Auckland Rapid Transit Study

Unlocking the potential of the Auckland's rapid transit network

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2.6m

Tāmaki Makaurau is expected to grow to 2.6mil people by 2050, which means we need to plan for a much higher population.

64%

The Transport Emissions Reduction Plan's (TERP) target for reducing transport emissions by 2030. This work will help inform the mode shift investment required for reaching this goal.
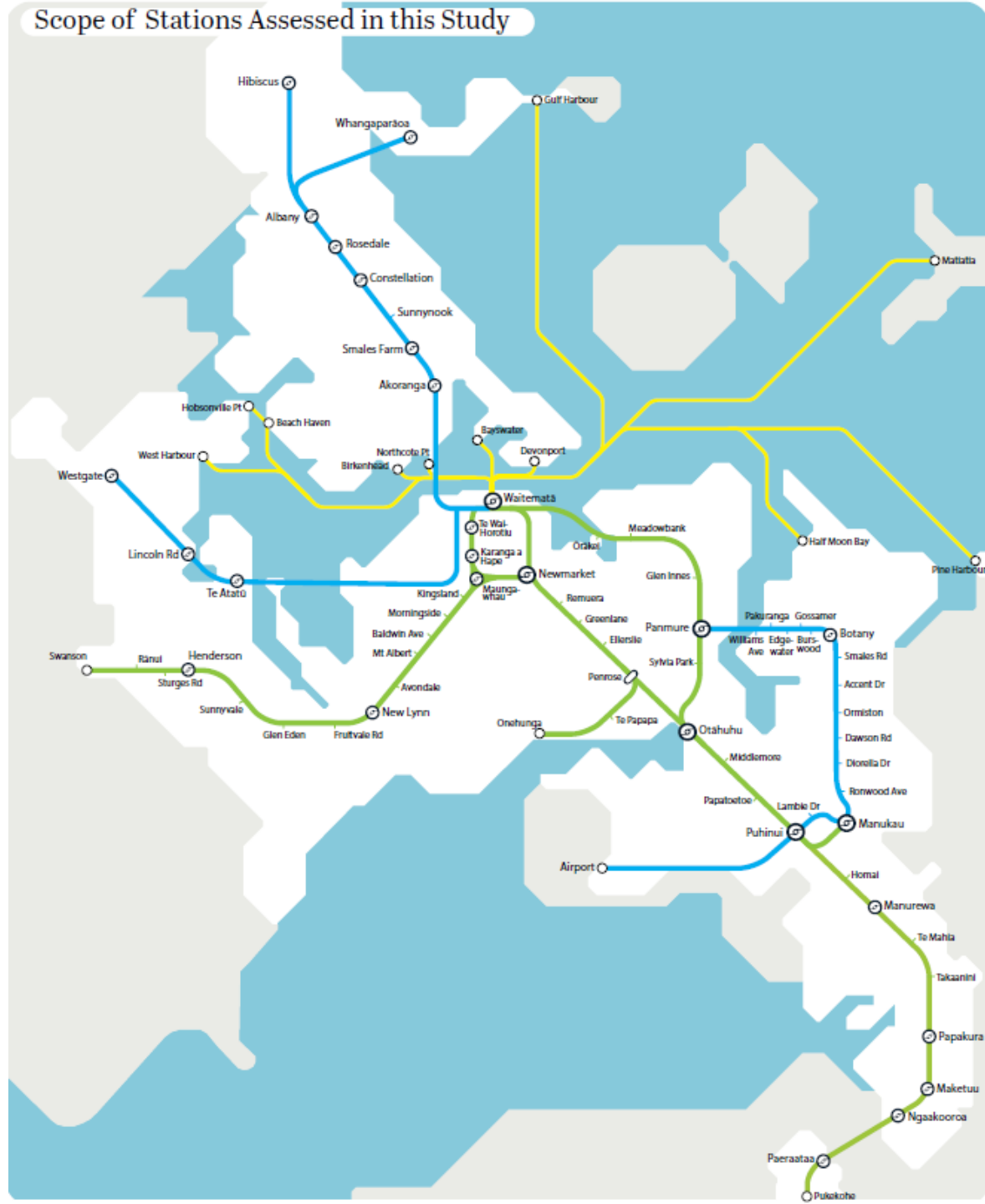
45 🚃 **12** ⛴ **24** 🚌

The total (81) number of transit stations (59 existing and 22 future) that have been assessed as part of this study.

1m+

Based on recent zoning changes, the maximum additional population growth that can be accommodated within the station catchments across the existing and committed rapid transit network.
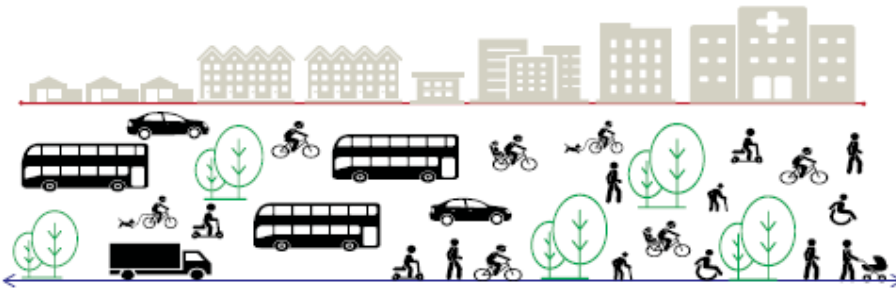
Scope of Stations Assessed in this Study

Understanding the Customer Journey

1. **The station experience** incorporates access, waiting, egress, and various components of customer experience

2. **The catchment experience** travelling to and from the station (first and last leg)

3. **The network experience** provides the ability to go places and do things, connecting customers from one neighborhood to the next.

Te Wai Horotiu Station

Catchment Experience

Station Experience

Station Experience

Middlemore Station

Catchment Experience

The Network Experience

- There are many moving components to a customer journey.

- People will struggle to access transit if there are no quality transit and active mobility solutions within the catchment.

- It is important to have holistic design of customer experience from origin to destination

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A story of **growth** for Tāmaki Makaurau

700,000
extra people by 2050

313,000 new
homes by 2050

40% of New
Zealand's GDP

Net-Zero
carbon emissions by
2050

This growth needs to achieve
multiple goals....

Housing Choice
& Affordability

Better Employment
Opportunties

Strong Access &
Mobility

Sustainability &
Low Carbon

Healthy & Active
Populations

Safer & Cohesive
Communities

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Imagining an Integrated Strategy...

The NPS-UD is a strong first step

Buildings in the city centre are taller and denser, giving more businesses and apartment dwellers a chance to work and live there, where productivity is highest.

Buildings within a walkable range from city centres, metropolitan centres and existing or planned rapid transit stops may now be six storeys, or higher.

The form of the city and the types of homes within it enables all people and communities to provide for their wellbeing, provides access to opportunity to all and evolves to reflect the diverse and changing needs of its inhabitants. This includes allowing Māori to express their cultural traditions and norms.

Developers are free to determine the number of carparks in their developments. This means people who do not need or want car parks at their home or business premise are not required to pay for them.

Across the city, height and density reflect demand and the level of accessibility by active and public transport.
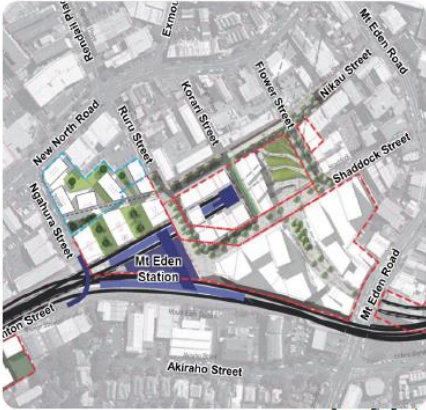
Development may occur even where it is not planned for, both on the fringe of cities (greenfield) or redeveloping already urban land (brownfield).

This is because councils need to be responsive to development that will provide significant numbers of new homes or business locations, and will contribute to good outcomes.
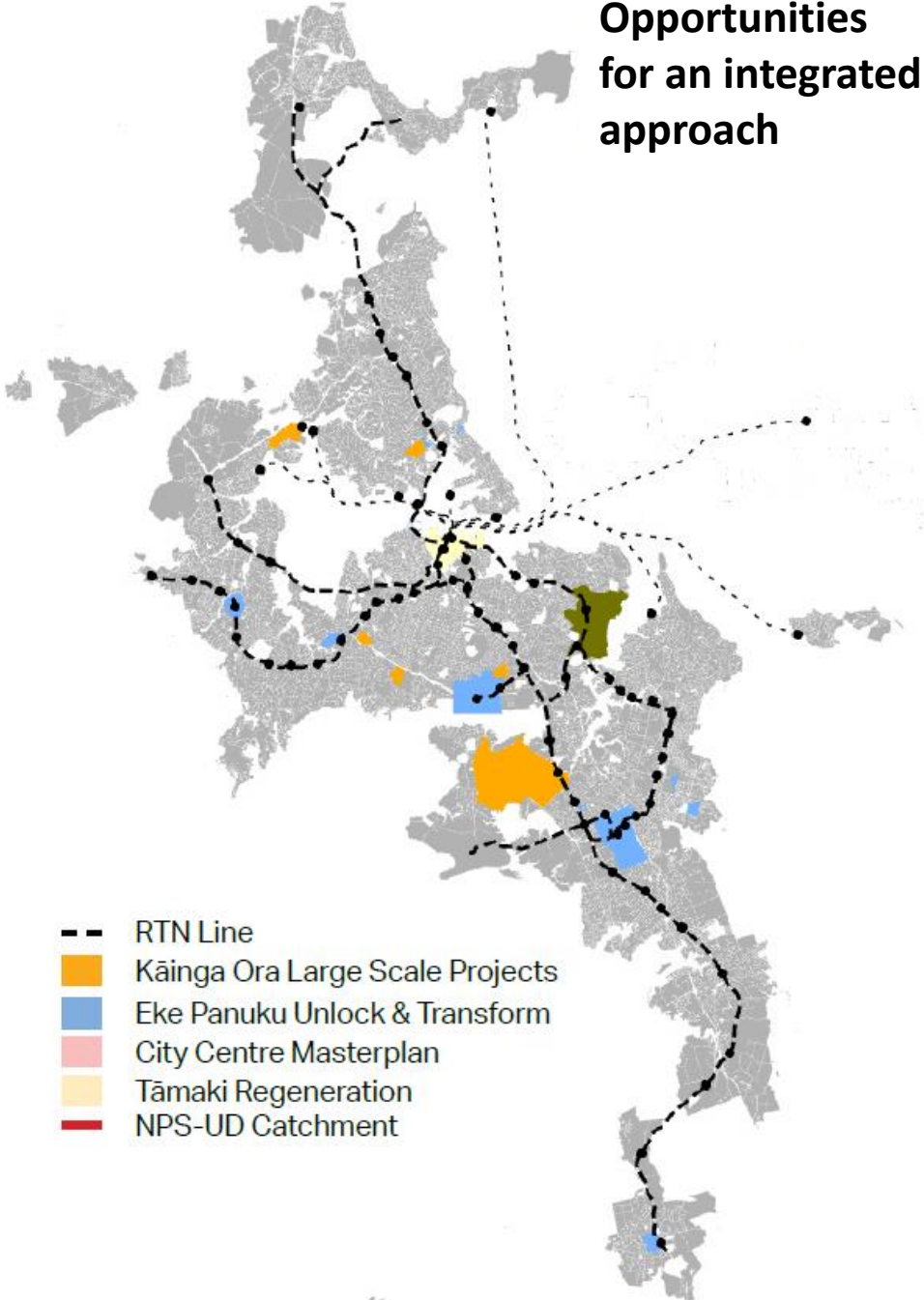
In some areas, plans may not enable the same levels of intensification. For example, areas with significant risks of natural hazards, or heritage buildings. Such exemptions will require an evidentiary basis, and are unlikely to take the form of a blanket ban on development.

More people live in areas with good public and active transport links, meaning they are not reliant on cars for transport. This will help to reduce traffic and transport emissions.

Source: MHUD

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Maungawhau Station - Tāmaki Makaurau Auckland

Kāinga Ora, Eke Panuku, Auckland Council, and City Rail Link Ltd are collaborating to develop a transit-oriented community above the new Maungawhau Station.

Opportunities for an integrated approach

RTN Line (dashed)
Kāinga Ora Large Scale Projects (orange)
Eke Panuku Unlock & Transform (blue)
City Centre Masterplan (pink)
Tāmaki Regeneration (cream)
NPS-UD Catchment (red)

Location
Tāmaki Makaurau

Construction
2016 - 2024+

Lead Agencies
Kāinga Ora, City Rail Link Ltd, Auckland Council and Eke Panuku

Key Points
– Mixed use development on land that was aquired as part of the CRL construction
– The development includes a mix of high density housing, offices, shops, restaurants and public spaces.

Strategic Alignment

Policies, plans and strategies exist at:
- The station level
- The catchment level
- The network/regional level

To better understand this, we need to visual all these policies, plans and strategies happening at all the levels.

This demonstrates the complexity of developing transit-oriented communities and the need for an integrated assessment tool
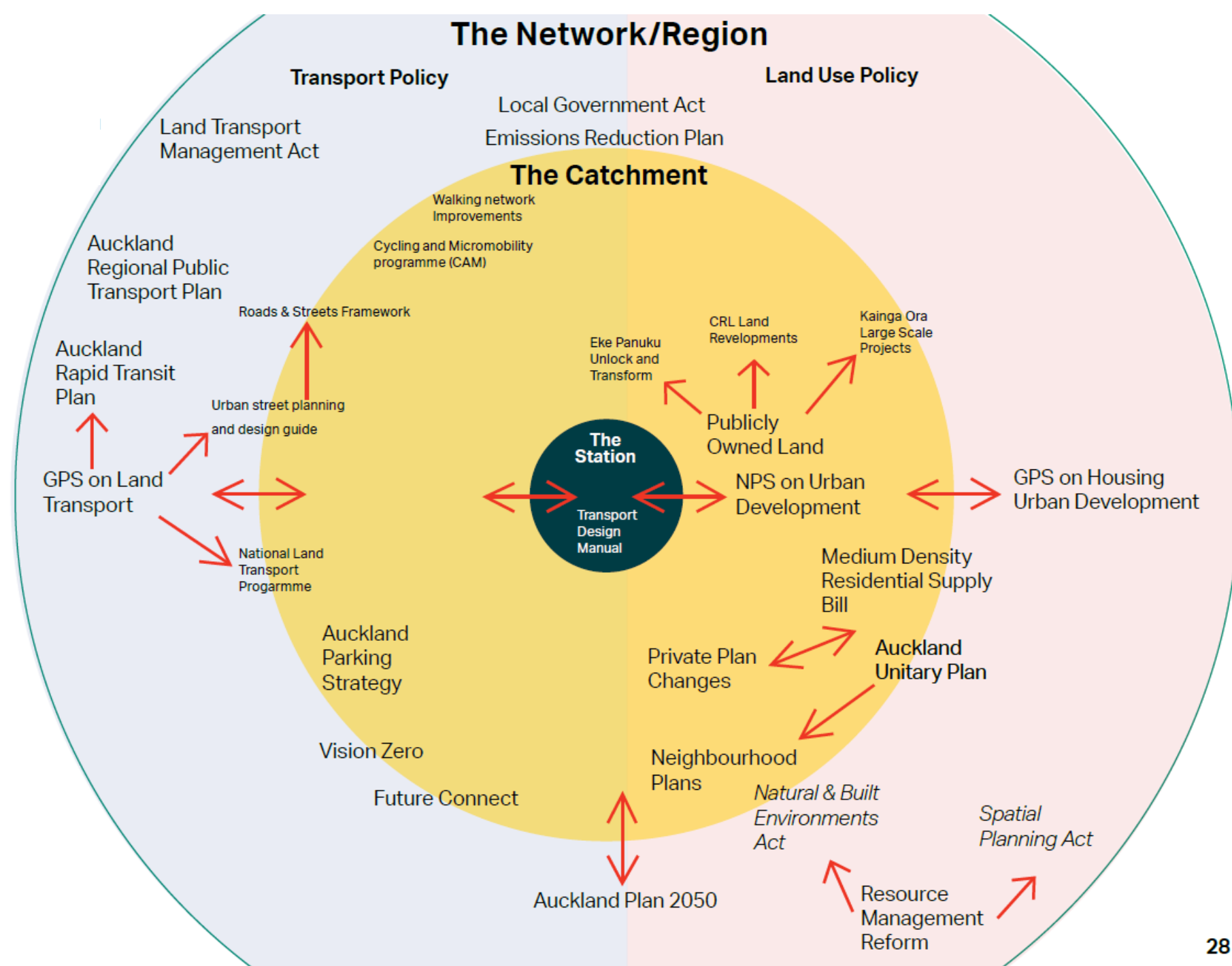
An integrated assessment tool

- The tool allows public and private stakeholders to better collaborate

- There are various organisations that have different roles and functions

- Allows the various actors and stakeholders to begin to see the bigger picture

The next steps..

- The key outcomes of the study could be used to inform:
  - Policy
  - Business Cases
  - Funding directions for various organisations
  - And more!

- Plays a part in the long journey towards thriving communities around transit in Tāmaki Makaurau

54
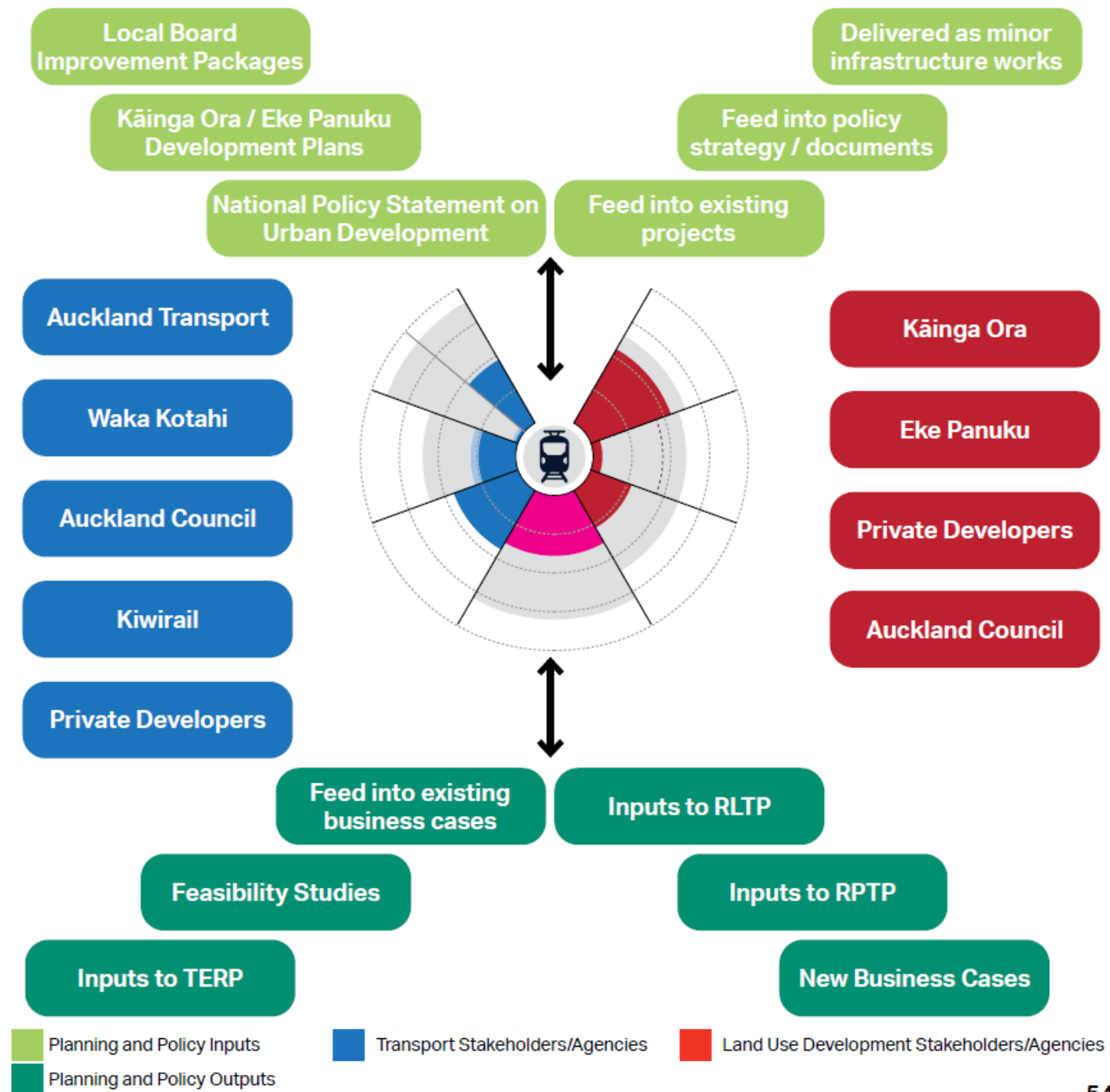
DATA

INFORMATION / KNOWLEDGE

INSIGHT

1

2
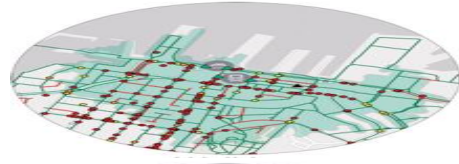
3

Walking

Cycling

Public Transport

General Traffic

Proximity / Density

Diversity / Place

Zoning

Akoranga

Existing Scores

54   4   54   30   63   55   9   30

Committed Investment

+0   +6   +9

Typology: Transfer

Ideal Scores

90   90   65   25   90   60   40   40
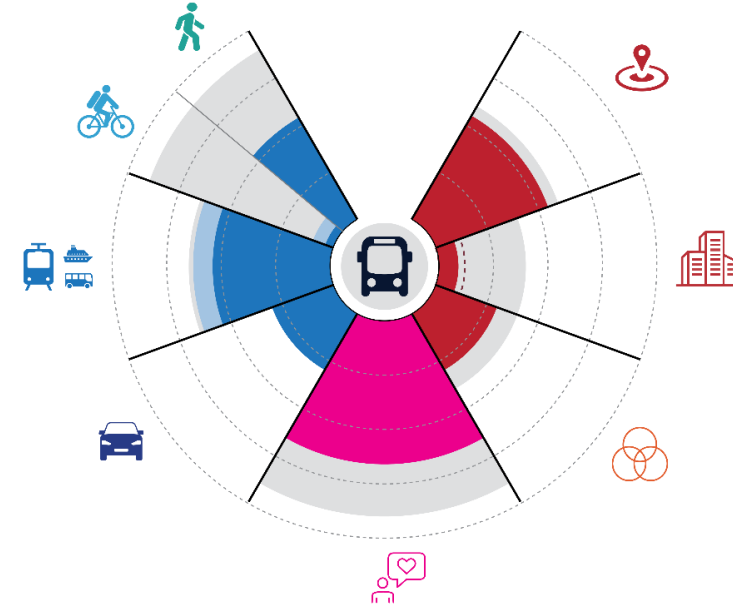
4   **BASELINE CONDITIONS**

5   **INTEGRATE TRANSPORT AND LAND USE DECISIONS**

6   **IMPROVE ACCESS**

Walking

Cycling and Micromobility

Public Transport

Car

Station Experience

Proximity

Density

Diversity

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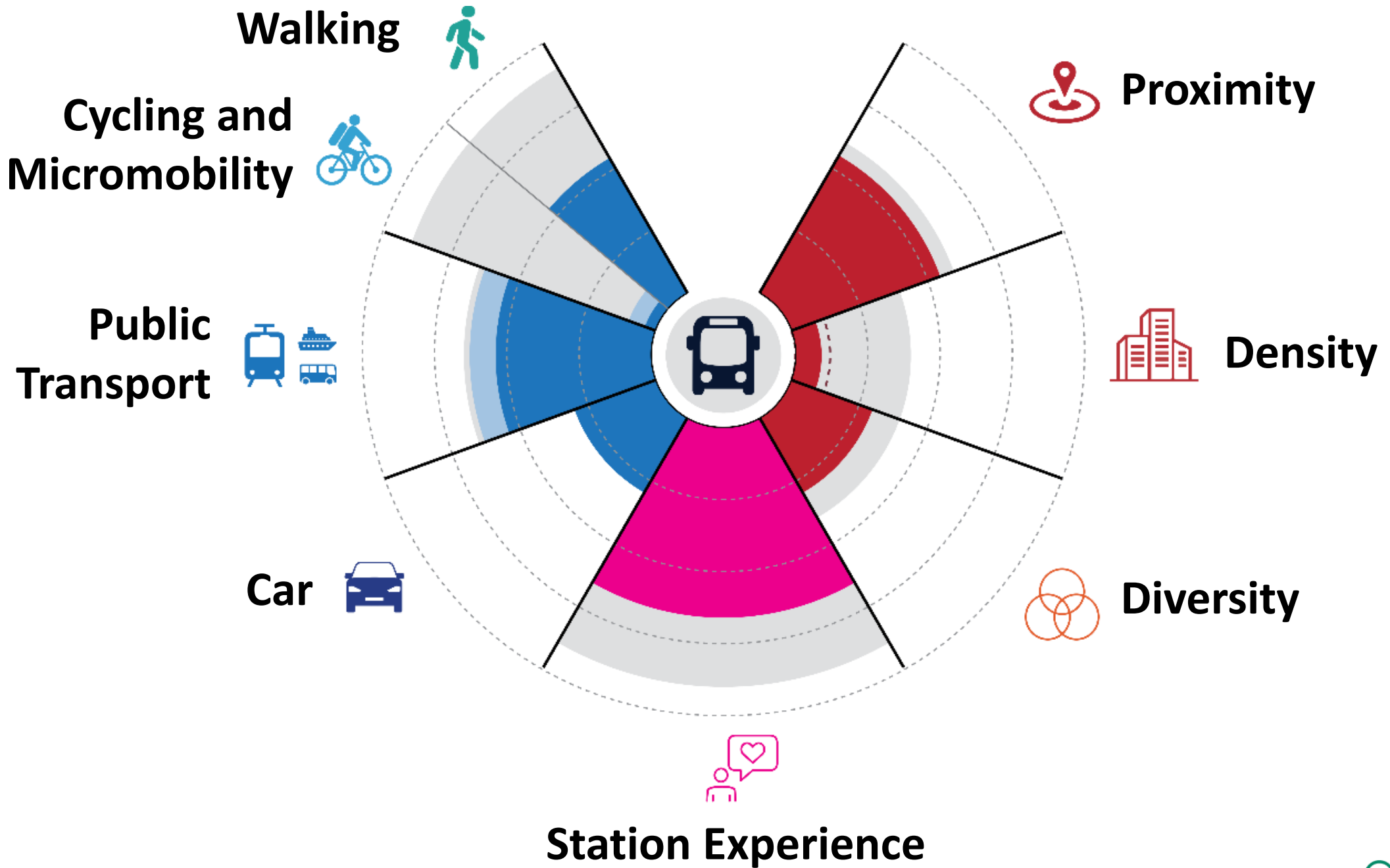
Key metrics for each wedge

6 metrics within this wedge, covering:

- Frequency (RTN and feeder)
- Service hours
- Transfer Experience
- Access to rest of RTN network

Each wedge has their own set of metrics, for over 30 metrics total!

Station Typologies

More Dense
More Diverse

Less Diverse
Less Dense

- (A) City Centre
- (B) Metropolitan
- (C) Town Centre
- (D) Single-Use
- (T) Transfer
- (E) Coastline

(A) City Centre

Land Use

Scores

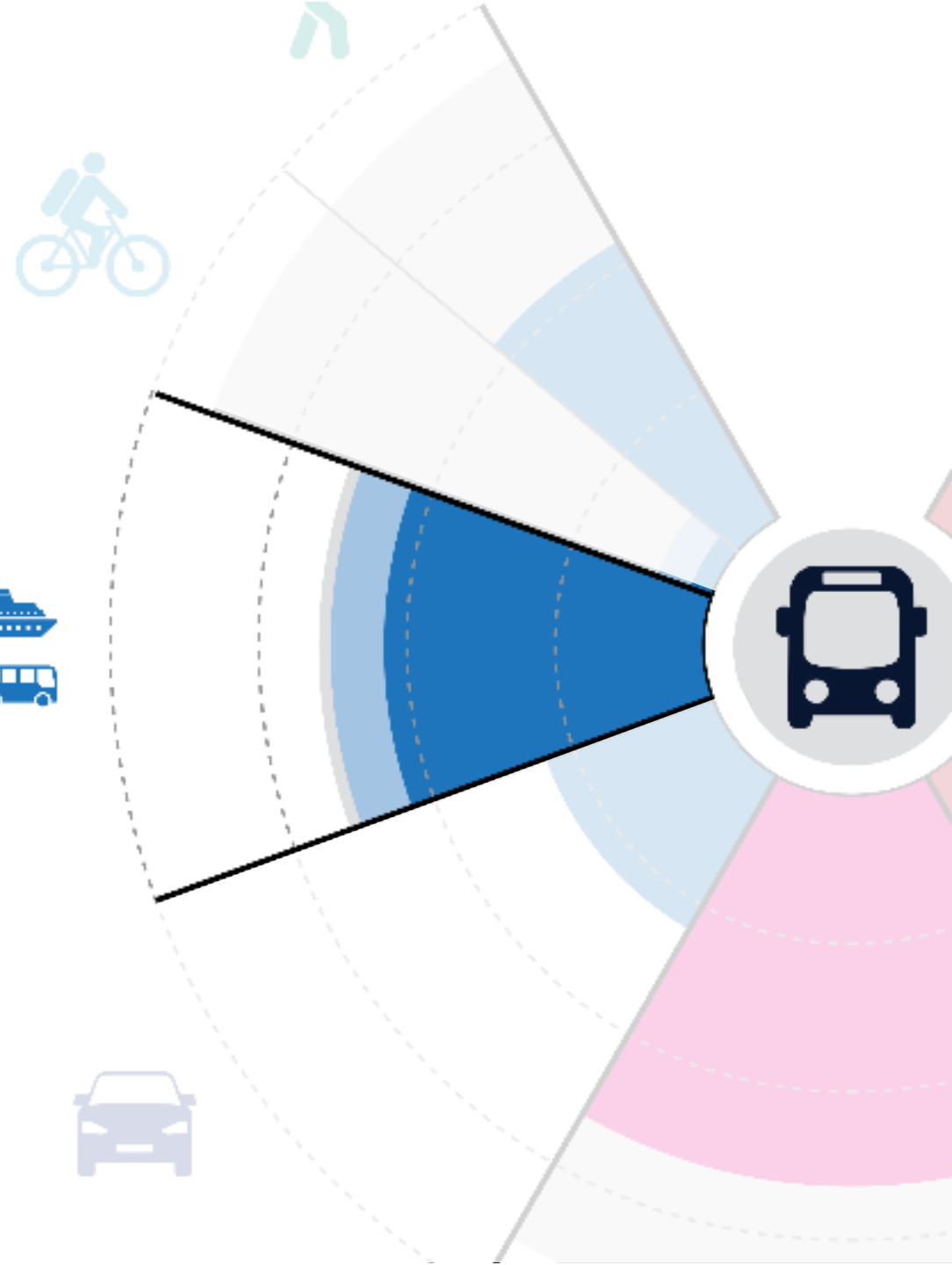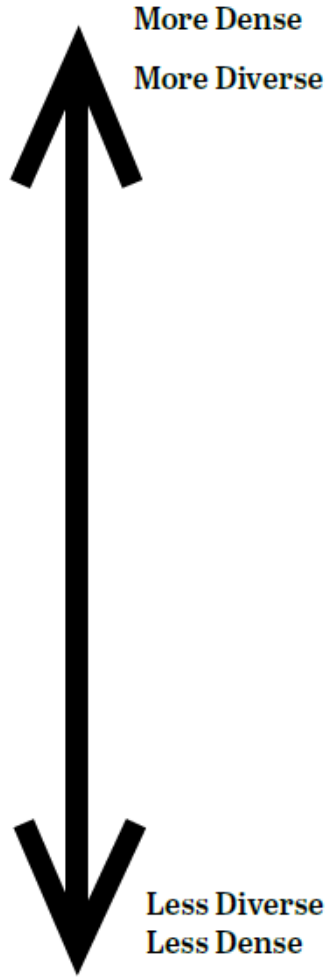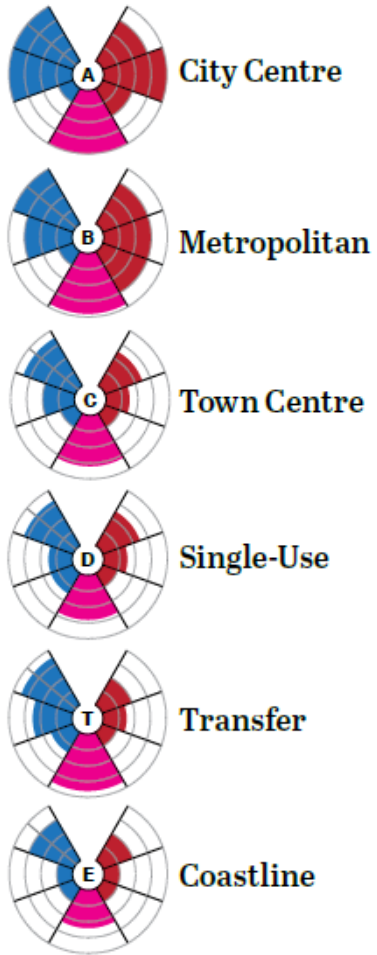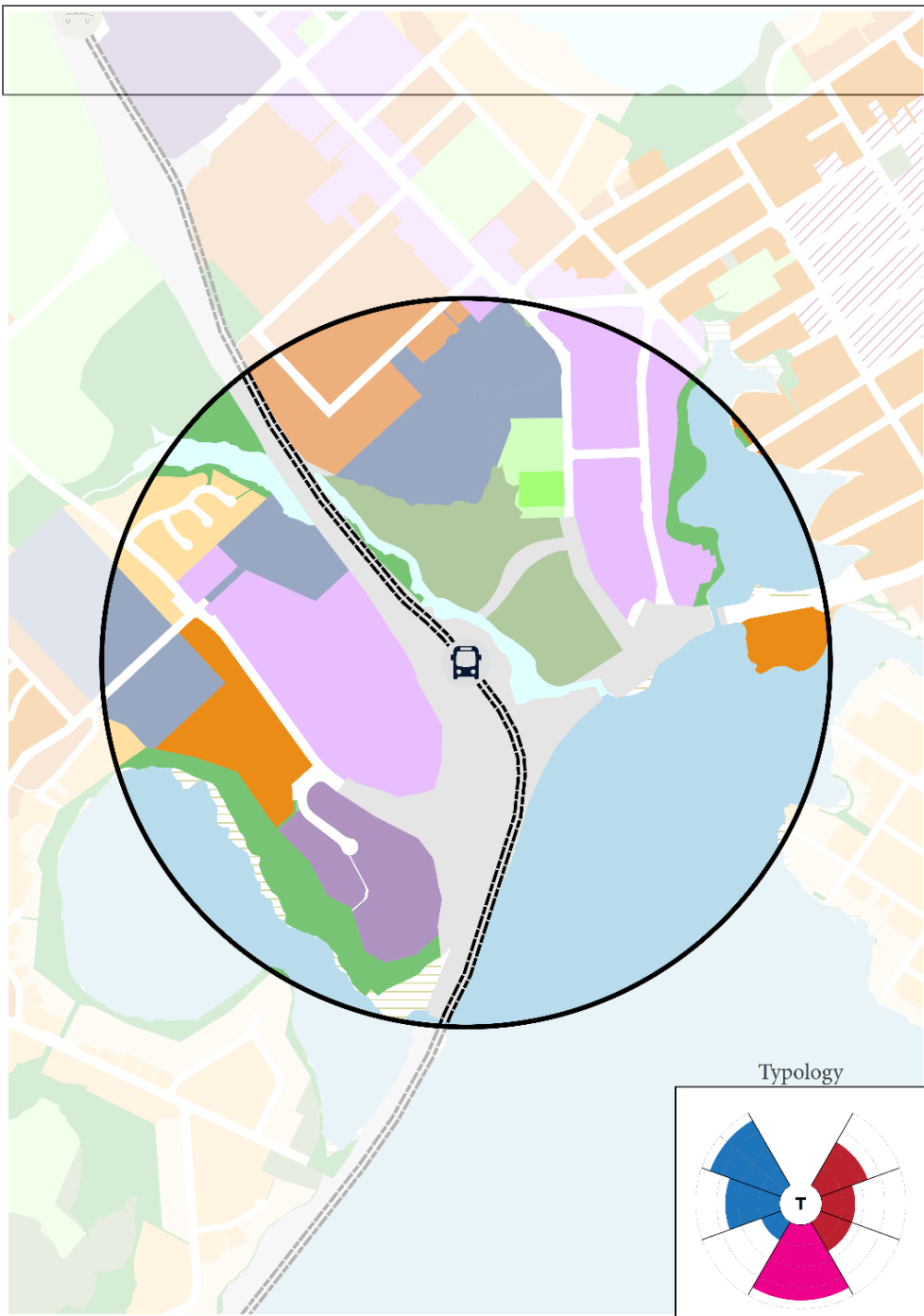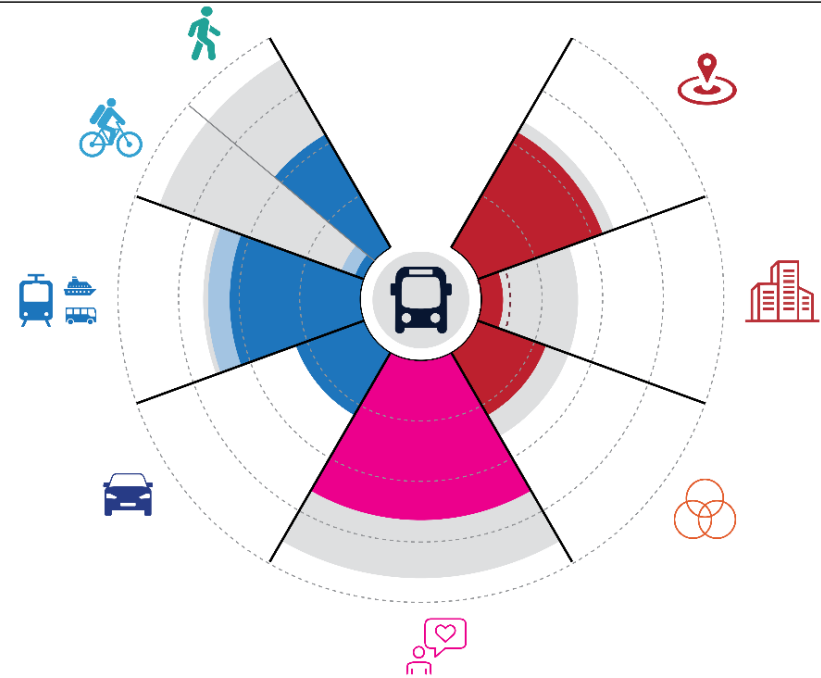Walk | Cycle | Car | PT | Density | Proximity | Diversity | Station

Station Experience

- Highest density
- Very high proximity
- Highest PT access
- Highest walking and cycling access
- Limited car access
- Best station experience

(B) Metropolitan

Land Use

Scores

Walk | Cycle | Car | PT | Density | Proximity | Diversity | Station

Station Experience

- Very high density
- High PT access
- Highest diversity
- High walking and cycling access
- Limited car access
- Strong station experience

(C) Town Centre

Land Use

Scores

Walk | Cycle | Car | PT | Density | Proximity | Diversity | Station

Station Experience

- Medium Density
- High Diversity
- High proximity
- High walking and cycling access
- Limited car access
- High station experience

(D) Single-Use

Land Use

Scores

Walk | Cycle | Car | PT | Density | Proximity | Diversity | Station

Station Experience

- Medium density
- Very low diversity
- high walking and cycling access
- Medium PT access
- Some car access
- Safe and accessible station

(T) Transfer

Land Use

Scores

Walk | Cycle | Car | PT | Density | Proximity | Diversity | Station

Station Experience

- Primarily single use
- Medium density but high PT access
- High walking and cyling access
- Some car access
- Best station experience

(E) Coastline

Land Use

Scores

Walk | Cycle | Car | PT | Density | Proximity | Diversity | Station

Station Experience

- Primarily single use
- Lowest density
- Lowest diversity
- Medium walking and cycling access
- Some car access
- Good station experience

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Akoranga

Existing Scores

🚶	🚴	🚉	🚗	💬	📍	🏢	⦿
54	4	54	30	63	55	9	30

Committed Investment

🚶	🚴	🚉
+0	+6	+9

Typology: Transfer

Ideal Scores

🚶	🚴	🚉	🚗	💬	📍	🏢	⦿
90	90	65	25	90	60	40	40

Typology

Akoranga

Catchment Analysis

WALK

Score	Current 54/100	Investment 54/100	Typology 90/100
Footpath Width	11/15		
Corridor Severance	7/10		
Walking Catchment	13/30		
Crossings	21/30		
Speed Limits	3/10		
Wayfinding	0/10		

CYCLE

Score	4/100	10/100	90/100
Cycleway Span	0/10	5/10	
Cycleway Coverage	0/40		
Parking	2/30		
Speed Limits	2/10	3/10	
Wayfinding	0/10		

PUBLIC TRANSPORT

Score	54/100	63/100	65/100
Centrality	10/20	11/20	
RTN Service Level	27/30	30/30	
Non-RTN Service Level	3/20	4/20	
Network Span	6.25/10		
Transfer Experience	12/15		
Intercity	0/5		

CAR

Score	30/100	30/100	25/100
Park & Ride	1/25		
Kiss & Ride	0/15		
Restricted On-Street Parking	0/5		
Unrestricted On-Street Parking	0/15		
MW Access	10/10		
Primary Arterial Access	8/10		
Secondary Arterial Access	0/5		
Other Parking	12/15		

PROXIMITY + DENSITY

	Current	Typology
Proximity Score	55/100	60/100
Total within 400m	2,791	
Total within 800m	8,970	
Proportion	31%	
Density Score	9/100	40/100
Total Residents	1,509	
Total Jobs	4,290	
Total Education	3,171	
Overall Density	4,461/km²	

DIVERSITY

Score	30/100	40/100
Total Residents	1,509	
Total Jobs+Education	7,462	
Average Meshblock Diversity	18%	
Meshblock Diversity Score	27/60	
Points of Interest	61	
Points of Interest Score	4/40	

STATION EXPERIENCE

63

Score	66/100	90/100
Wayfinding & Information	20/25	
Amenity	20/30	
Safety	14/20	
Cycling & Micromobility	11/17.5	
AT Services	1/7.5	

EXISTING ZONING (AUP 2016)
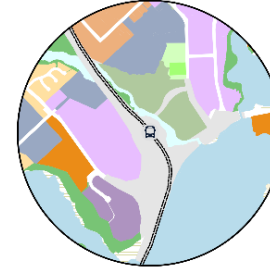
FUTURE ZONING (2022, PC78*)

*As at 15 September 2022

Type	Downtown	Karanga ā Hape	Te Wai Horotiu	Waitematā					
A									
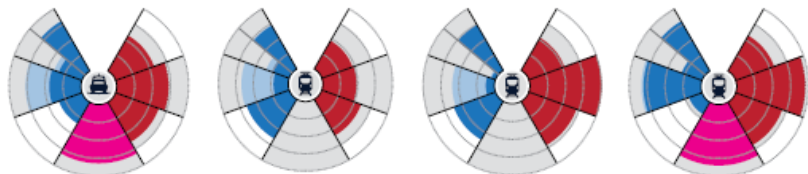
Type	Albany	Botany	Henderson	Manukau	New Lynn	Newmarket	Papakura	Sylvia Park	Westgate
B									

Type	Avondale	Devonport	Ellerslie	Glen Eden	Glen Innes	Grafton	Greenlane	Kingsland	Manurewa
C									
	Maungawhau	Maketuu	Morningside	Mt Albert	Onehunga	Panmure	Papakura	Papatoetoe	Parnell
	Pukekohe	Remuera	Ronwood Ave	Smales Farm	Sunnynook				

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Type	Accent Dr	Baldwin Ave	Burswood	Dawson Rd	Diorella Dr	Edgewater	Fruitvale Rd	Gossamer	Hobsonville Pt
D									
	Homai	Lambie Dr	Meadowbank	Middlemore	Ngaakooroa	Paeraataa	Rānui	Smales Rd	Sturges Rd
	Sunnyvale	Takaanini	Te Atatu	Te Mahia	Te Papapa	Williams Ave			

Type	Bayswater	Beach Haven	Birkenhead	Gulf Harbour	Half Moon Bay	Matiatia	Northcote	Orākei	Pine Harbour
E									
	Swanson	West Harbour							

Type	Akoranga	Constellation	Hibiscus Coast	Lincoln Rd	Ormiston	Ōtāhuhu	Penrose	Rosedale	Whangaparāoa
T									

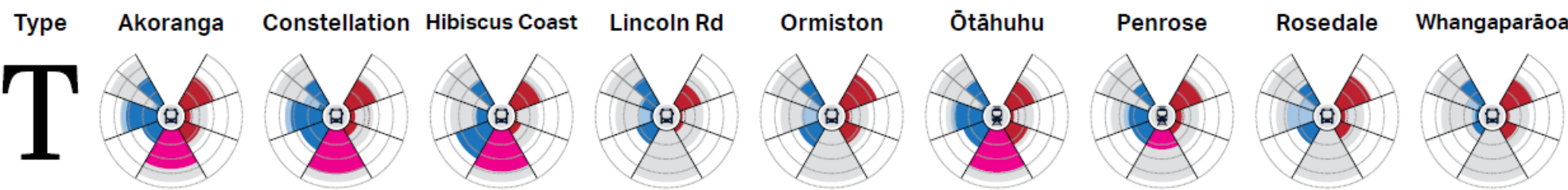aecom.com

High level findings and interventions

Staged Interventions

Short-Term — Medium-Term — Long-Term

Improve Active Mode Access + Safety
- Increase Walkable Catchment
- Fully built-out active mode network

Improve Transfer Experience
- Improve end to end transfer experience
- Improve RTN and Feeder Bus Frequency
- Frequent bus routes in all possible directions from station
- Dedicated interchange facility where strategic intent requires

Implement Parking Management
- Reallocation of road space to PT and active modes
- Redevelopment of surface level car parking into high density development

Enable Greater Density
- Better utilise land around stations
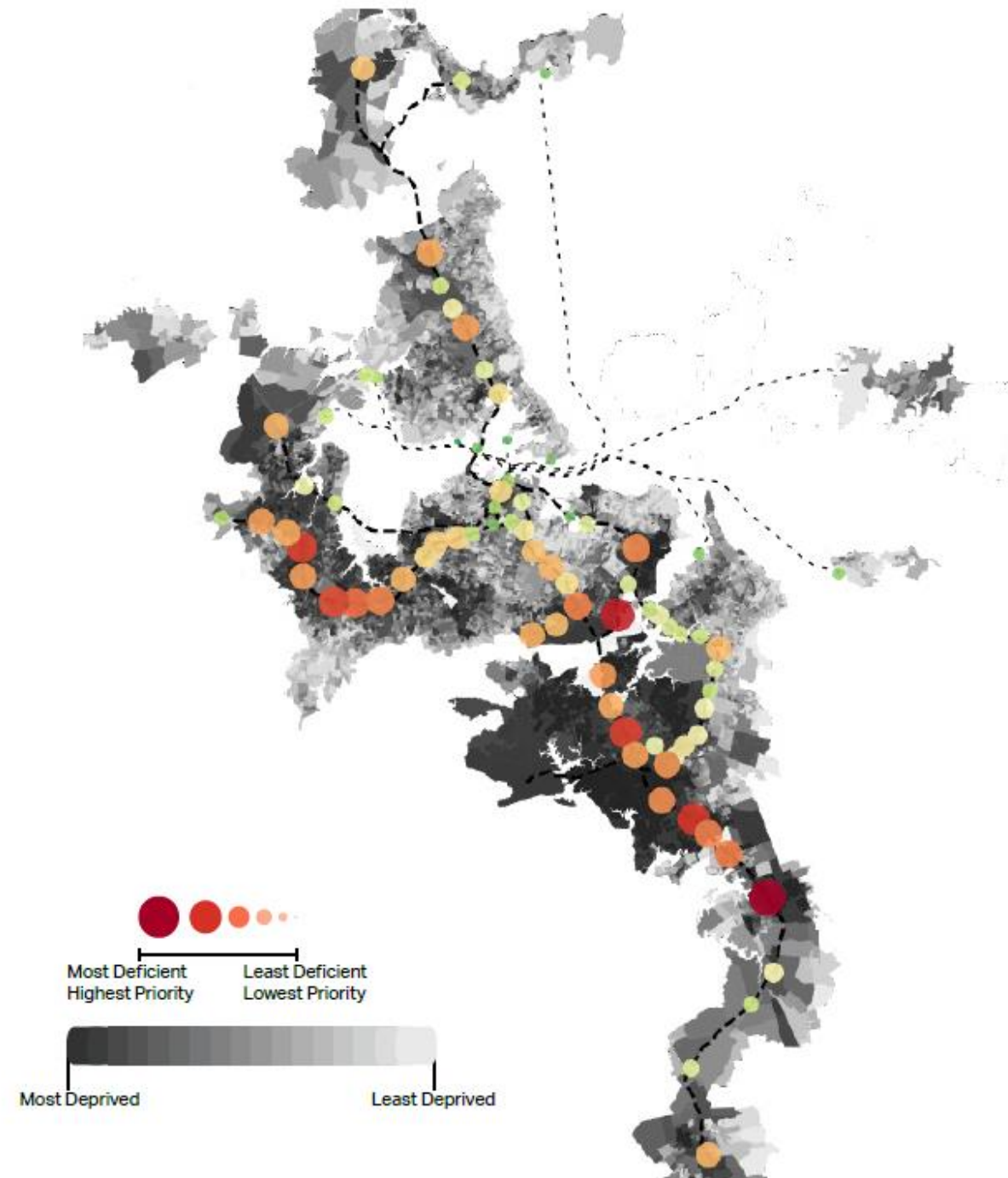- Develop long-term masterplans for station catchment
- Implement long term plan and redevelopment of publicly owned land

Improve Wayfinding
- Fully optimise the station experience
- Fully build out station based on strategic requirement

Most Deficient / Highest Priority — Least Deficient / Lowest Priority

Most Deprived — Least Deprived

Further Information and Readings…

The original inspiration for the adapted butterfly model

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