Transforming roads and streets in Tāmaki Makaurau-Auckland
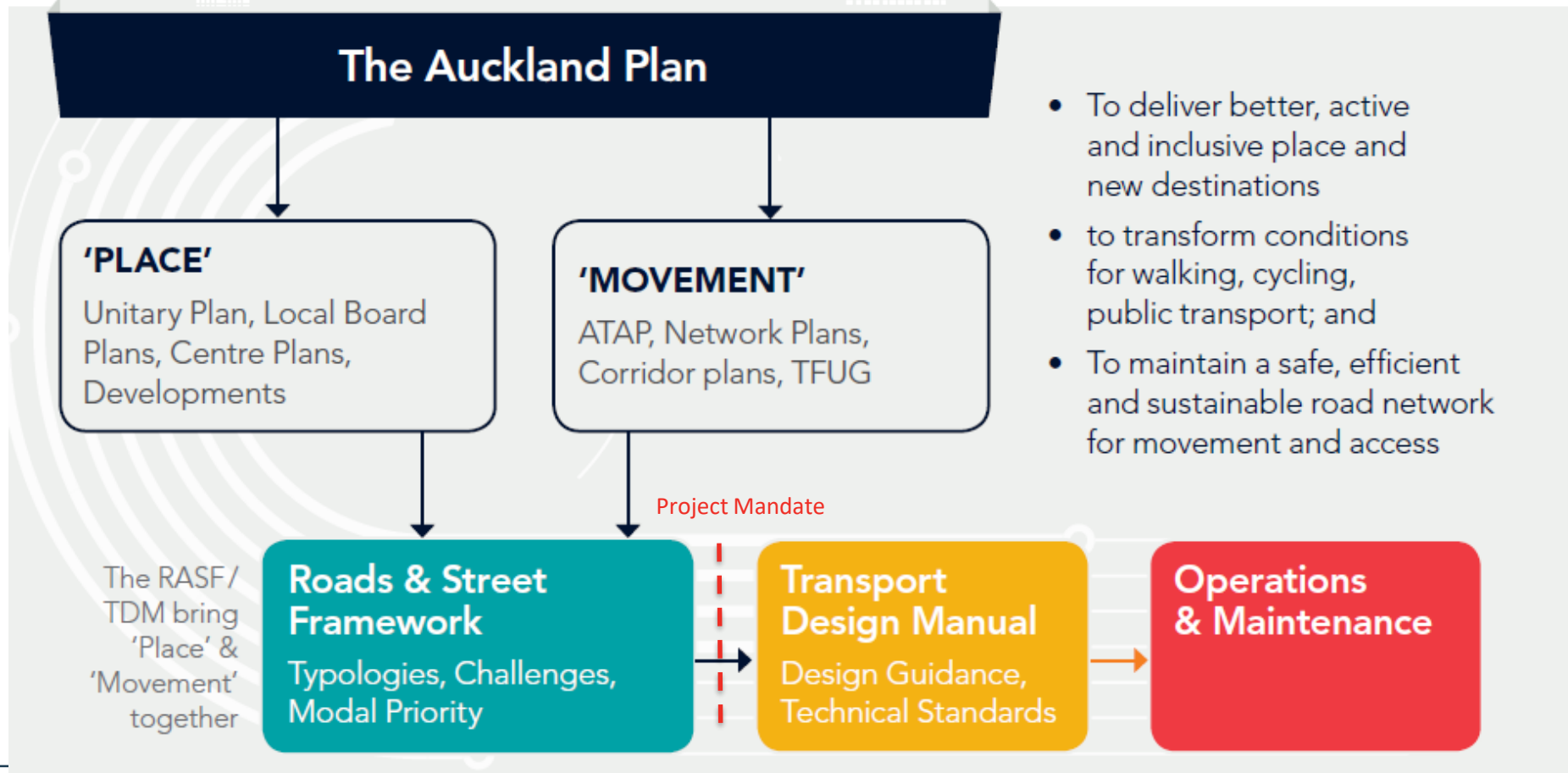
Amir Kayal, Auckland Transport

March 2019
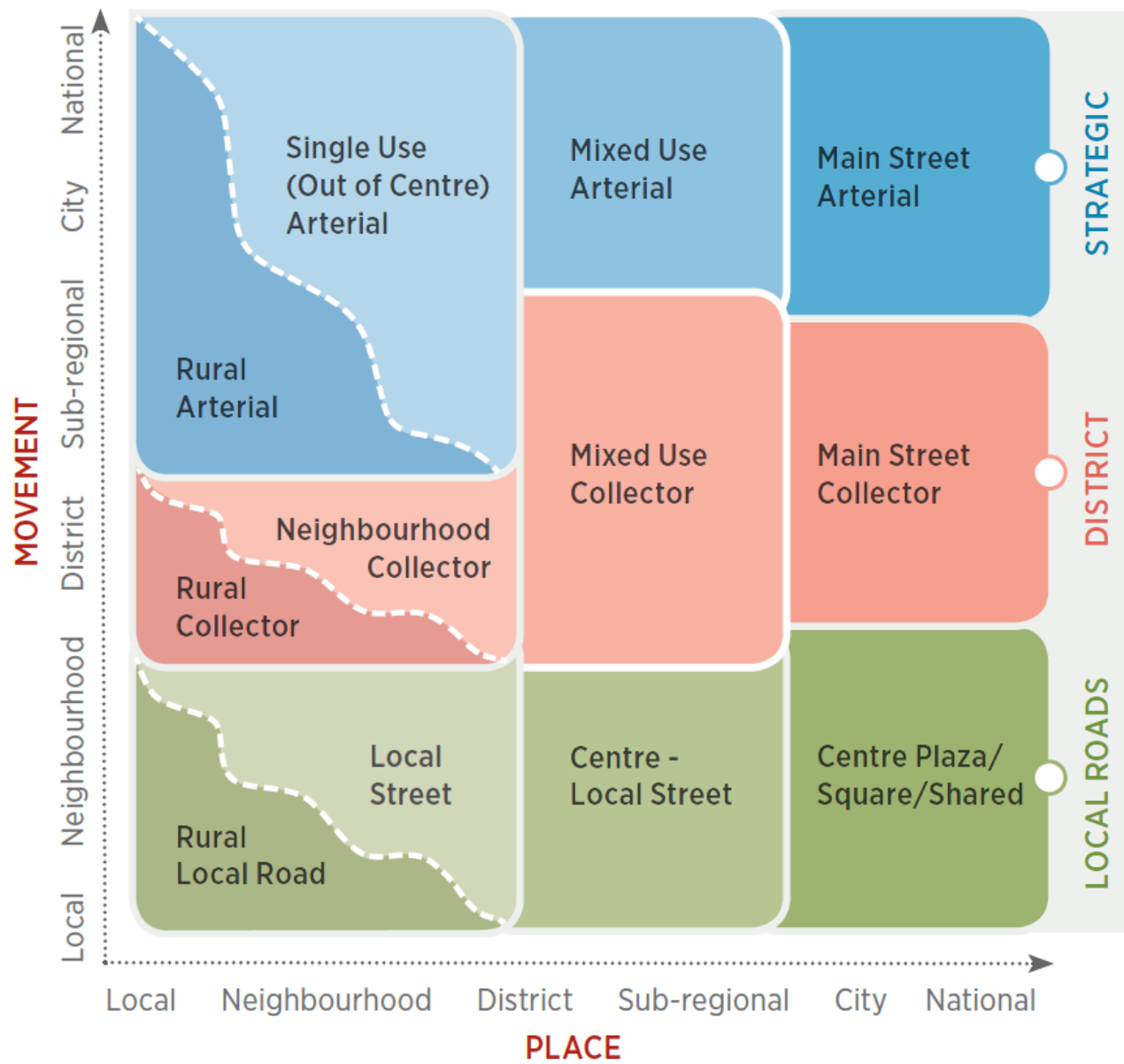
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- Roads and Streets Framework
- The strategic context
- Vision
- Application
- case study

Roads & Street Framework– why we need it?

The Auckland Plan

'PLACE'
Unitary Plan, Local Board Plans, Centre Plans, Developments

'MOVEMENT'
ATAP, Network Plans, Corridor plans, TFUG

- To deliver better, active and inclusive place and new destinations
- to transform conditions for walking, cycling, public transport; and
- To maintain a safe, efficient and sustainable road network for movement and access

Project Mandate

The RASF / TDM bring 'Place' & 'Movement' together

Roads & Street Framework
Typologies, Challenges, Modal Priority

Transport Design Manual
Design Guidance, Technical Standards

Operations & Maintenance

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ROADS AND STREETS FAMILY

How is RASF applied – example operational regimes associated with any of the typologies
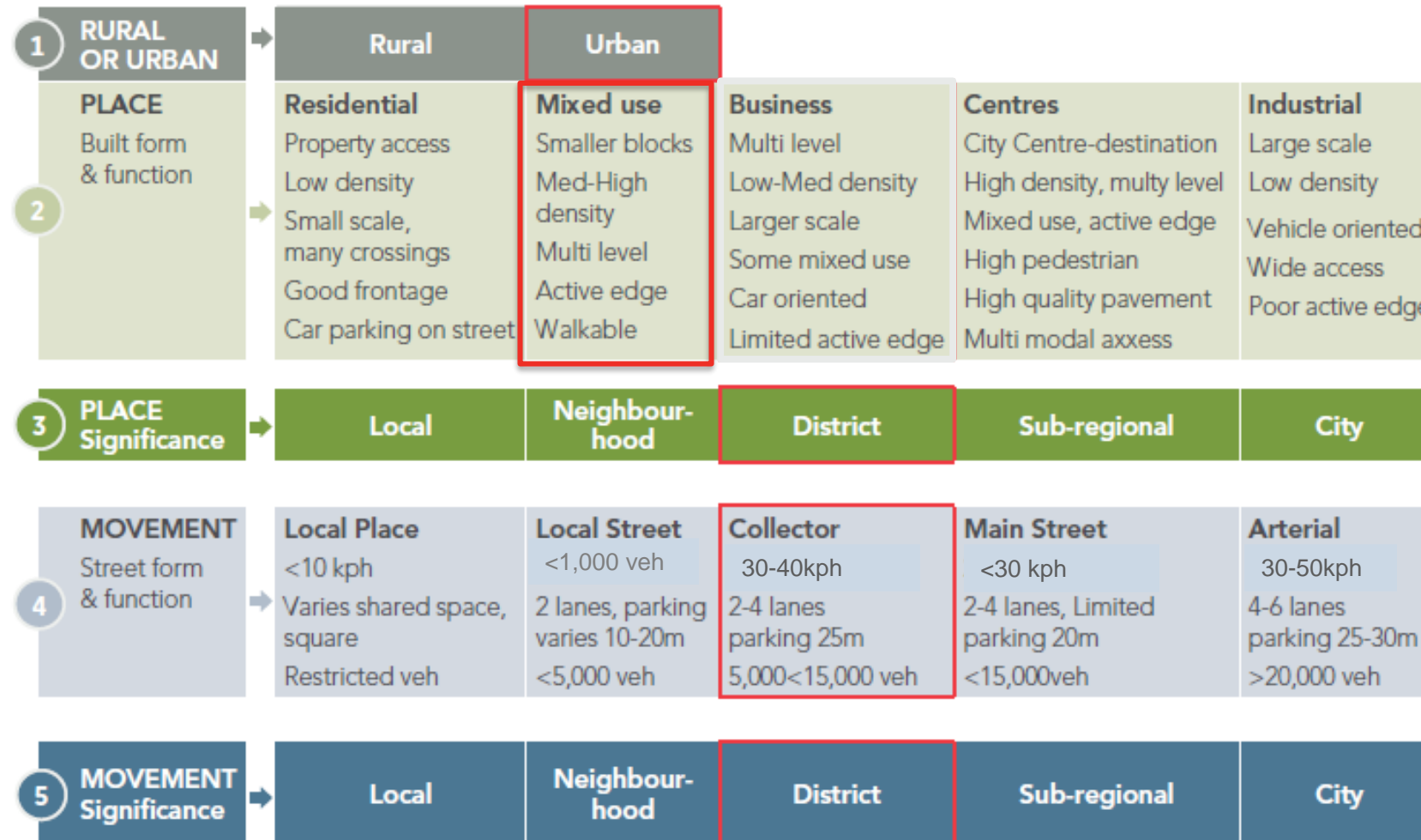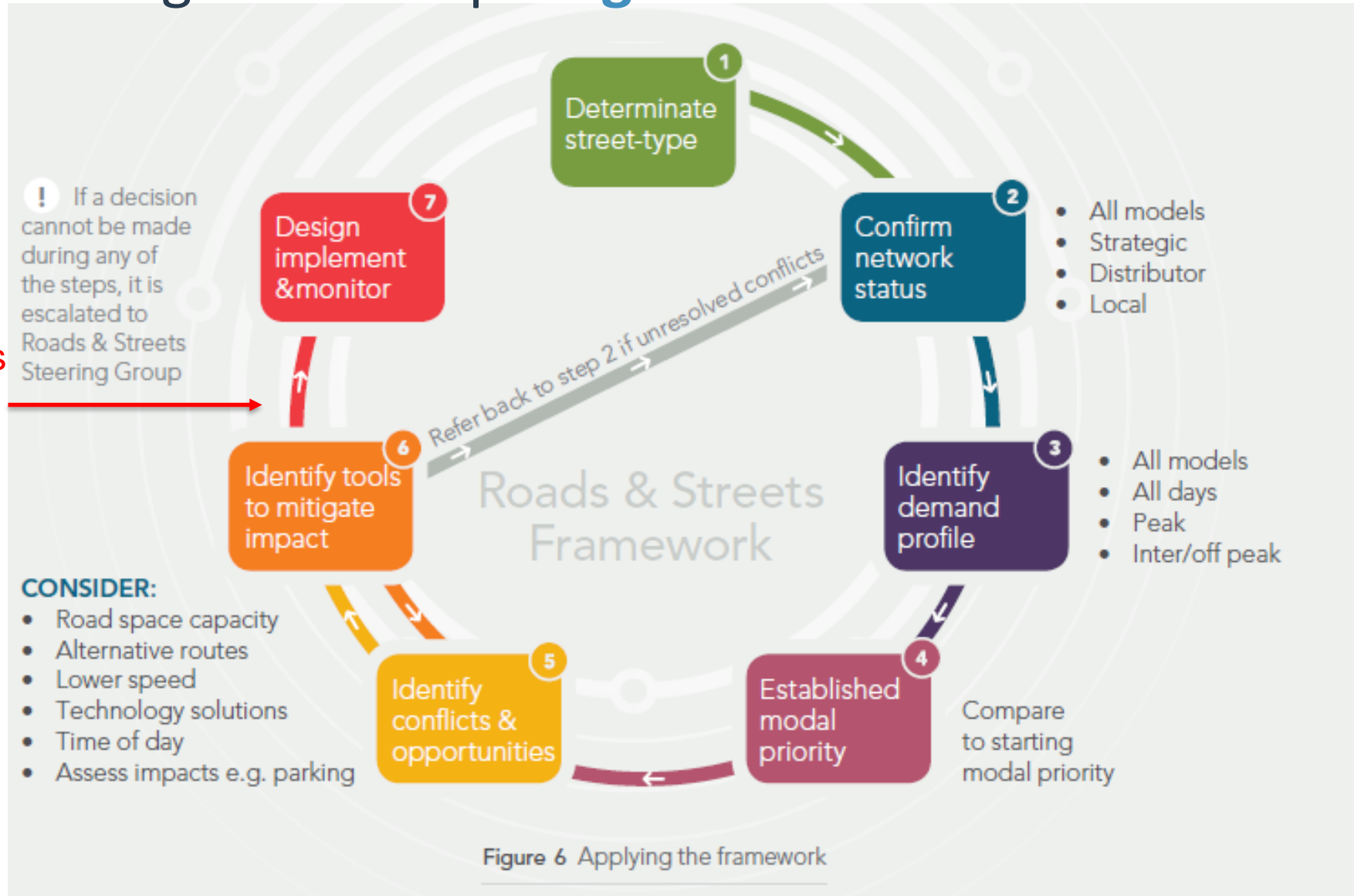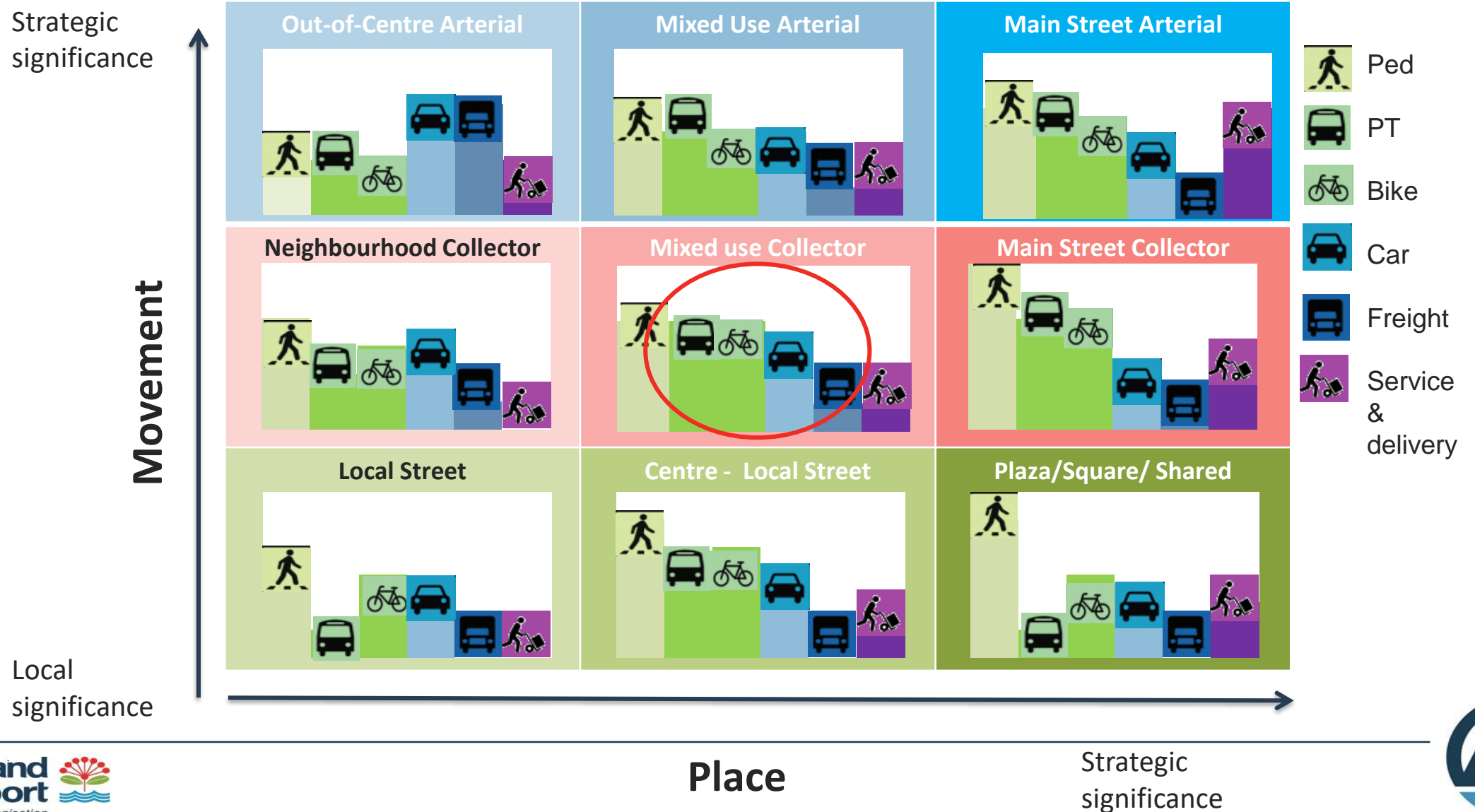
Putting all the steps **together**

Where strategic planning process stops and the design process begins

Figure 6 Applying the framework

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

Living

Providing welcoming and inclusive places for all which support vital economic and community activities. **People focussed.**

Unlocking

Improving accessibility and quality of places identified as areas for major growth to deliver the homes, jobs and economic sectors that Auckland needs. **Shaping our City**

Moving

Helping people, goods and services to get from A to B and enabling efficient and reliable movement by a range of different modes. **Reliable and resilient transport providing integrated transport choices**

Functioning

Ensuring essential access for deliveries and servicing and upgrading utilities, ensure assets fit for purpose. **Resilient**

Protecting

Improving safety and reducing severity of accidents, particularly vulnerable road users, and strive to design out crime. **People first.**

Sustaining

Reducing emissions from the road network, supporting greener, cleaner, quieter streets, strive to improve water quality and encouraging a **healthier more active city**

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Each typology has a 'starting' modal priority

The **Toolkit** is then used to address the challenges

Assets fit for purpose

Integrated and sustainable network management

Intelligent systems & management

Changing behaviour, managing demand and parking

Constrain, substitute, relocate and add capacity

Karangahape Rd

Application to Main Street

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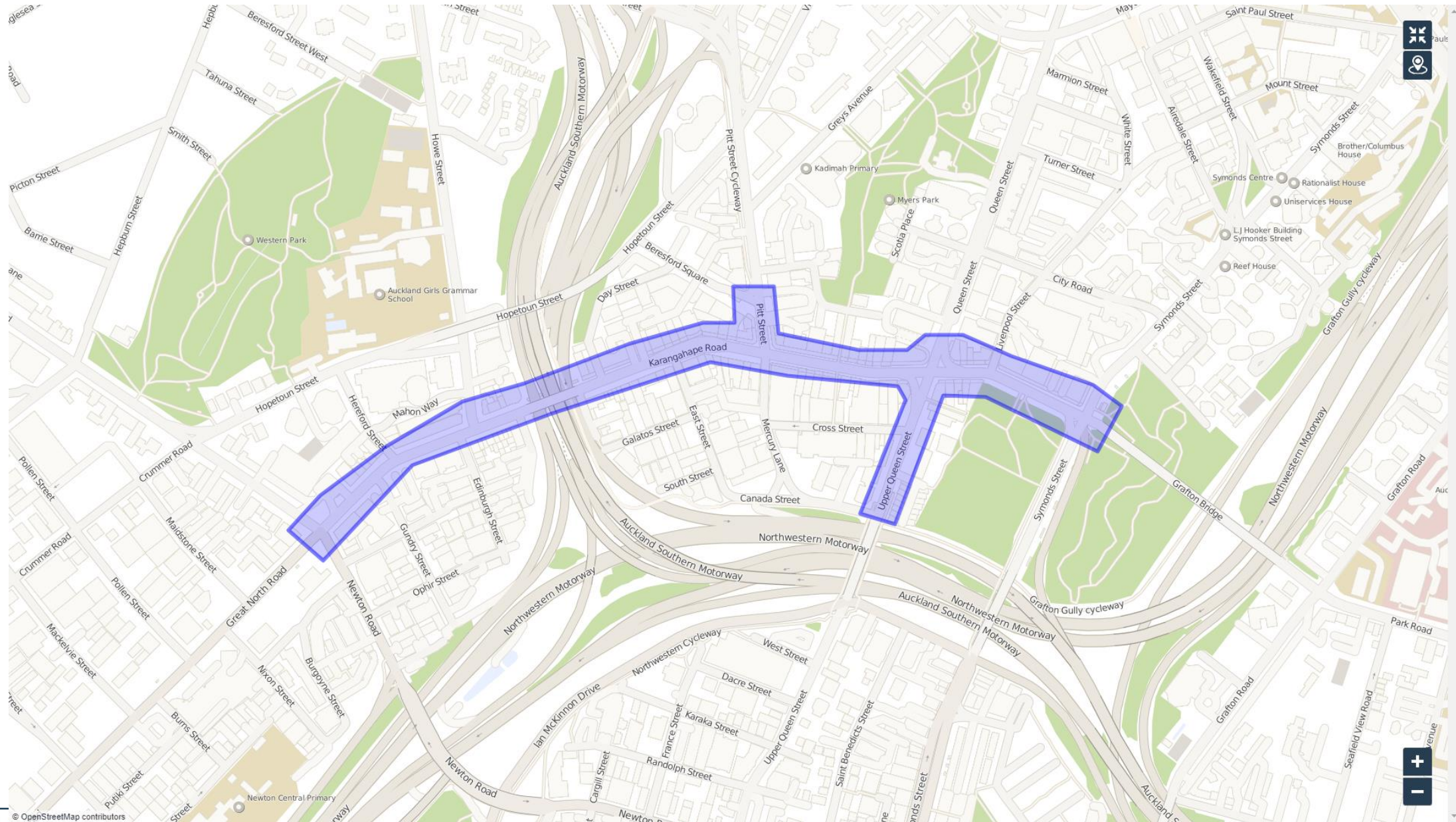
Putting all the steps **in Karangahape Road**

Figure 6 Applying the framework

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, Karangahape Rd should be a higher quality version of **main street arterial.**
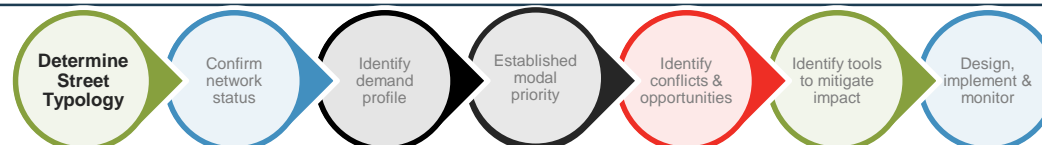
Steps 2-4: Determine modal priority

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)

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Determine Street Typology · Confirm network status · Identify demand profile · Established modal priority · Identify conflicts & opportunities · Identify tools to mitigate impact · Design, implement & monitor
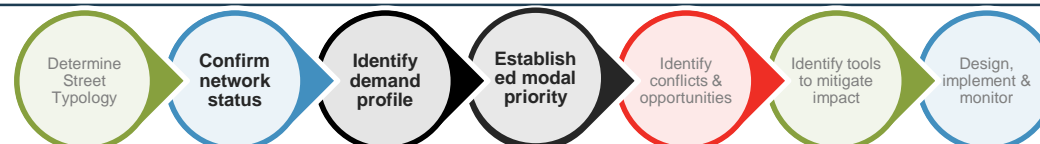
Step 5-6 : Address the six challenges using the toolbox

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
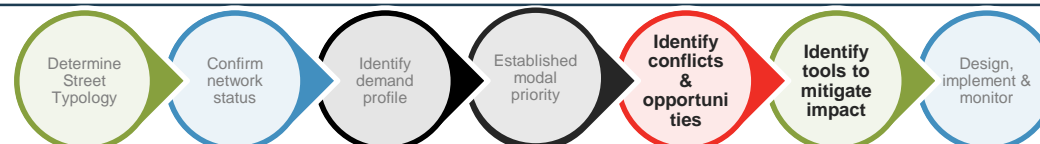
Short-term measures (0-3yrs):
- Better matching between materials/facilities street-type across range of upcoming projects e.g. seating, pavement appropriate to K-Rd vision (e.g. Tool 1a Innovative asset management)
- **Street decluttering/signage removal, street furniture alignment to improve pedestrian 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

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Determine Street Typology → Confirm network status → Identify demand profile → Established modal priority → Identify conflicts & opportunities → Identify tools to mitigate impact → Design, implement & monitor

Step 7: Karangahape Rd recommendations

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
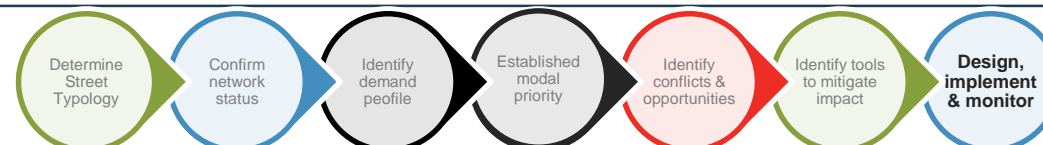
Other users:

- 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

Karangahape-Rd: Outcome of RASF process - Project design mandate

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

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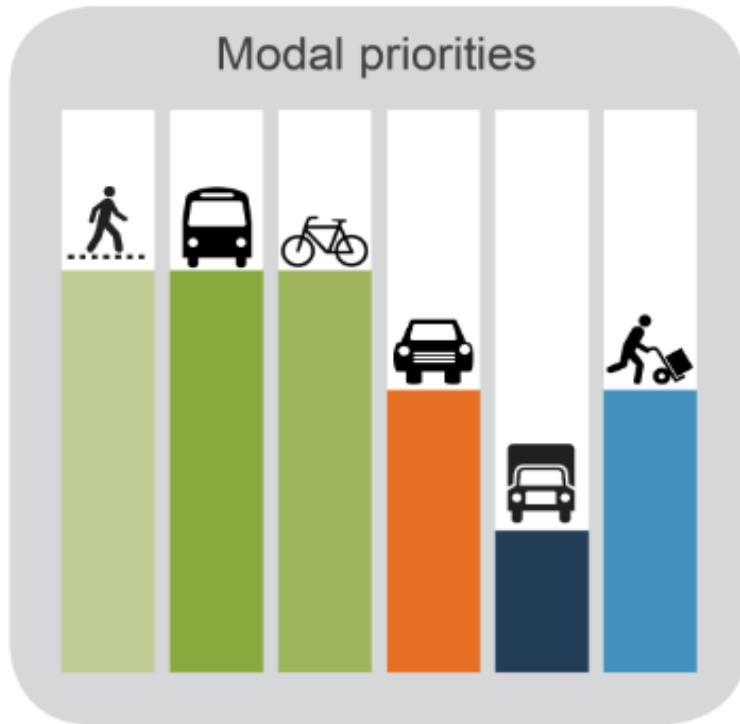o   Road looked at over 24 hr period.

Before

After

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Karangahape Road Case Study Summary

MODAL PRIORITIES

Modal priorities

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

TYPOLOGY

Main Street Arterial