation identify as being Māori or Pacific.

This is changing on a number of fronts. Kāinga Ora, now the largest residential developer in Aotearoa, is committed to understanding, supporting and enabling Māori aspirations for urban development. Reform of the Resource Management Act, which required decision-makers to take of Te Tiriti o Waitangi principles into account, is anticipated to provide a more effective role for Māori and improved recognition of Te Tiriti.

A 20-min city in Aotearoa should also look to and learn from papakāinga, a collective form of Māori living. From a land development perspective, papakāinga is generally considered to be communal housing and facilities on ancestral land owned by Māori, functioning an intentional community.
Traditionally papakāinga comprised multiple dwellings and communal facilities, and were commonly sited around resources and/or places of importance. In a contemporary sense, papakāinga provide Māori with opportunity to live according to that group’s social and cultural values, which may not be provided for through western models of housing and tenure.

There is much to learn from a Māori co-housing model. It has the capacity to provide for the economic provision of services and access to large outdoor communal spaces, gardens and orchards. A large common house provides the focus for communal activities and often includes dining, office / computer, childcare, teenager and entertainment facilities.

An example of this is Ngāti Whātua Ōrākei, a medium density development with 30 whare in Tāmaki Makaurau. Sustainability is present throughout the development in the form of community gardens, shared play spaces, zero waste initiatives, stormwater retention and filtering systems, and onsite renewable energy production and storage.

Papakāinga concepts and collective living also provide the following:

- Wānanga – this concept or activity is a space or opportunity that provides for relationship and community building, responsibly sharing, education, support, planning and all-round pressure easing. Outputs include a decrease in loneliness, mental health resilience, child centric environments and daily communal efficiencies.

- Environmental integration - the design of people and structure into the environment rather than engineering climatic and environmental inconveniences out.

- Reverse gentrification – the provision of a more place-based relationship. Papakāinga build on cultural relationships with the whenua providing a more stable workforce and other benefits of a stable, self-sufficient community.

- Tai timu, tai pari – dissemination and consolidation. This kind of community is adaptive allowing those that do explore the world, learn and build on themselves to return and contribute more to their hau kāinga or winds of home.

These are some of the reasons why Māori open garages, yards, lounges and houses to relations in need, as the alternative is homelessness.

**Context within the 20-min city**

The disparity between Māori and Pasifika, and the over-representation in negative statistics reinforces that the current approach isn’t producing thriving environments for our communities. In adopting a 20-min city model, minority personas need to be afforded a more equitable voice in the planning process. Within this is the need to develop what a 20-min city means to minorities, rather than adopting one-size fits all. This is in line with the international examples, that have initiated at a hyper local level.
Adopting a 20-min mindset

Can we meet the opportunity? As curators of the built environment it’s up to us to deliver – can we meet the opportunity?

We’ll need an acceptance of new ways of living, innovative and sustainable design that’s of high quality.

We need to ensure that medium and high-density developments aren’t driven by profit but are designed to deliver thriving communities.

Getting our heads around increasing density

Detached housing is the predominant housing type in Aotearoa however, consents for townhouses, units and flats have been steadily rising in Auckland, making up a quarter of all new homes consented in the year to August 2019, closely followed by consents for new apartments (Statistics New Zealand, 2019).

A recent survey conducted by BRANZ suggests medium density housing has yet to be accepted by the majority of New Zealanders, with resistance both to various medium density typologies and to increasing neighbourhood densities. A lack of visual appeal was identified as a significant issue; although the survey also found that lived experience of medium density was likely to increase residents’ acceptance.

When CRL opens it will move all western rail corridor suburbs closer to the centre of Auckland, which will increase the demand for higher density housing. Some of these suburbs have 20 dwellings per hectare.

This is already being done - Hobsonville Point’s densest residential blocks, in the Kerepeti Development, have 100 dwelling per hectare. Kerepeti is being built by Ngāi Tahu in partnership with the NZ Super Fund.

<table>
<thead>
<tr>
<th>Location</th>
<th>Dwellings per Hectare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paris</td>
<td>127</td>
</tr>
<tr>
<td>Tokyo</td>
<td>103</td>
</tr>
<tr>
<td>Barcelona</td>
<td>70</td>
</tr>
<tr>
<td>New York</td>
<td>43</td>
</tr>
</tbody>
</table>

WSP Future Ready® 20-min city in Aotearoa
A different way of doing things

To meet this opportunity, we need an acceptance of new ways of living, innovative and sustainable design that’s of high quality. A CBRE report says this could deliver new ways of using space, such as communal dining areas that can be booked out rather than having large living rooms.

A 2020 London School of Economics report, Living in a denser London, explored the issues of increased densification of London.

Researchers identified a number of benefits and drawbacks of high-density living including:

- A lower fear of crime with 62% of residents reporting feeling safe
- Good views (bearing in mind that social tenants were more likely to be on lower and ground levels, while private owners would purchase further up)
- Lack of daylight for those on lower floors
- Not enough privacy
- Limited access to outdoor space: although many of the development included roof garden, researchers found these were infrequently used by residents.

The research found that people picked their homes on the basis of transport links and price. Implicitly they were prepared to make trade-offs, such as not being close to family and friends.

Interestingly, proximity brought about by high-density didn’t encourage community. While in a physical sense entire new communities are created with the opening of a new development, it takes time to function as a community in a social sense.

The report authors summarised the following insights:

- Residents living in the same scheme or even the same corridor don’t necessarily socialise or recognise each other. Circulation areas like lifts, corridors and lobbies could be thoughtfully designed to encourage informal, spontaneous interactions.
- Integration with the surrounding neighbourhood can be fostered through pedestrian permeability and incorporating amenities that can be used by the wider community.
- Encourage incoming residents to engage with local area, for example by providing information on local resident associations and neighbourhood groups.
- Residential development should proceed hand-in-hand with infrastructure improvements but there is often a lag. Many respondents said their local infrastructure and services were under strain, with long queues at tube stations, difficulty getting a GP appointment, and schools at full capacity.
- New schemes can bring sudden sharp increases in local population. Necessary improvements in infrastructure and services should arrive with the new residents, not years later.
- Street frontages should be active. Retail or commercial frontages should be provided only where they are likely to be successful. In some areas it may be better to designate ground floor units as family homes.
- Residents’ day-to-day movements should take them through common spaces, to ensure that these areas are used and feel welcoming.
- In many cases, it may be better to open amenities to the wider public rather than reserving them for residents only. Bigger, better, publicly accessible facilities may be produced by pooling resources from multiple local schemes. “It would be more strategic for different developers building in the same area to work together to share the provision of better communal amenities. You don’t need a playground on each scheme, you need a very good playground to be shared by different schemes,” suggested one developer.
Authors

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David is a member of WSP’s global Future Ready® Leadership team with accountability for Strategic Advisory services.

David’s multi-sector expertise includes strategy development and execution, brand, marketing, client experience and change management. This has been gained through 20 years in senior leadership roles providing strategic consulting for public and private clients operating in diverse markets including Europe, Middle East and USA.

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Courtenay is passionate about designing cities and communities that are places for people. With consultancy experience in the UK, Australia and Aotearoa, Courtenay’s work has spanned climate change, future mobility hubs, cycling infrastructure, spatial strategies and public realm.

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Gemma brings extensive knowledge in stakeholder and community engagement and a technical background in environmental management, undertaking statutory planning projects for a number of clients. She enjoys a challenge and loves working collaboratively with diverse project teams and communities to achieve successful outcomes and is passionate about facilitating community input into decision making.

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Kumeroa has benefitted from a full-immersion Māori education, being surrounded by the culture in every facet of his life. He relishes proactive, challenging and forward-thinking roles, drawing on his experiences in the finance industry and his personal relationships. At WSP he leads Iwi engagement on multiple projects.

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Sarai supports clients to increase their understanding of te ao Māori (the Māori world view) and reducing project or business risk by creating holistic and reliable solutions that promote sustainable relationships with Iwi.

Contributors
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Written and prepared by Kate Palmer. Designed by Anisha Panchia.
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