

# Planning Committee Workshop Roads & Streets Framework & the Transport Design Manual

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## Purpose of today

- Introduce Roads and Street Framework (RASf) and Transport Design Manual (TDM), which will assist in achieving the outcomes of the Auckland Plan
- Talk about the RASf and the TDM, the issues they respond to, their aims and how they can be used.
- Provide local examples of applying the RASf to Auckland roads and streets - urban and rural contexts e.g. responding to growth
- Seek feedback from the Planning Committee as part of the engagement process for the AT's RASf and TDM (Urban Street and Road Design Guide only).

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## Background

- Need more direction on place context and strategic network guidance within existing design documents
- Need greater ability to respond to the wider needs of liveability, sustainability, active transport modes and economic growth.
- Developer requests for clearer direction and guidance on road and street design.
- Misalignment of design responses between transport and other infrastructure providers utilising road and street space
- Need for agreement on strategic direction and design guidance in how to address growth in existing urban areas and new growth areas

## The Opportunity for Change

- The RASF specifies the intended place and movement functions and modal priority for roads and streets and the levels of service needed
- The RASF will help resolve conflicts between modes and place considerations.
- The RASF builds on existing AC / AT direction setting documents to inform TDM's urban street and road design guide
- The TDM provides the context specific design solutions for urban roads and streets (and rural roads in the future)
- TDM contains the design and technical specifications for capital improvements and operational expenditure.

## The RASF and the TDM

- The **Roads & Street Framework** describes, balances and integrates the intended strategic and local place and movement functions of roads and streets, as well as the levels of service for all modes.
- The **Transport Design Manual** provides the design and technical specifications for improvement projects and operation of all modes, guided by the Roads & Streets Framework.
- Together, the **Roads and Street Framework** and **Transport Design Manual** are aimed at everyone who plays a part in managing, designing, improving, delivering or determining the quality of roads and streets in Auckland.

## Roads and Streets Framework (RASf)



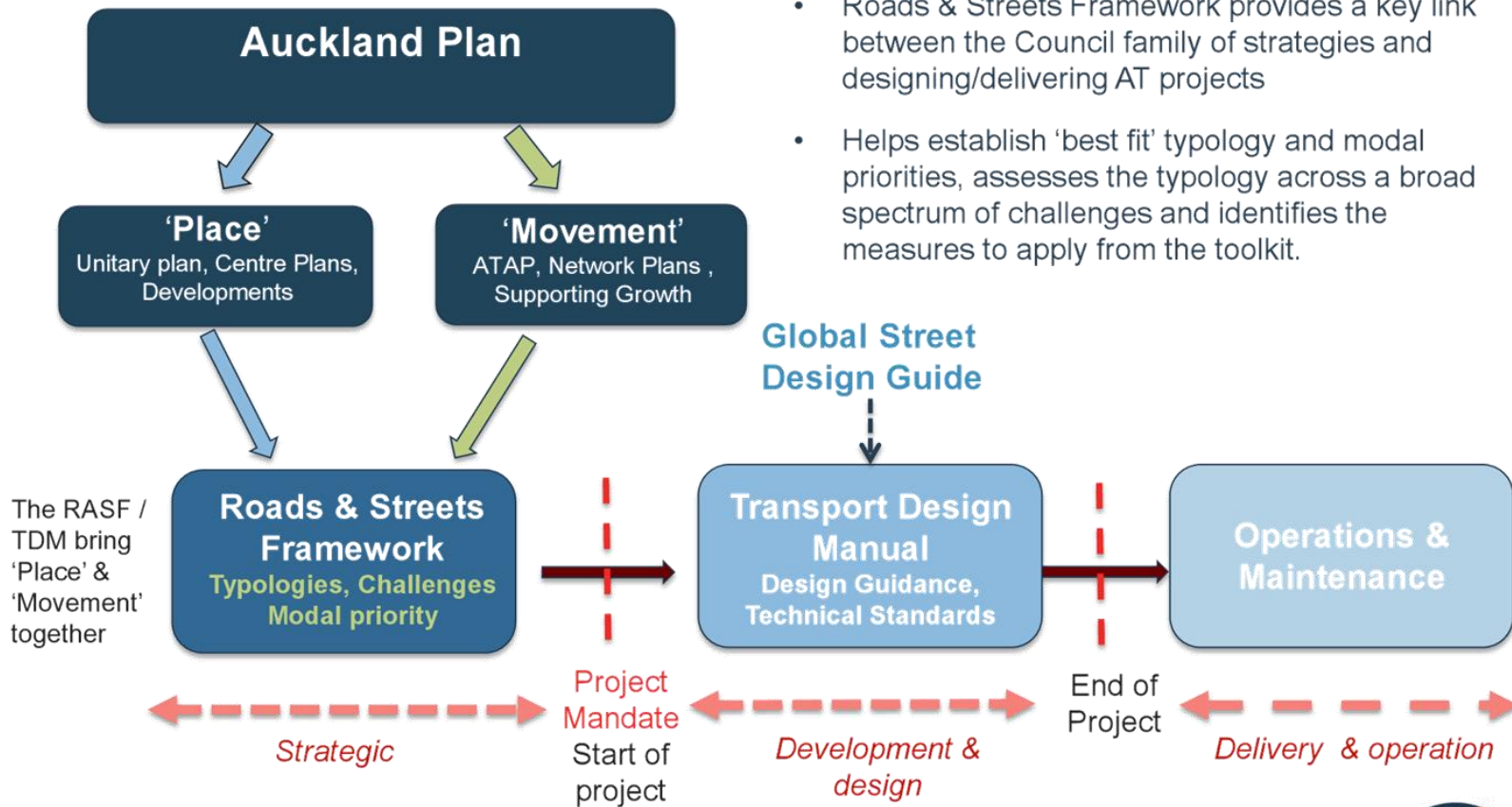
To deliver better, active and inclusive places and new destinations as we are working to shape our city

To transform conditions for walking, cycling, public transport and general traffic and act as catalysts for change; and

To maintain a safe and efficient road network for movement and access.

***Moving Auckland Forward***  
***Creating world class places connected by efficient and effective travel choices***

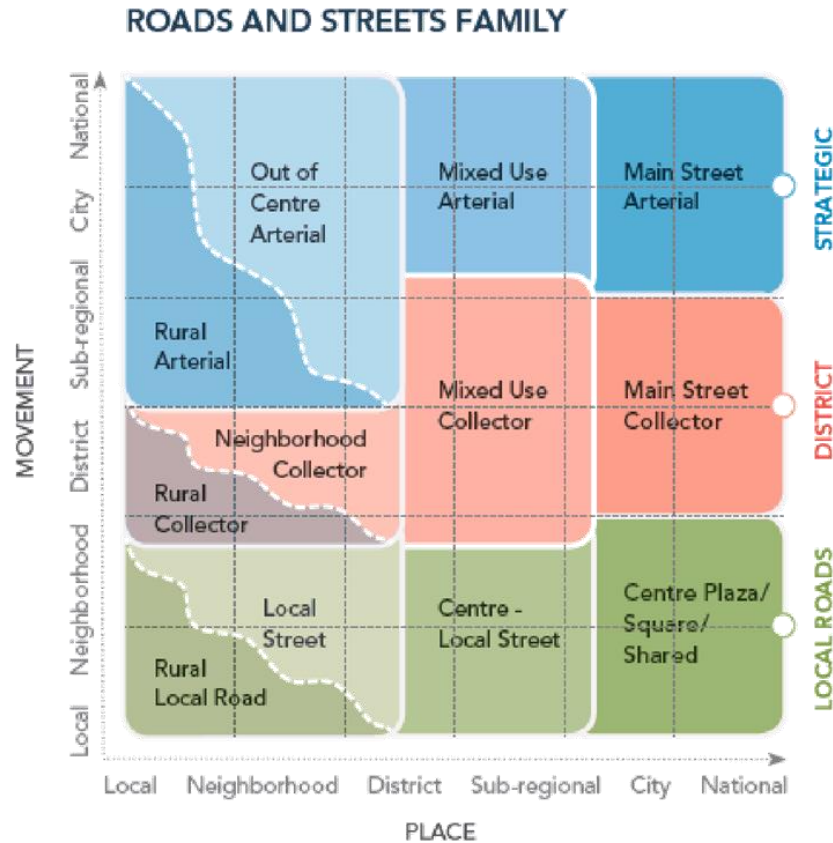
# RASF & TDM – strategic context



- Roads & Streets Framework provides a key link between the Council family of strategies and designing/delivering AT projects
- Helps establish 'best fit' typology and modal priorities, assesses the typology across a broad spectrum of challenges and identifies the measures to apply from the toolkit.

# RASF - recognises 'place' as well as 'movement'

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Applying nine typologies across Auckland based on movement and place will:

- Support common understanding of the needs of 'Place' and how 'Movement' responds
- Balance strategic versus local needs, results in more consistent decisions on network management and design
- Establish modal priority and resolve strategic network / place conflicts
- Provide strategic direction for the design process and subsequent business case development
- Respond to NZTA One Network Road Classification for funding purposes



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# Auckland direction setting documents shape the typology

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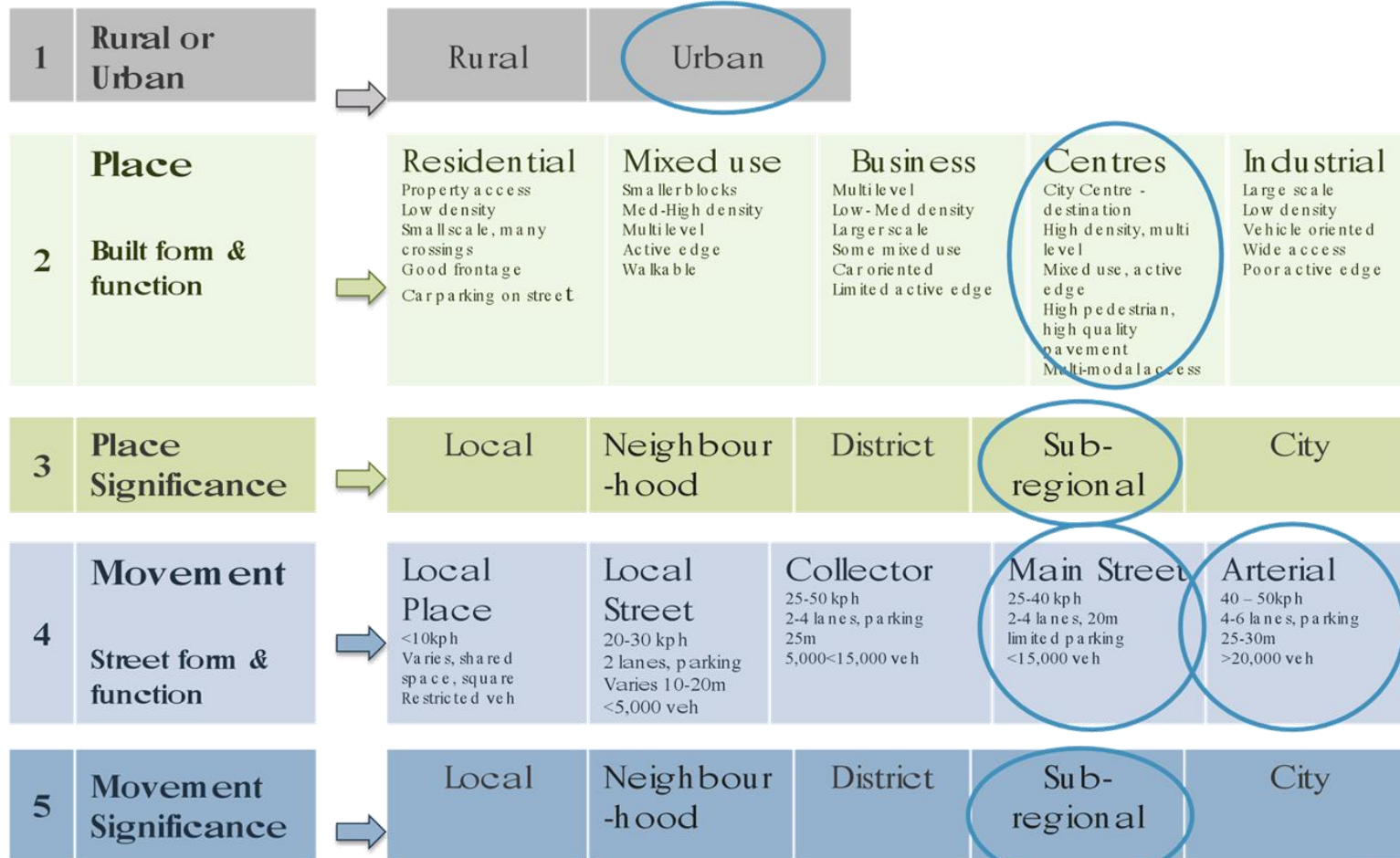
## Determine the 'Place' form & function based on:

1. AC Unitary Plan land use zones / overlays e.g. residential, business, industrial, mixed use, open space etc.
2. AC centre hierarchy e.g. City centre, Metro centre, Town centre, neighbourhood, etc.
3. Centre Plans / Area Plans / Panuku Plans that influence future development
4. Private development proposals e.g. future urban and brownfield / SHA proposals
5. Assess **significance of the place** based on local, neighbourhood, district, sub-regional, or city wide function.

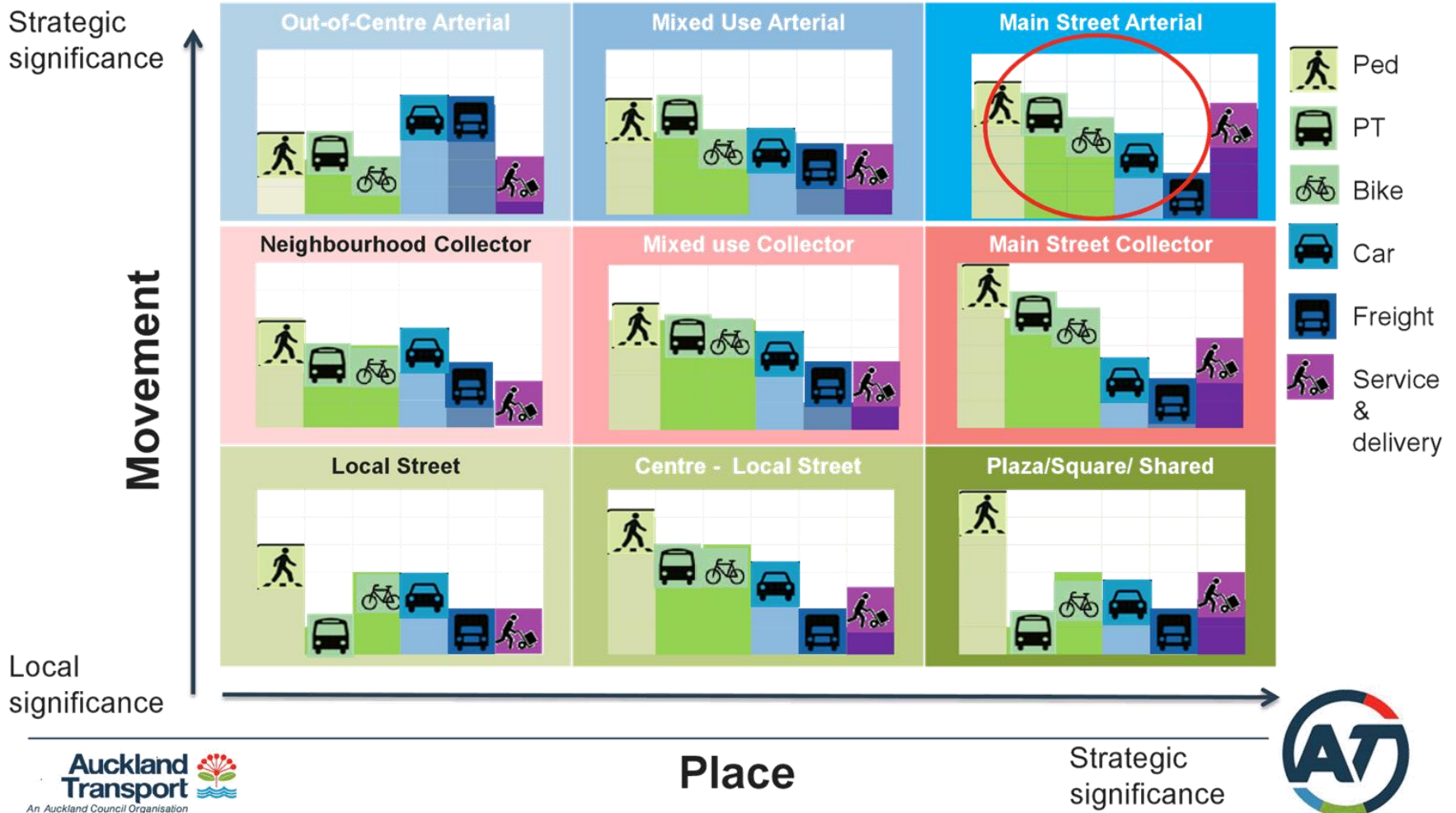
## Determine the 'Movement' form & function based on:

1. Road classification and function (e.g. arterial, connector, local road)
2. Strategic network function as outlined in ATAP and AT network plans (e.g. public transport, freight, cycle, pedestrian, general traffic)
3. Supporting modelling, traffic analysis, network operating plans, safety, speed, etc
4. Assess **strategic significance of modes** based on role in network

# How is it applied - example



# Each typology has a 'starting' modal priority



# Six challenges are applied to the typology to help evaluate the modal priority

<p><b>Living</b></p>		<p><b>Unlocking</b></p>		<p><b>Moving</b></p>			
<p><i>Providing welcoming and inclusive places for all which support vital economic and community activities. <b>People focussed.</b></i></p>		<p><i>Improving accessibility and quality of places identified as areas for major growth to deliver the homes, jobs and economic sectors that Auckland needs. <b>Shaping our City</b></i></p>		<p><i>Helping people, goods and services to get from A to B and enabling efficient and reliable movement by a range of different modes. <b>Reliable and resilient transport providing integrated transport choices</b></i></p>			
<p><b>Functioning</b></p>		<p><b>Protecting</b></p>		<p><b>Sustaining</b></p>			
<p><i>Ensuring essential access for deliveries and servicing and upgrading utilities, ensure assets fit for purpose. <b>Resilient</b></i></p>		<p><i>Improving safety and reducing severity of accidents, particularly vulnerable road users, and strive to design out crime. <b>People first.</b></i></p>		<p><i>Reducing emissions from the road network, supporting greener, cleaner, quieter streets, strive to improve water quality and encouraging a <b>healthier more active city</b></i></p>			





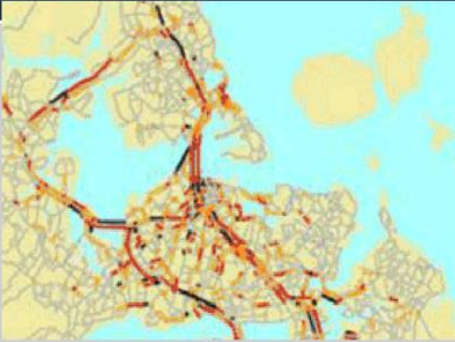


# The Toolkit is then used to address the challenges



1. Assets fit for Purpose
2. Integrated and sustainable network management

		<h3>Innovative asset management</h3>		<h3>Street improvements</h3>
<h3>Low emission vehicles</h3>	<h3>Active streets</h3>	<h3>Greener Streets</h3>	<h3>Safer streets</h3>	<h3>Future flexibility</h3>

### 3. Intelligent systems and management

 <ul style="list-style-type: none"><li>Assets fit for purpose</li><li>Integrated &amp; sustainable network management</li><li><b>Intelligent systems &amp; management</b></li><li>Changing behaviour, manage demand &amp; parking</li><li>Constrain, substitute, relocate &amp; add capacity</li></ul>	<h4>More efficient people movement</h4> 		<h4>Real time traffic management</h4> 	
<h4>Incident management</h4>  <p>Live traffic congestion</p>	<h4>Congestion hot spot busting</h4> 		<h4>Flexible lanes &amp; management</h4> 	<h4>Targeted Enforcement</h4> 

# 4. Changing behaviour, managing demand and parking

	<p><b>Re-timing deliveries</b></p>	<p><b>Next generation travel demand management</b></p>
<p><b>Active network management</b></p>		
	<p><b>Land use planning</b></p>	<p><b>Rationalise &amp; reallocate parking</b></p>
		



# 5. Constrain, substitute, relocate and add capacity <sup>17</sup>

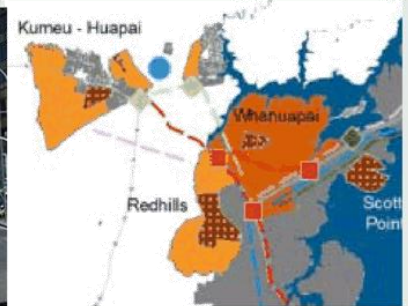


This will include new public spaces, space and infrastructure for walking and cycling, and also re-located capacity for vehicles and targeted capacity improvements in growth areas

## Intersection enhancement



## Connections to growth areas



## New public spaces and facilities



## New and improved separation



# Putting all the steps together



# Transport Design Manual



- A group of guidelines and standards linking strategic objectives to infrastructure delivery;
- Built on the foundations laid by the draft Auckland Transport CoP;
- Responds to international best practice in street and road design;
- Delivering a better design experience by providing the right tools for the right outcome; and
- Setting a consistent approach to infrastructure design and specification.

# Who is the Transport Design Manual aimed at?

## Within Auckland Transport

- Clients (e.g. Strategy) – RASF Strategic Development / Concept / Feasibility
- Infrastructure Division – Scheme, Prelim, Detailed and Construction.

## Developers

- Those that build vested roads and understanding the importance of design choices on social mobility and long term asset performance.

## Other Public Bodies (e.g. AC, NZTA etc.)

- To ensure that assets are designed and constructed in accordance with our requirements.

## Consultants

- To guide and provide technical requirements during the various design states to meet clients requirements.

## What doesn't the TDM include?

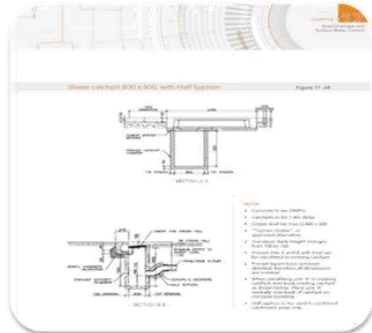
Strategy; Operational processes; how/what to maintain; weed control; contaminated sites; Doesn't replace any statutory requirements from any planning frameworks.

# Transport Design Manual Contents



## Section 1 – Design Guidance

Contains the design guides, such as the Urban Street & Road Design Guide, Waitakere Ranges Design Guide, Local Paths Design Guide.



## Section 2 – Technical Minimum Standards

Detailed technical requirements, minimum standards, considerations and drawings required to undertake accurate and detailed designs based on a component approach for facilities.



## Section 3 – Specifications for Infrastructure Works

Detailed specifications for the supply and construction of materials and products.

## Engagement

- Internal working groups and a steering group established to develop the Roads and Streets Framework (RASf) and Transport Design Manual (TDM) since mid 2016
- Auckland Council and NZTA are part of the working group and have taken part in developing case studies and testing the Framework and Design Manual across Auckland
- Working together with NZTA to align RASf and TDM with the One Network Roads Classification (ONRC)
- Engagement with Mana Whenua began from October 2016
- Engagement with Local Boards began in March 2017
- Engagement with key stakeholders from June 2017

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## Key dates

### Inform and engage with Councillors (February 2017 onwards)

- Briefed Crs Darby and Lee
- Introductory Workshop for the Planning Committee on Wed 24 May

### Inform and engage with Local Boards (March - June 2017)

- Cluster meetings (Central, South, North, West). Follow-up meetings with individual boards as requested - ongoing
- Meeting with individual local boards on request.
- Meetings held with local boards include: Waiheke, Gt Barrier, Rodney, Waitakere Ranges, Waitemata and Franklin boards.

### Stakeholder engagement (June 2017)

- RASF and TDM (Urban Street and Road Design Guide only) released for key stakeholder feedback
- Professional Institutes, consultants, action groups, Property Council, business associations + HOTC, Haulage Industry, AA, Bike Auckland, Walk Auckland, etc.

### Finalise the Framework and Manual, following feedback (July 2017)

### AT Board adopt the Framework and Manual (Sept, 2017)

## Appendices

1. Case study – Karangahape Road (K-Rd)
2. Case Study – Manukau Metro Centre

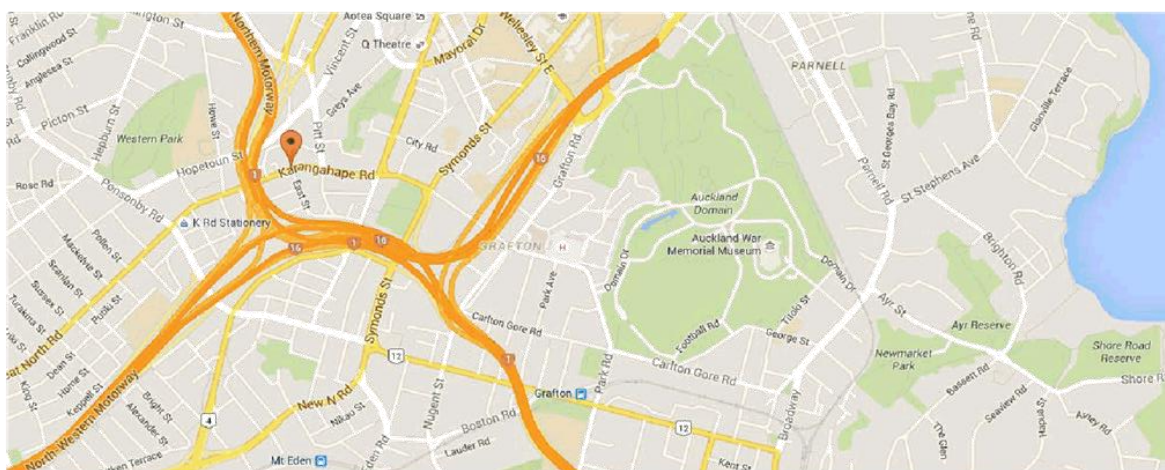
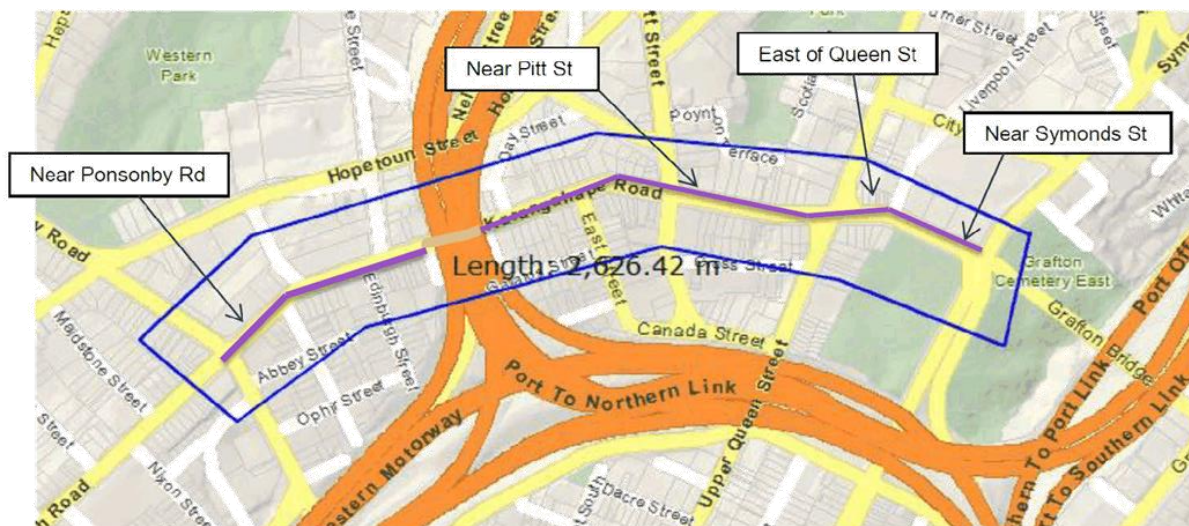




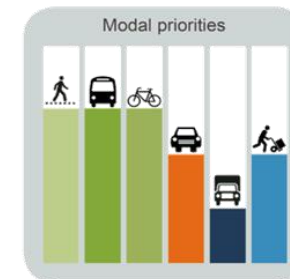
**Karangahape Rd**  
Application of Roads and Street Framework - example



# K-Rd Case Study Summary



## MODAL PRIORITIES



Car travel and service delivery is not prioritised at peak times.

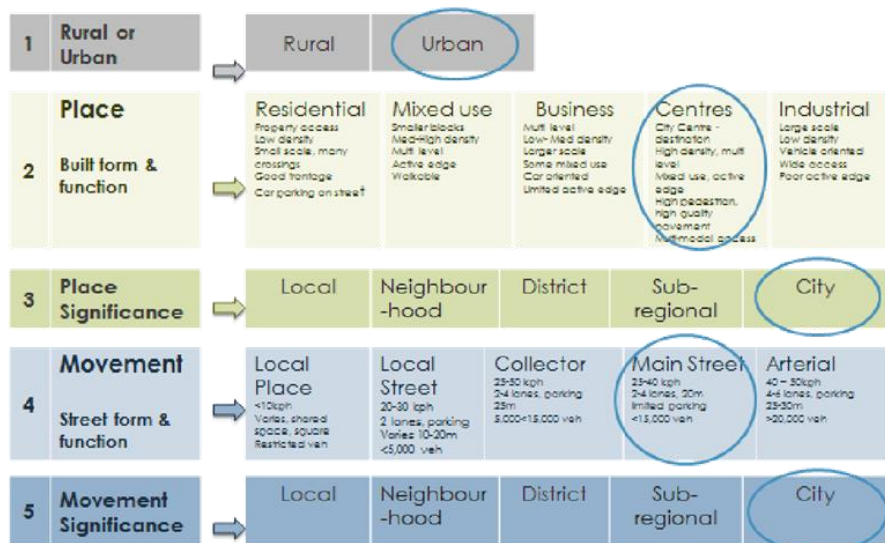
## TYPOLOGY

### Main Street Arterial

	Low Place	Medium Place	High Place
Strategic High Movement	Out-of-Centre Arterial	Mixed Use Arterial	Main Street Arterial
Distribute Medium Movement	Neighbourhood Connector	Mixed Use Connector	Main Street Connector
Local Roads Low Movement	Local Street	Centre - Local Street	Centre Plaza/Square/Shared

\*REFER TO K ROAD CASE STUDY REPORT FOR FURTHER DETAIL







# Step 1: Determine the typology



## 2025 Typologies

- Current function is already Main St with high place significance, strategic significance for buses / cycling. Increasing pedestrian activity on the Main St.
- Significant redevelopment potential in vicinity from the future CRL station, which will increase mixed use activity and THAB residential development as indicated in the Unitary Plan
- Therefore, K-Rd should be a higher quality version of **main street arterial**.

## Steps 2-4: Determine modal priority

- 
**High pedestrian flows** along/across K-Rd, key attractors are retail, night life, and **in future CRL station / redevelopment in back streets / apartment living.**
- 
**Cycle Connector**, critical link between western suburbs / City Centre / further east via Grafton. No feasible alternative routes for directness.
- 
**Bus FTN route** connecting western suburbs to City Centre, City / Inner Link & Nite-rider. Future interchange with CRL station, NW Busway link to Pitt St and LRT on Queen. No feasible alternative routes for directness. Some rerouting post CRL possible.
- 
**Important arterial traffic route**, on-street parking / access to AT off-street carpark on Mercury lane. Alternative routes / reduced lane capacity / parking removal are options. At grade private carpark ripe for redevelopment.
- 
**Service delivery loading** is available on-street but retiming/relocation are options
- 
**Freight network** usually via Motorway to Port, but over-dimension/over-size route. Off peak, permit controlled.
  - **Safety:** pedestrian crashes are increasing trend, high collective risk (Dsi)

# Step 5-6 : Address the six challenges using the toolbox

## Living



Improving the quality of the urban realm and side streets to support the Main St function and contribute to the Auckland Council vision for K-Rd  
Addressing conflicts between arterial road function and Main St and living functions of the wider K-Rd catchment

## Unlocking



Retaining and enhancing the significant social and economic exchange occurring on K-Rd  
Utilising under-used side streets to support permeability and urban realm

## Moving



Improving active mode and public transport accessibility, safety and capacity on K-Rd prior to the opening of CRL station



Improving journey reliability for the New Bus Network via Great North Rd/Ponsonby Rd and along K-Rd to Symonds St and interchange with the NW busway



Ensuring safe, reliable journeys for cyclists along K-Rd

Reallocating road space from general traffic/parking to active modes and public transport sustainable modes at peak times and managing impacts

## Functioning



Managing servicing and parking requirements to support retail and future development of the K-Rd catchment  
Using clear road space provision and priority

## Protecting



Reducing the number of collisions/crashes between vehicles and improving pedestrian/cycle safety on K-Rd

## Sustaining



Addressing noise and air quality levels adjacent to K-Rd  
Providing and supporting much improved accessibility for pedestrians and cyclists along K-Rd and links to key attractors in the vicinity

## Short-term measures (0-3yrs):

- Better matching between materials/ facilities street-type across range of upcoming projects e.g. seating, pavement appropriate to K-Rd vision (e.g. Tool 1a Innovative asset management)
- Street decluttering/ signage removal, street furniture alignment to improve pedestrian movement/lingering to provide for pedestrian flows (e.g. Tool 1b Street improvements)
- Low speed environment (<30kph) to reduce impacts of mode conflicts/ lower safety risks and encourage safe mid-block crossing improvement. (e.g. Tool 2b Safe speed environment)
- Prioritise the more efficient/ sustainable modes on K-Rd according to modal priority: bus, cycle, pedestrians through priority measures e.g. segregated cycle lanes, bus lanes, wider footpaths in core (e.g. Tool 3a More efficient people movement)
- Better cycle parking on side streets (e.g. Tool 5c New public spaces, pedestrian and cycling facilities)
- Trial road layouts & signals e.g. planters/segregated cycleway/bus lane prior to permanent facility. Align programmes across streetscape projects. Future proof designs that allow for easy upgrades.
- Undertake events allowing informal use of road space with a programme of temporary, traffic free events for the public.
- Trial informal spaces in K-Rd back streets as a lead-in to future development opportunities following CRL station completion
- Optimise traffic signals to balance bus/cycle (e-w) priority with crossings (n-s) and maximise efficiency for all modes and provide pedestrian countdowns (e.g. Tool 2f Better crossings)
- Use on-street space more flexibly and over 24-hours e.g. timed service delivery/curb space in evenings
- Provide real time information on travel conditions and choices covering City Centre upgrade works. (e.g. Tool 4b Next generation travel demand management)
- Investigate detuning or closing the Symonds St on-ramp, phasing with the significant improvement in public transport and active mode accessibility (e.g. Tool 3e Flexible lanes and management)

## Medium-term measures (3-10yrs):

- Investigate side-street pocket parks/oases to support liveability
- Widen footpaths and optimise signals to accommodate increasing numbers of pedestrians, particularly the CRL Station desire lines e.g. Tool 1b street improvements)
- Prioritise K-Rd prioritised as a low emission bus route
- Strengthen segregated cycle facilities and connections to wider cycle network and provide cycle facilities for cyclists (e.g. Tool 5d New and improved separation)
- Address pinch points, e.g. Pitt St, Queen St, Symonds St intersections (e.g. Tool 3d Congestion hot spot busting)
- Progress e-mobility solutions, especially car share/bike share (e.g. Tool 4c Active network management)
- Dynamic visitor parking with car share operators and relocating PnR (e.g. Tool 4e Restrain and reallocate parking)
- Restrict general traffic east-west movement during peaks while promoting motorway circulation, especially to phase with LRT development and undertake traffic management trials to prepare for CRL

## Long-term measures (10+yrs):

- Work with Government and AC to progress investigations into road pricing system, innovative delivery and servicing management and E-mobility and data sharing.
- Smart pricing & active network management

## Step 7: K-Rd recommendations

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### Short term (0-3yrs):



Pedestrian improvements - footpaths, signalised crossings, raised entry treatments, public realm incl. side streets



Trial segregated cycle facility along length



Bus reliability – 24 hr bus lanes (west of Pitt St) / peak hour bus lane (east of Pitt St)



Servicing and deliveries to be managed off peak, potentially using micro consolidation

**Protecting** - Low speed environment to support the place function of K-road and reduce risk of accidents

### Other users:



Retain traffic provision – at least 1 lane each way. Reduce /remove parking.



Monitor access for freight: Over-Dimension / Over-Size route out of hours

**Sustaining** - support road closures for events, markets

- Consider wider impacts on City Centre e.g. diverted traffic, parking management, rerouting, retiming of servicing

# K-Rd: Outcome of RASF process - Project design mandate

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## Short Term option (east of Pitt):

- Low speed zone
- Higher quality pedestrian facilities, improved urban realm, decluttered footpaths
- 24 hr bus lane west of Pitt / peak lane east of Pitt
- Trial segregated cycle lane with moveable planters to trial different layouts e.g. for special events
- Remove / relocate parking as required
- Servicing off peak
- General traffic - 1 lane each way

## Long Term option (east of Pitt)

- Phasing to occur post CRL / LRT
- Low speed zone, better wayfinding e.g. to K'Rd Station
- Footpaths widened for high pedestrian use, urban realm improvements, mid block treatments for ped. crossings
- Permanent segregated cycle lane
- 1 lane each way for mixed traffic, carriageway width reduced,
- Servicing off-peak , consolidated loading zones
- Road looked at over 24 hr period.

