# Future Connect

Strategic Networks Report

March 2021

# Contents

# 1 BACKGROUND

This report is a component of the Auckland Transport (AT) Future Connect project, which is a 10-year network plan and system planning tool (building towards a 30-year outlook) for Auckland's integrated transport system, developed in collaboration with partners and stakeholders.

Future Connect includes three **key outputs**:

1. **Strategic Networks (the subject of this report)** – The most important links for the movement of people, goods and services for each mode of transport.
2. **Deficiency & Opportunity Mapping** – A link-based analysis outlining the most significant problems and opportunities on the Strategic Networks expected over the next 10 years.
3. **Indicative Focus Areas** – Multi-modal problems and opportunities located on the Strategic Networks that require further investigation.

Future Connect is guided by five **system planning objectives**:

1. **Growth** – Enabling and supporting Auckland's growth
2. **Travel Choices** – Providing and accelerating better travel choices for Aucklanders
3. **Connected** – Better connecting people, places, goods and services
4. **Sustainable** – Improving the resilience and sustainability of the transport system
5. **Safe** – Making Auckland's transport system safe

**For more information about Future Connect and to see the main report visit:**
**www.at.govt.nz/futureconnect**

Classifying parts of the transport system[1] is a fundamental part of planning and managing the transport network, particularly for roads and streets. Assigning roads to a class or category (based on their function) helps guide decisions about how the road and transport network is planned, developed, operated and maintained. Classification can also provide guidance and expectations for levels of service.

Roads in Auckland are classified in a number of different ways and for a range of purposes. The highest level of classification is the Strategic Networks found in Future Connect. This provides a top-down system view of transport in Auckland, encompassing all modes of transport.

The Strategic Networks are AT's multi-modal approach to classification of Auckland's transport system. This replaces the arterial road classification system, which traditionally labelled roads on their importance for general traffic. In its place, the Strategic Networks are a significant step towards recognising the importance of all transport modes as part of the transport system. By using this multi-modal approach, a neutral classification is created, which will work towards improving access and unlocking better travel choices for Auckland.

The Roads and Streets Framework (RASF) provides a bottom-up system view and ensures the importance of 'place' is integrated into any decision making on Auckland's roads and streets. The RASF outlines the Place and Movement function (Street Typology) and identifies their level of significance. This is another way to classify roads and streets.

[1] The transport system includes roads, streets, rail, maritime transport, walking and cycling routes.

Together, Future Connect and RASF classifications provide robust direction for the street form, function and priorities. More information on the role of the RASF in categorising Auckland's roads and streets is available in Section 3. Figure 1 shows how the Strategic Networks and Street Typologies interact, and how they inform the design process through the Transport Design Manual.

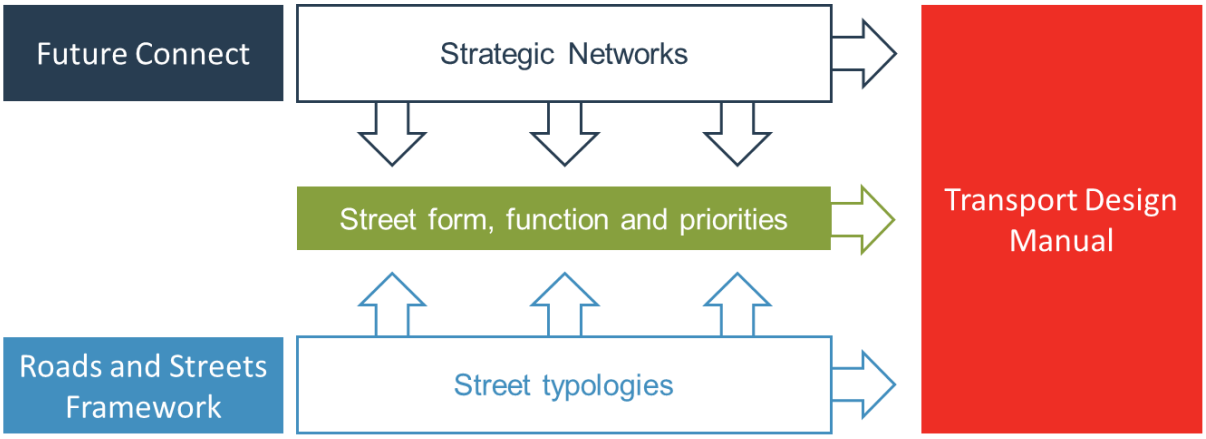



*Figure 1: Relationship between the Future Connect and Roads and Streets Framework system planning tools*

The next figure is an illustrative example of how the Strategic Network multi-modal approach comes together with the outputs of the RASF to guide design choices set by the Transport Design Manual.

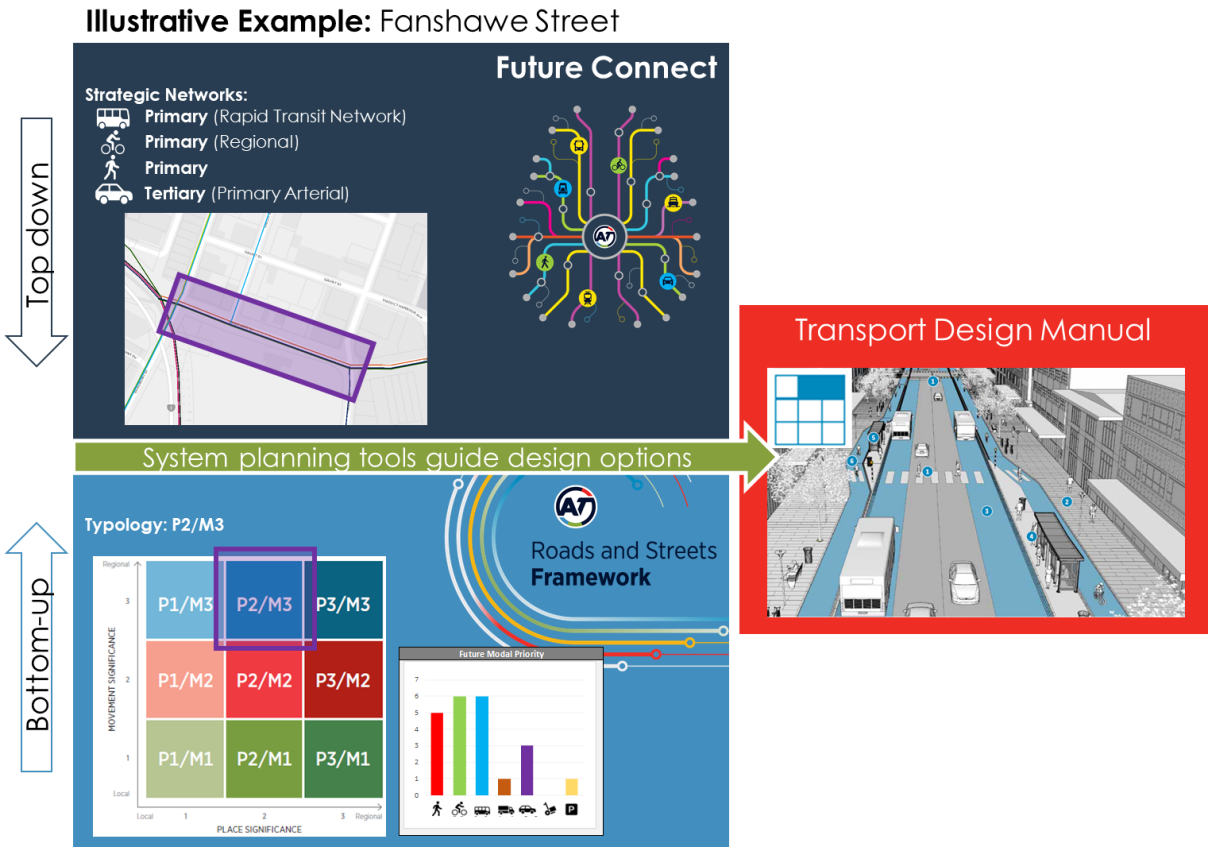



*Figure 2: Illustrative example of how the system planning tools guide design*

# 2 STRATEGIC NETWORKS

The Strategic Networks replace the arterial road classification system outlined in the 2013 AT Code of Practice (Road Classification).

In recent decades, roads have been developed for motor vehicles and were defined in the 2013 AT Code of Practice as either arterial or non-arterial. Over time this approach has become too prescriptive and it does not provide a holistic, multi-modal view of the transport system.

Arterial classifications were outlined using sub-categories (i.e. Motorways, Strategic Routes, Primary Arterials and Secondary Arterials), each assuming a level of service for different modes, number of lanes, volumes and speeds. In addition, a small number of roads were expected to provide a high level of service for all modes, regardless of their function within the modal networks or their individual context (e.g. adjacent land use).

By using the Strategic Networks approach, no mode is more important than any other at a network level. This allows for the modal networks to be examined independently, rather than as a function of a generalised road classification.

## 2.1 Purpose of Strategic Networks

The purpose of Future Connect is ultimately to provide an integrated and strategically aligned network plan for all major modal networks in the first, second and third decades to enable better assessment, planning and investment. The Strategic Networks, a key output of Future Connect, ensure that the most critical links are identified, captured spatially and integrated into a single planning tool. This provides a core planning reference for Auckland Transport and its partners and stakeholders, which supports multiple functions, including:

- Strategic planning
- Land use integration and spatial planning
- Investment planning
- Investigation and programme development
- Project development, design and delivery
- Network operations and optimisation
- Maintenance and renewals.

### 2.1.1 Network operations

Future Connect sets the agreed strategic intent for Auckland's transport network through the Current Strategic Networks (i.e. how the network should be operated today), which provides the network operating framework for the Auckland Network Operating Plan (ANOP).

The Auckland Traffic Operations Centre (ATOC) is also guided by the Current Strategic Networks, which support network operational decision-making and solutions (e.g. event management).

## 2.2 Strategic Network definition

**Strategic Networks**

The Auckland Regional Strategic Networks and its routes are defined as:

- **The most critical links** for movement of people, goods and services to be managed as part of an integrated multi-modal network
- Key connections with **important regional activity** and a **high volume of users** linking sub regions and key centres with other parts of New Zealand
- **The backbone** of the transport system providing safe, efficient and reliable movement of people, goods and services across the region
- Providing easy **whole-of-trip** journeys for customers.

Strategic Networks have been established for Public Transport, General Traffic, Freight, Cycle & Micromobility and Walking (as outlined below in the multi-layered approach). Definitions of the component modal layers are included in Appendix A.

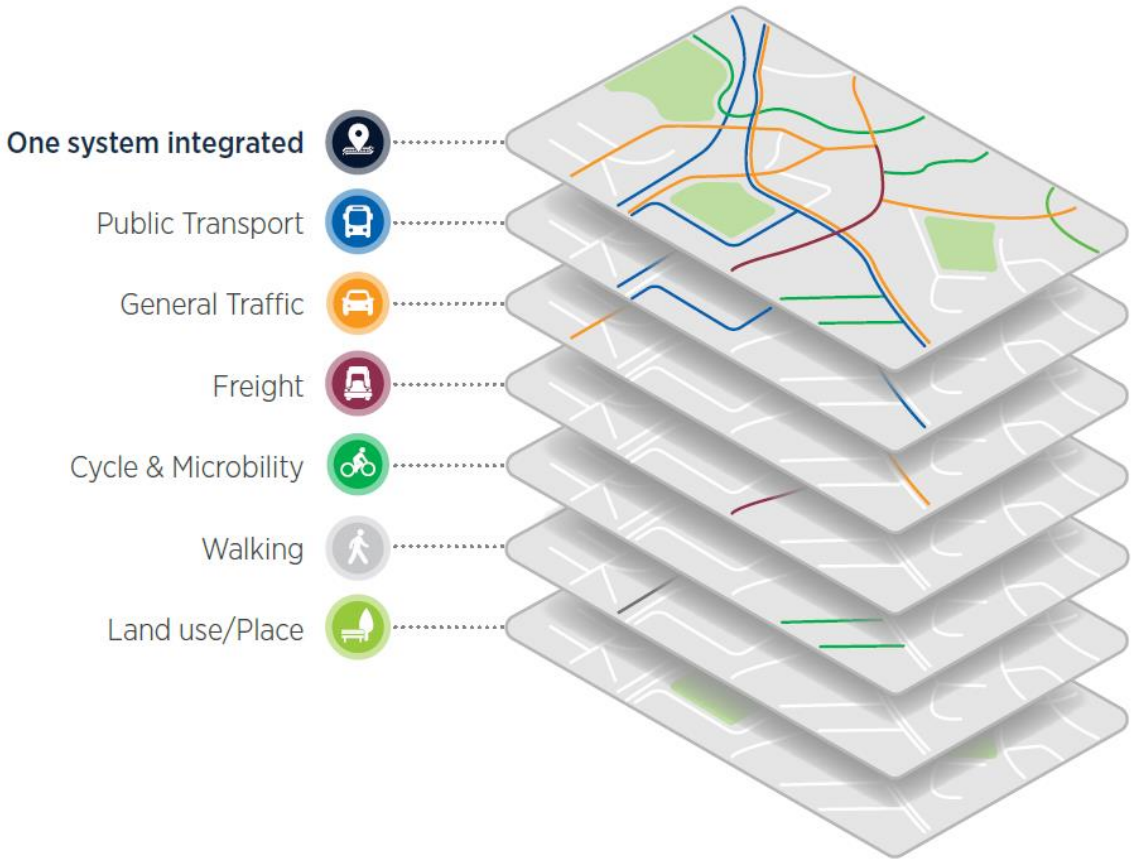



*Figure 3: Future Connect's multi-layered planning approach*

The Strategic Networks do not necessarily indicate where dedicated infrastructure exists or will be delivered. They are intended to be a planning tool and provide guidance for planning and investment, particularly where modal priority and higher levels of service are needed (and may not exist today).

### 2.2.1 Supporting Networks

Future Connect distinguishes between modal networks that are 'strategic', and those that support the function of the Strategic Networks (the 'Supporting Networks'). Parts of the modal networks that do not form part of the Strategic Network remain important to the overall function of that mode. For example, the General Traffic Supporting Network includes the Secondary Arterials and Collectors, and the Public Transport Supporting Network includes the Connector, Local and Peak Transit Networks.

## 2.3 Strategic Network development

The Strategic Networks have been developed by integrating mode-specific plans and strategies for both Current and the First Decade (2021-31) periods. The Current Strategic Networks outline the network as it operates today. The First Decade Strategic Networks (10-year horizon) considers expected land use changes (e.g. greenfield and brownfield growth), and approved or funded infrastructure/services. The next phase of Future Connect will set a 30-year vision for the Auckland's transport system (i.e. Second and Third Decades).

Figure 4 below shows the source of each of the modal networks for both the Current and First Decade Strategic Networks.

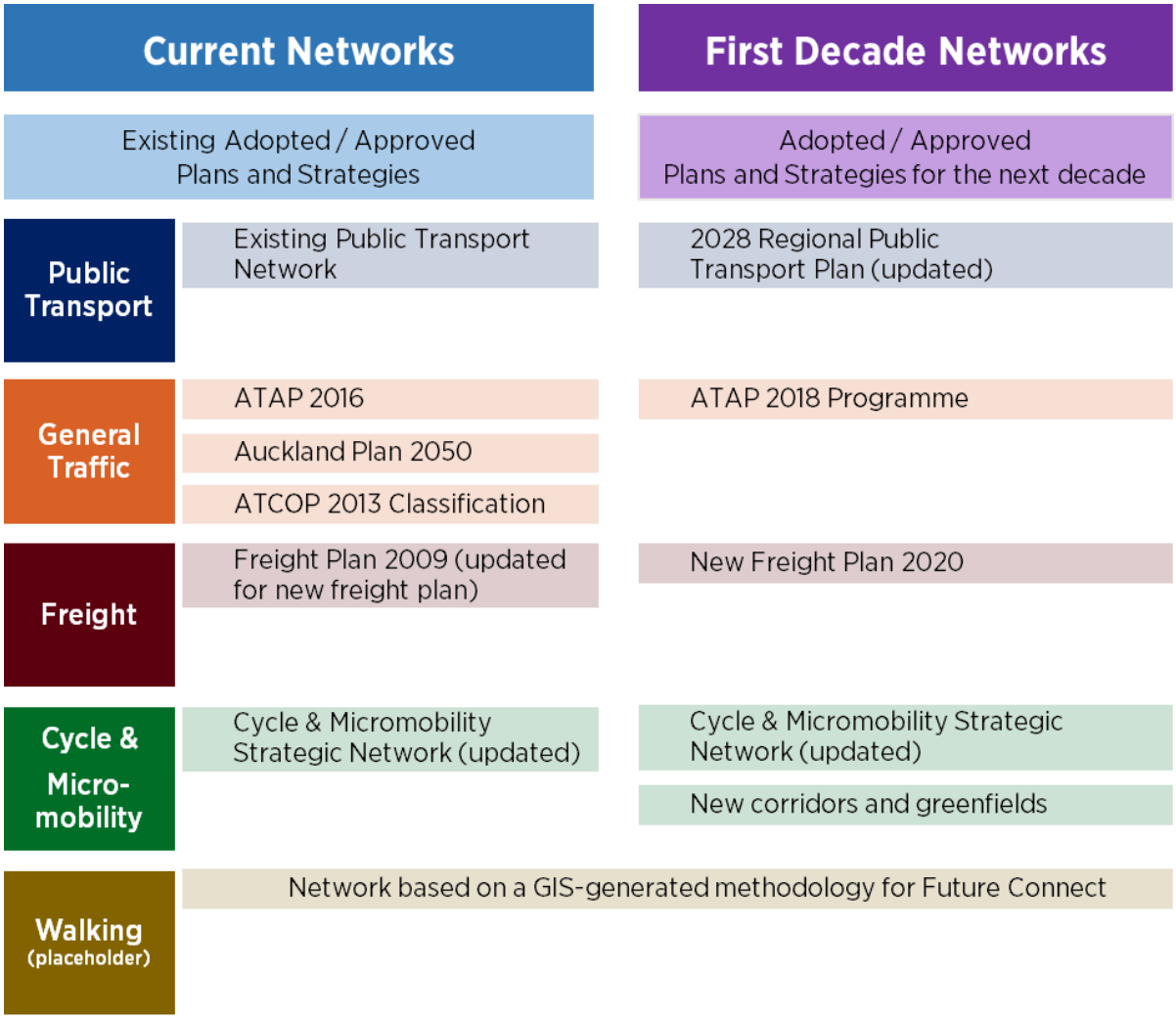



*Figure 4: Development of Strategic Networks*

## 2.4 Strategic Hierarchy

Each modal network has different hierarchies to indicate the importance of each link, using principles specific to the operation and management of that mode. Not all levels of these networks have a strategic function (as per the Strategic Network definition above).

In order to provide consistency between each of the modal Strategic Networks, a Strategic Hierarchy has been established to make it easier to compare modal priorities across networks, and more effectively integrate the system. The three-level strategic hierarchy generally consists of:

- **Primary** – Provides for longer distance journeys and typically carries the highest volumes of people and goods. These links also provide the most direct connections and fastest journeys to key places.
- **Secondary** – Provides major connections to the Primary network and key destinations, such as Metropolitan Centres, freight hubs or Rapid Transit Stations. These links also provide direct journeys but may not be as fast as journeys on the Primary network.
- **Tertiary** – Provides for busy connections between important, but more local, destinations, and fill in gaps in the Secondary network.

***Supporting Networks –*** *Non-strategic links that play a vital role in providing access to the Strategic Networks and links to local destinations and services.*

The figure below outlines the Strategic Hierarchy levels for each Strategic Network.

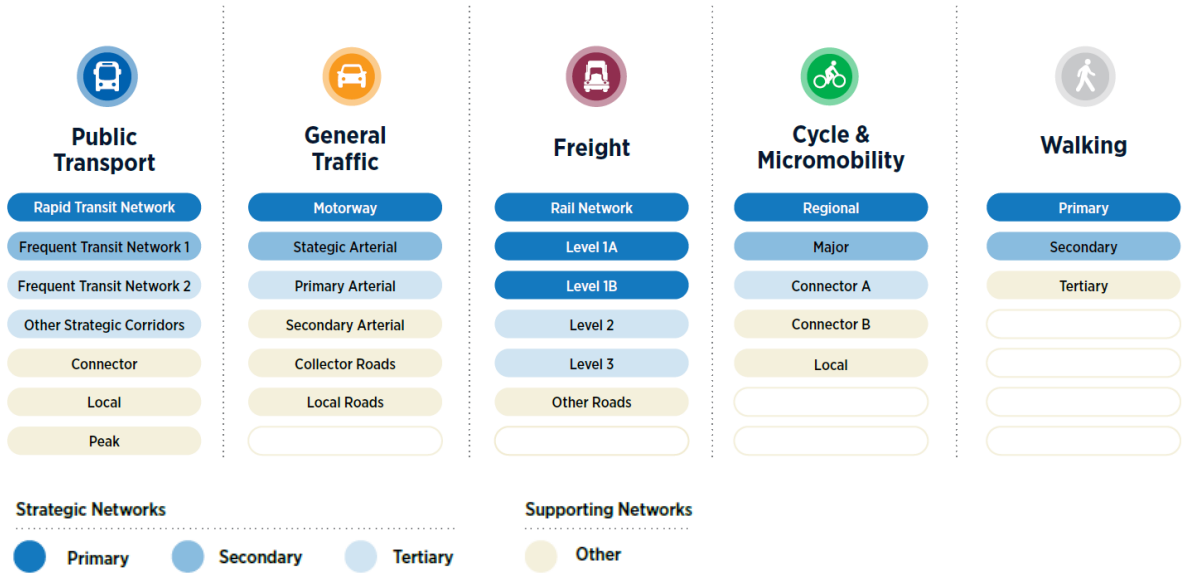



*Figure 5: Strategic Hierarchy levels*

## 2.5 Strategic Network Principles

Guiding principles were developed for each of the Strategic Networks in order to:

- guide development and changes to the Strategic Networks
- highlight where each of the network components are important.

Principles for all five Strategic Networks can be found in Appendix B.

In addition to the principles for each of the Strategic Networks, the following Integration Principles were established to guide the system view and the continual integration of the five Strategic Networks (refer to the table below). These principles (and the RASF) should be referred to when reviewing network overlaps and there is a potential modal conflict that may not be physically or safely possible to reconcile (e.g. cycle conflicts with public transport).

| Themes | Integration principles |
|---|---|
| Manage effects on the environment | • Avoid, remedy or mitigate any adverse effects on the environment<br>• Adapt to a changing climate and respond to the microclimatic factors of each area<br>• Provide a transport system that supports more sustainable modes to enable reductions in emissions. |
| Safe network | • Provide a safe and secure transport network, free from death and serious injury for all users<br>• Provide a safe and convenient network of routes accessible to people of all ages, abilities and backgrounds<br>• Provide greater attention to modal networks for vulnerable users to avoid conflict, particularly where there is expected to be an increase in the movement function of a corridor and an increase in vulnerable users |
| Connect nodes | • Provide connection between the common destinations that link people to people, goods, services and opportunities<br>• Support inter-regional connectivity |
| Connect modes | • Provide for travel options and the ability to connect easily at interchanges, including changing between modes |
| Provide access | • Provide direct and efficient access to centres and key destinations |
| Integrate land use and transport | • Enable a compact urban form though land use integration<br>• Support land use with complementary networks resulting in effective movement of people and goods<br>• Enable convenient and direct public transport, walking and cycling access to centres |
| Modal priority | • When a corridor is part of a Strategic Network, this must be considered in the modal priority assessment<br>• Use RASF to identify modal priorities and potential conflicts in a corridor |
| Mode shift | • Provide quality active mode and dedicated public transport routes to enable mode shift away from private car use<br>• Prioritise sustainable modes where needed to provide an improved throughput across the network |
| Place function as well as movement | • Enable the reflection of place value as well as movement in corridors |

| Themes | Integration principles |
|---|---|
| Reliable and resilient | • Create routes that can withstand unexpected events and severe weather conditions<br>• Avoid disruption or minimise it when it occurs by adopting a whole-of-system approach |
| Make the best of existing networks | • Optimise people throughput to support current and future demand across different periods of the day<br>• Prioritise people throughput as the movement function as demand for use of the corridor increases<br>• Support access to public transport by active travel modes<br>• While understanding the implications of kerbside functions with the road's surrounding land use functions, limit stationary activities on arterial roads where it inhibits efficient people throughput or conflicts with the objectives of other strategic transport networks |

*Table 1: Integration Principles for Strategic Networks*

The System Planning Objectives and Strategic Network Principles will guide ongoing development and changes to the integrated transport system (as outlined in the figure below). Similarly, the Strategic Networks and Strategic Network Principles are tools used to help meet the desired objectives for the integrated transport system. For example, a Rapid Transit Network corridor (Public Transport Strategic Network) that is integrated into the system with connected modes and nodes (as per the Integration Principles) will ultimately support Travel Choices and Growth (System Planning Objectives).

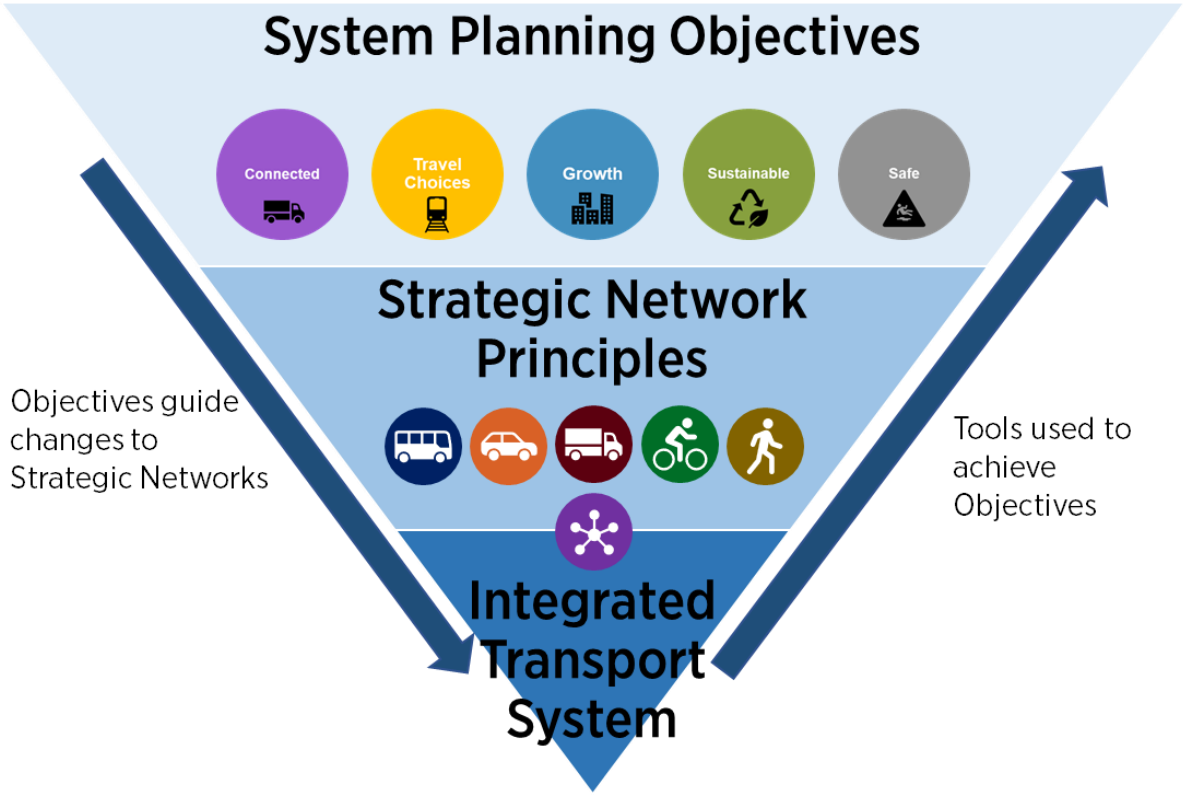



*Figure 6: Supporting the System Planning Objectives*

## 2.6 Strategic Networks (Current and First Decade)

Over the next decade, Auckland's Strategic Networks will need to adapt and respond to the growth challenge and meet the needs of an evolving region. Ultimately, the Strategic Networks influence where and when significant urban growth can be enabled, especially in future urban areas.

Broadly speaking, changes to the Strategic Networks in the next ten years result from:

- new infrastructure: railway network upgrades, busway upgrades, new roading projects, cycleways and footpaths
- new public transport services or changes to existing services
- reclassification of strategic hierarchy levels on existing network links, to adjust its function and respond to land use changes and new demands. This can result in parts of the networks being tuned up or tuned down from one hierarchy category to another, which could result in a move from Strategic to Supporting Network or vice versa.

The **Cycle & Micromobility Strategic Network** indicates the strategic intent over the long term. The Current and First Decade Networks are therefore largely similar (except for new corridors and expansion into greenfield areas). The Strategic Network is not an indication of the implementation programme for the next decade. It is where investment will be prioritised as part of the cycling programme and associated infrastructure projects to create a high level of service for people on bikes or micromobility devices.

Notable changes in the First Decade Strategic Networks are outlined in the main report.

Any changes to the Strategic Networks (Current and First Decade) will be managed through the Change Management process outlined in Section **Error! Reference source not found.**.

Figure 7 shows the Primary Strategic Networks for the First Decade. In addition, the Strategic Networks (Current and First Decade) are displayed in sections 2.6.1 - 2.6.5.

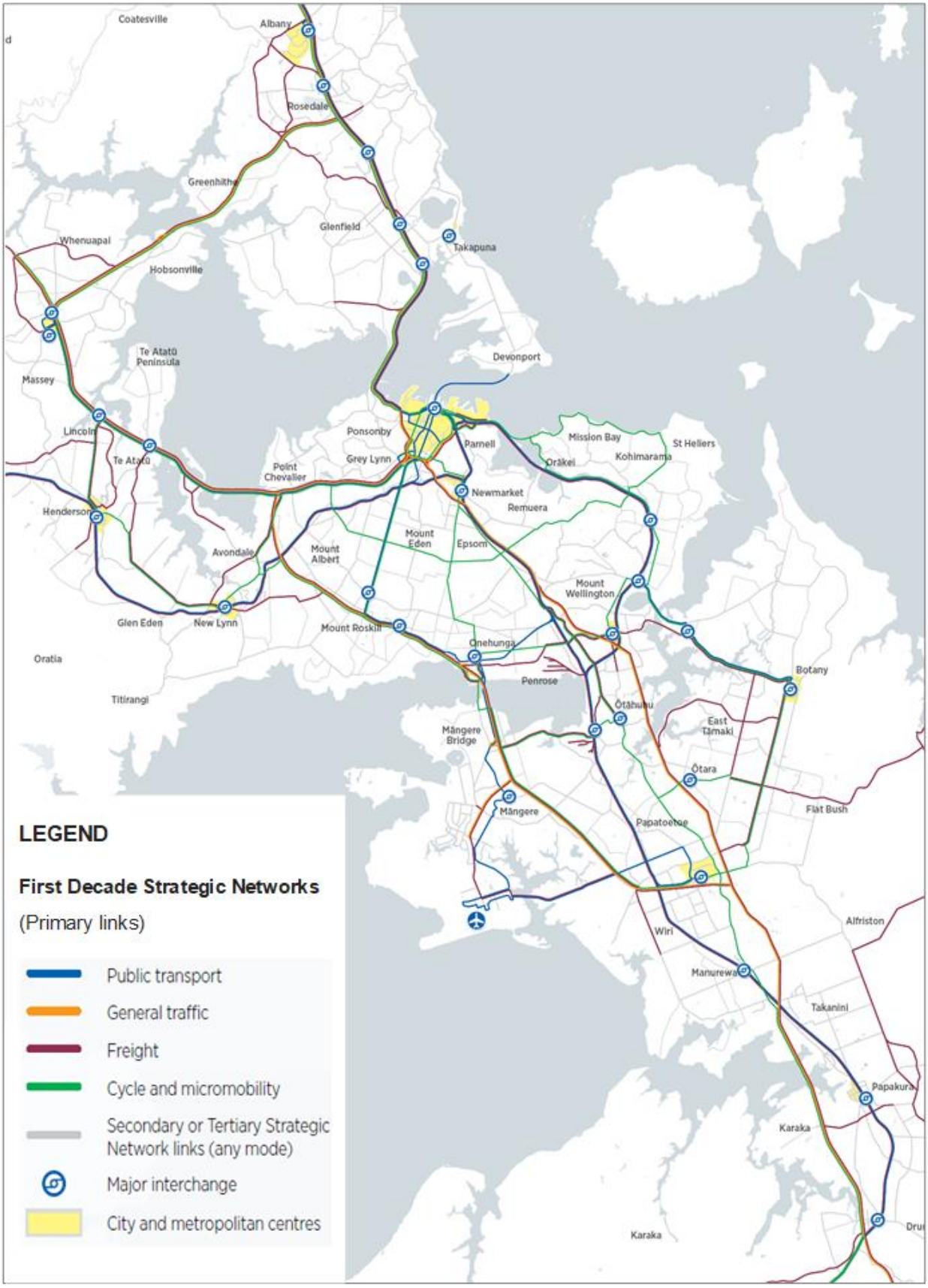
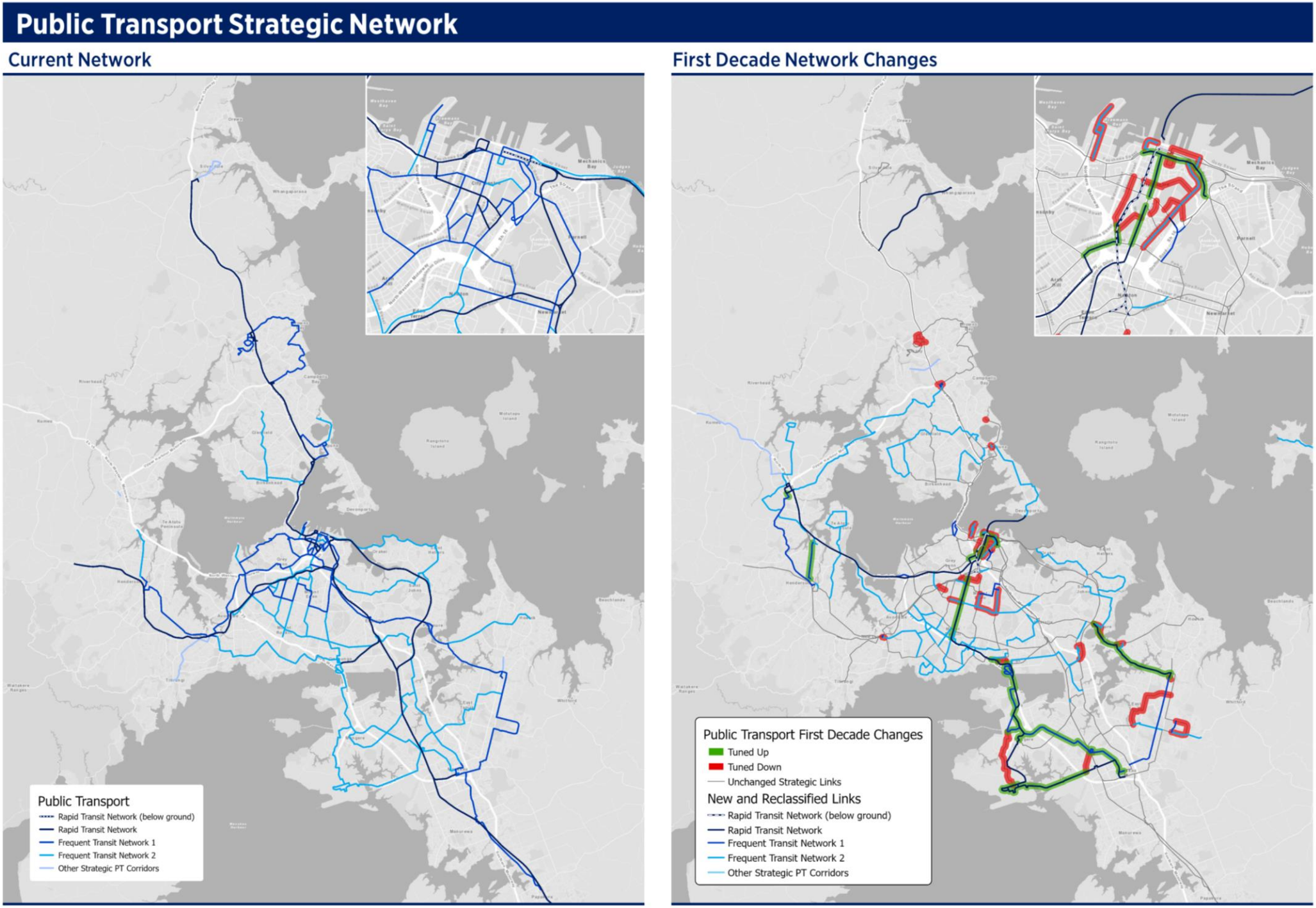



*Figure 7 First Decade Primary Networks*[2]

[2] NB The Walking Strategic Network is denser than the other networks and has been excluded from this figure to improve readability. See 2.6.1 for the Walking Strategic Network.

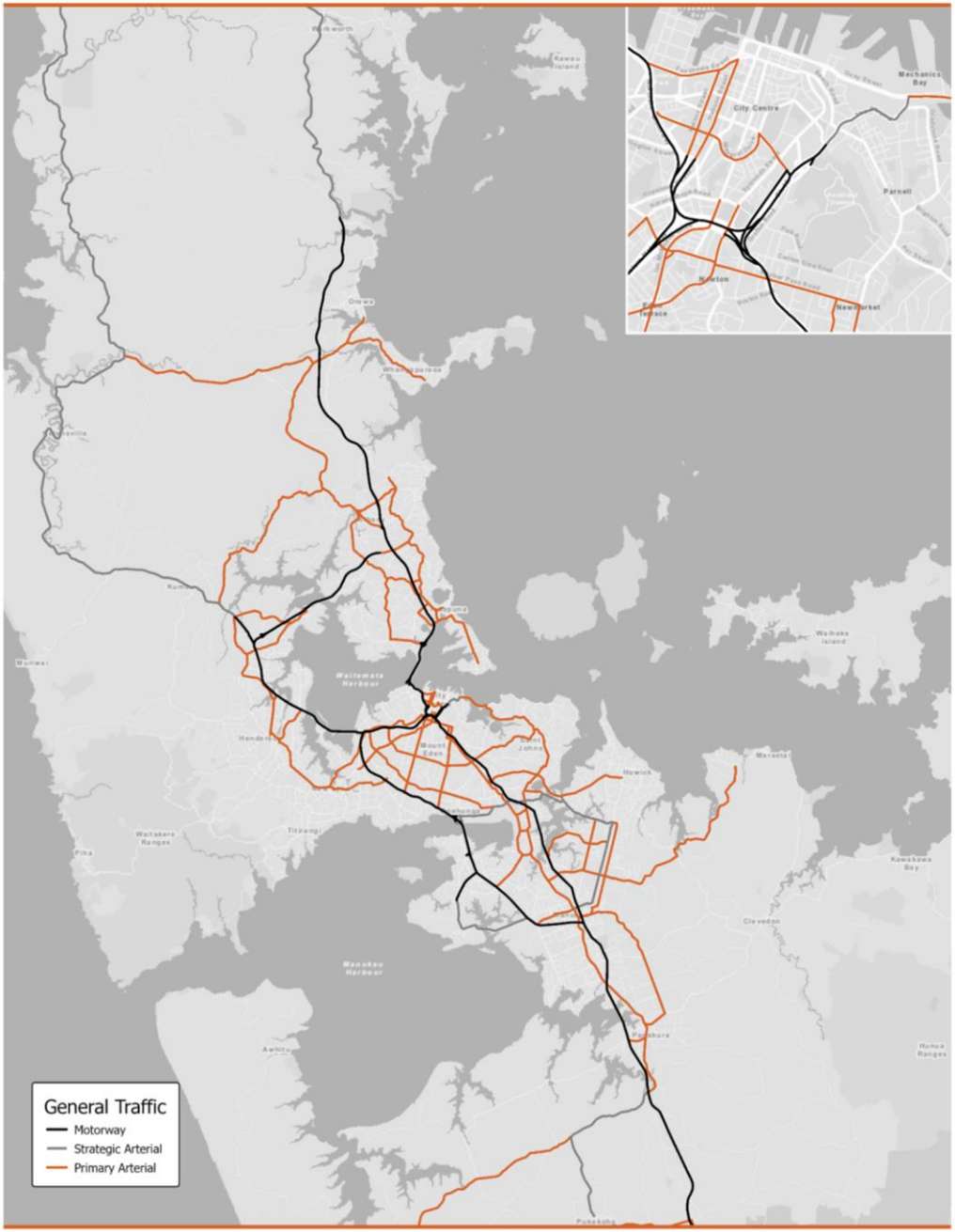
### 2.6.1 Public Transport Strategic Network



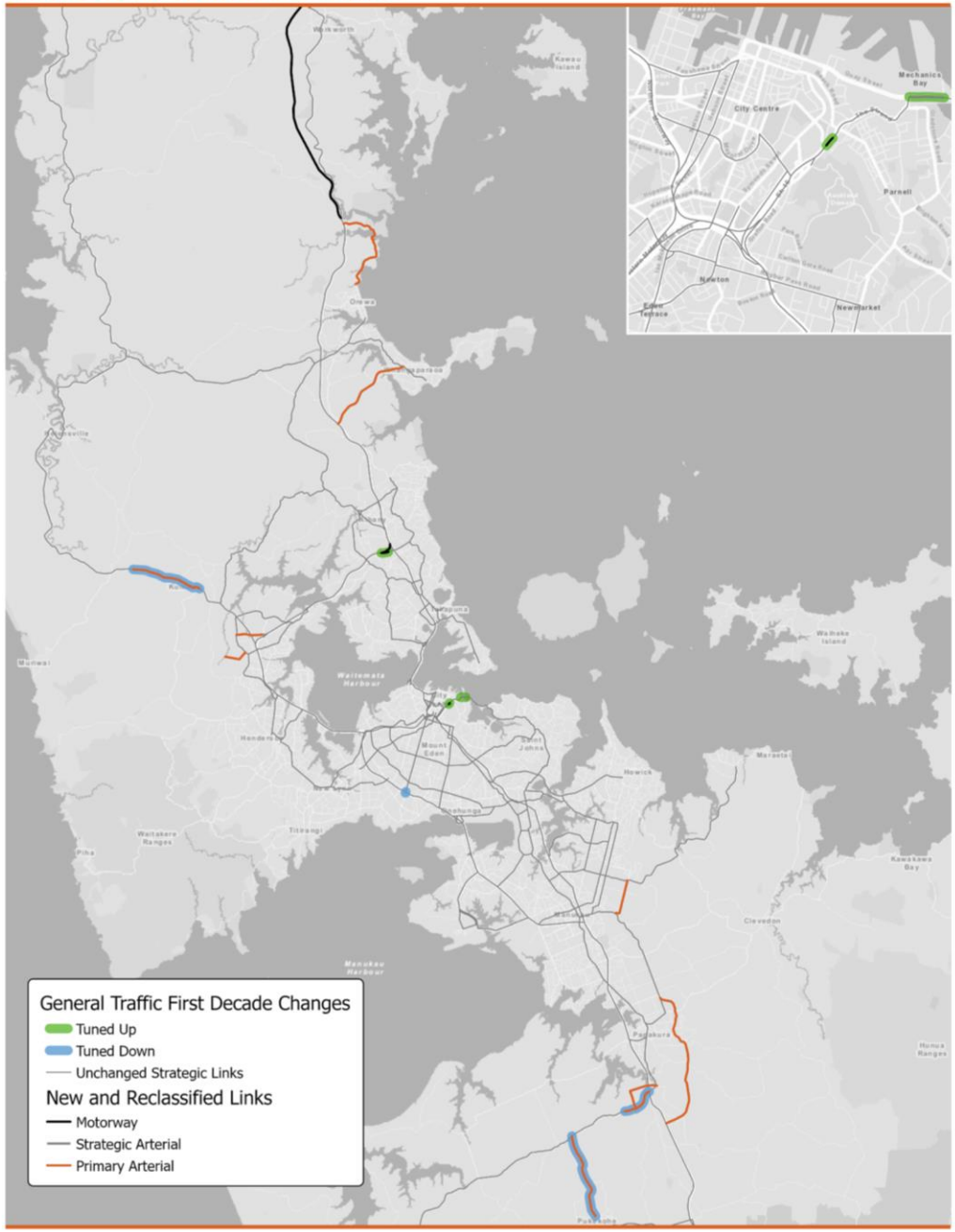
### 2.6.2 General Traffic Strategic Network

# General Traffic Strategic Network

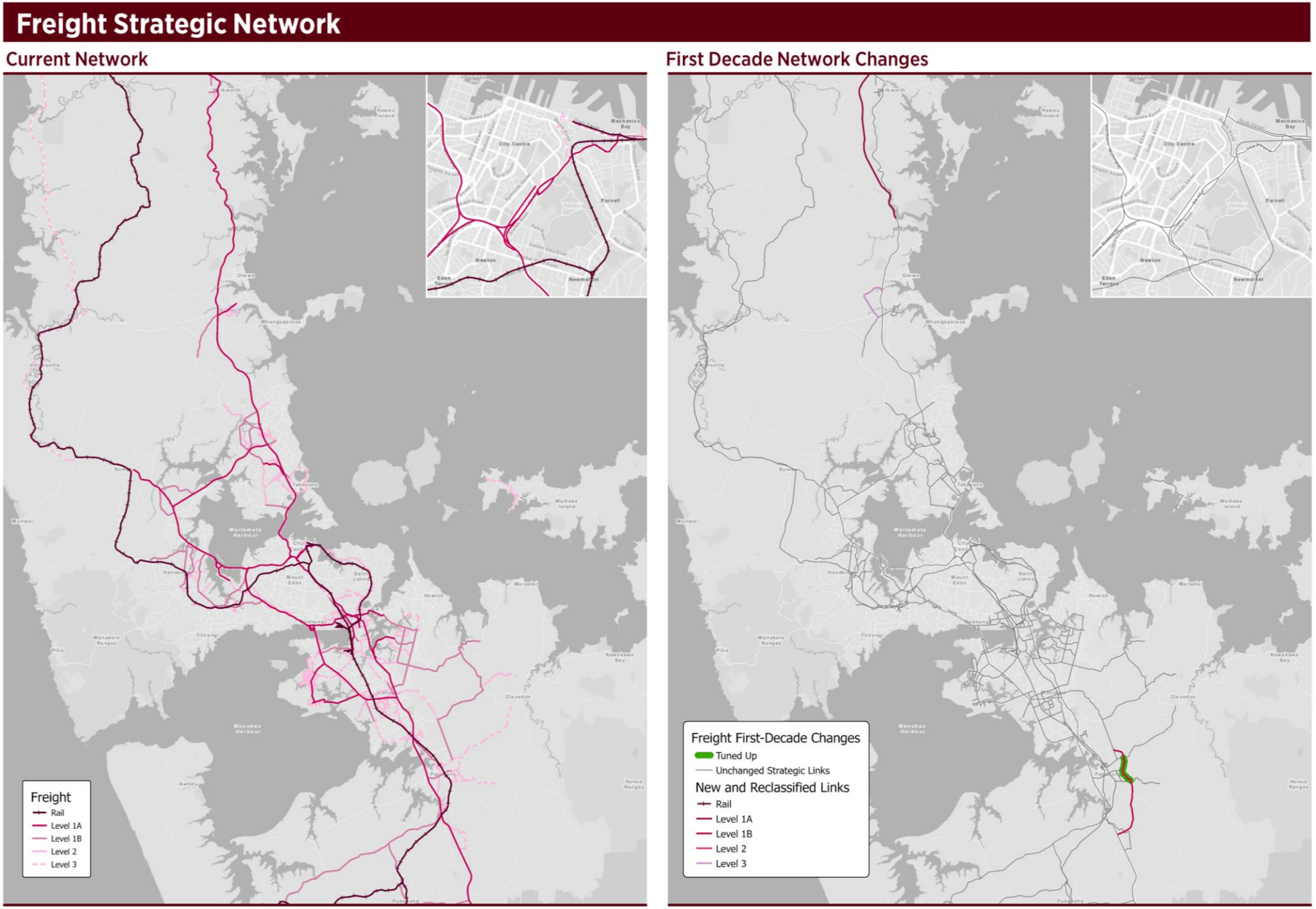
## Current Network



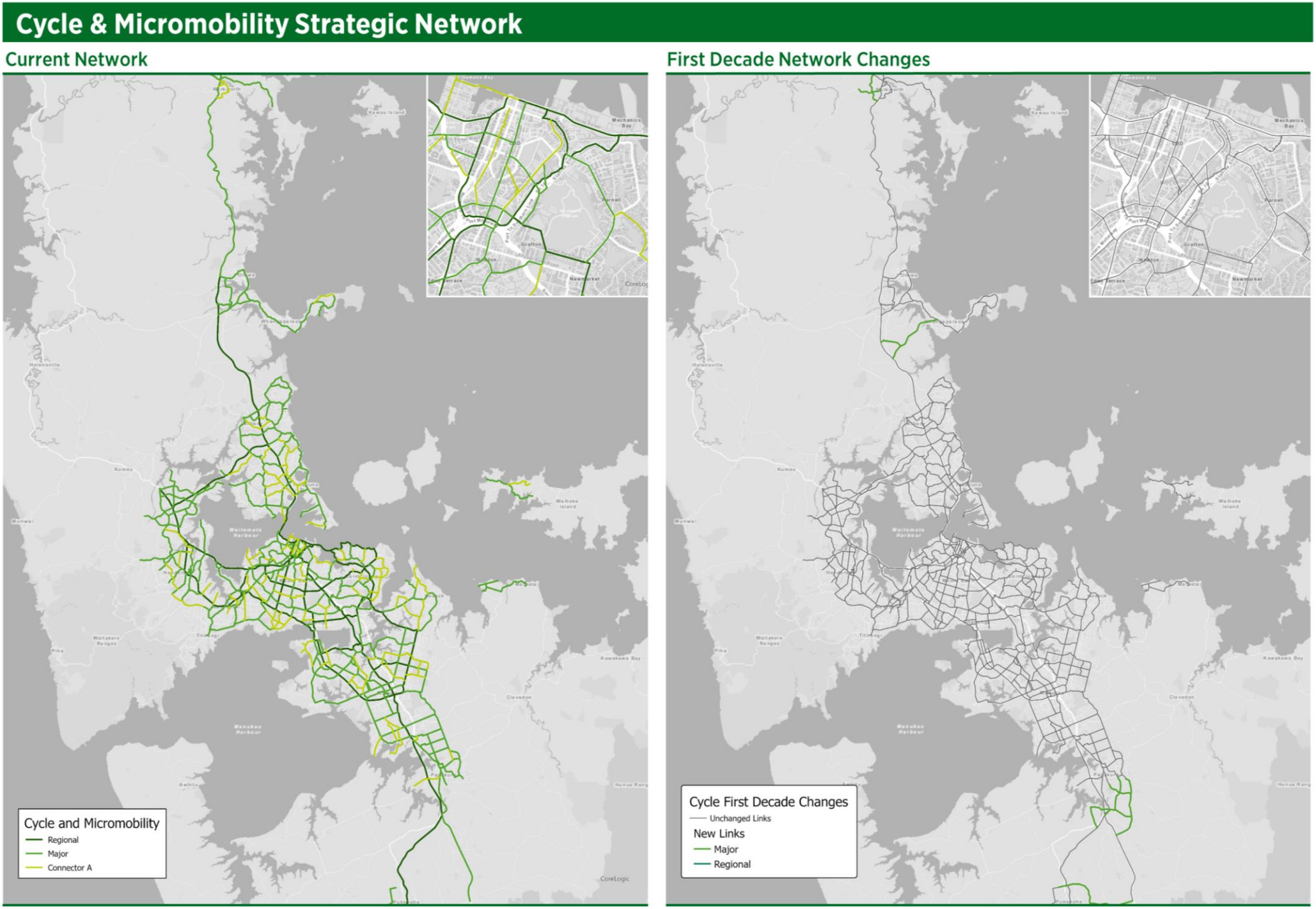

## First Decade Network Changes



### 2.6.3 Freight Strategic Network

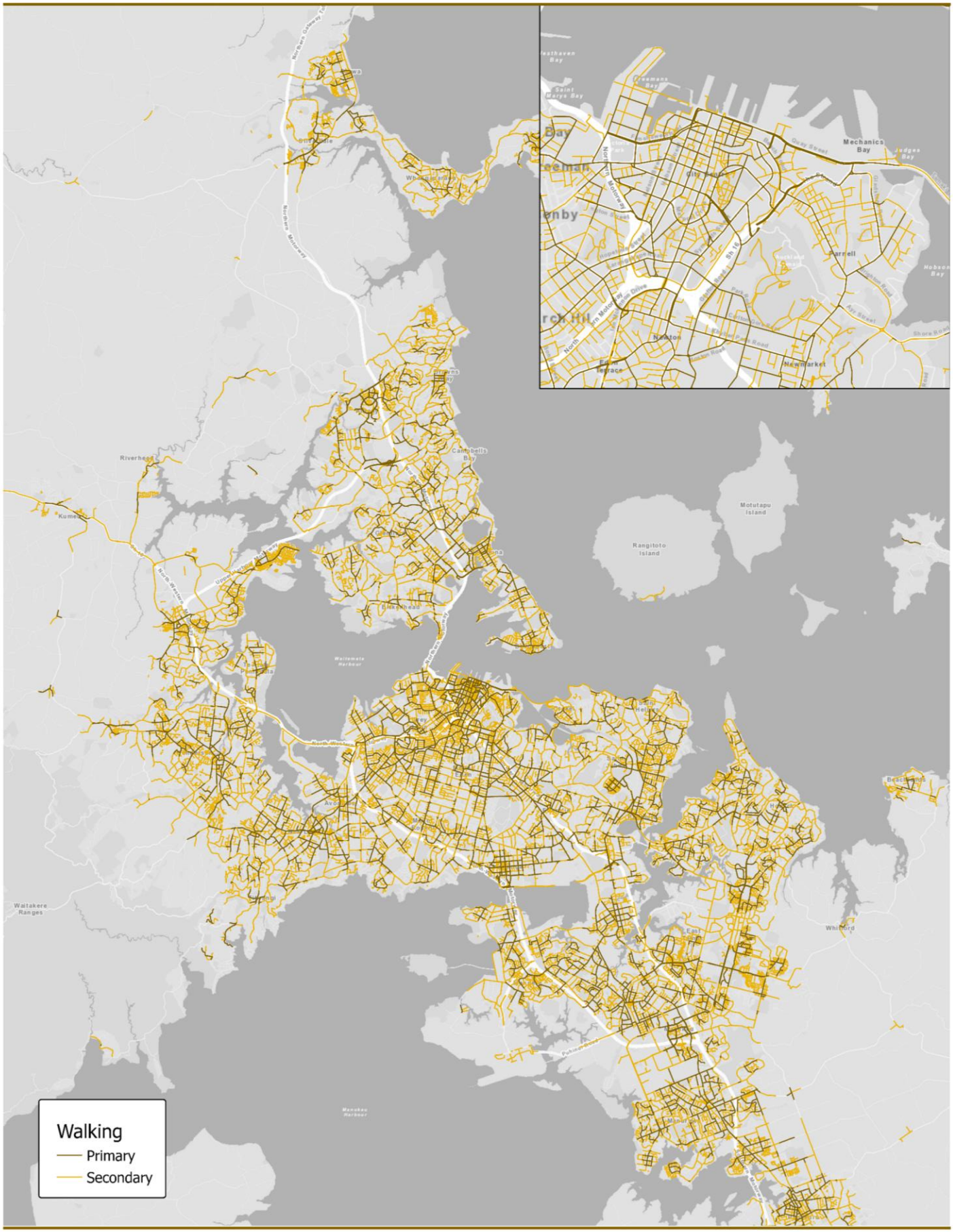


### 2.6.4 Cycle & Micromobility Strategic Network



# Walking Strategic Network *(placeholder)*

## Current & First Decade Network



# 3 ROADS AND STREETS FRAMEWORK

## 3.1 Purpose

The RASF system planning tool identifies the different functions of roads and streets within Auckland. This provides a more holistic view of how streets operate and recognises that they are more than just movement corridors. The RASF informs the prioritisation of modes within a road or street and changes to the Strategic Networks. It is not intended to provide solutions and does not make design choices.

The output of the RASF is the RASF Mandate, which indicates Street Typology and Modal Priorities within the context of the road or street.

The RASF assessment is for both the current and future state to recognise the continual changes of Auckland's roads and streets over time. The anticipated future place and movement functions of a street are essential to allow for robust decision making.

Waka Kotahi NZ Transport Agency is also developing the One Network Framework (ONF), a national movement and place classification system for roads and streets to provide a baseline for a wide range of planning processes. The ONF will replace the previous One Network Road Classification (ONRC), which is a tool to inform asset management planning. The ONRC organises New Zealand's roads into six categories based on traffic volumes and the type of connections they provide.

When the ONF is implemented, the tool will continue to inform asset management planning. However, the RASF will continue to be used for strategic planning purposes.

## 3.2 Street Typologies

The RASF assigns a street typology based on the significance of the movement and place function within the Auckland context. The place function represents the catchment of a road or street and its adjacent land use as a destination. The movement function represents the level of strategic importance with the transport network in terms of moving people, goods and services safely and efficiently between locations and accessing key locations

The level of movement and place significance of streets are rated on a scale from 1 to 3, reflecting the strategic importance within Auckland. The Strategic Networks are one of the inputs that help define the level of movement and place significance, as well as the modal priorities within individual streets. The combination of the movement and place significance defines the RASF street typology. There are nine RASF typologies in Auckland as outlined in the figure below.

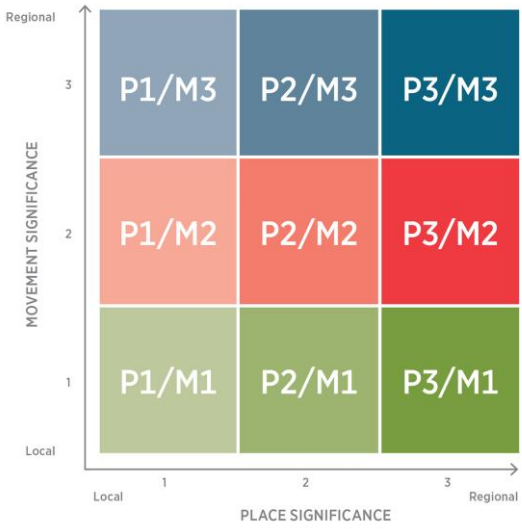



*Figure 8 Roads and Streets Framework Street Typologies*

# 4 CHANGE MANAGEMENT

The Strategic Networks will need to remain up to date as the network evolves. Change proposals introduced by any party will be assessed to determine whether there are any changes required to the Strategic Networks and to consider implications for the broader integrated transport system. This will be managed through the integrated change management process outlined in this section.

## 4.1 What is change?

Change could consist of any additions, deletions, alterations (e.g. mode or location changes) or minor modifications to the Strategic Networks (current and/or future), including Strategic Hierarchy levels.

## 4.2 Change types

To consider change, it is important to identify and understand where change could originate. Changes to the Strategic Networks can be divided into several overlapping types:

- Formalised (business as usual) changes vs one-off (non-standard) changes
- Changes to the current network vs changes to the future network
- Changes from within AT (an internal instigator) vs changes from outside of AT (an external instigator)

For a visual representation of change types, refer to the figure below. A more detailed list of potential change triggers is included in Appendix C.

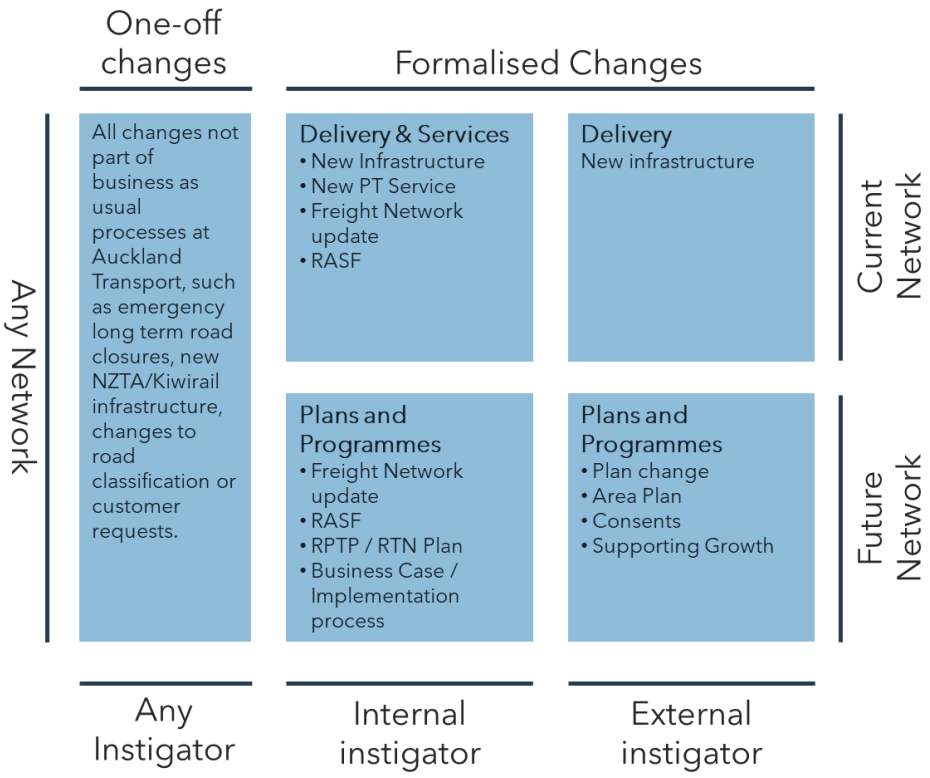



*Figure 9 Types of Strategic Network changes*

## 4.3 Gateways

The gateways for each change type have been mapped in the figure below. It is key that decision makers for any of these gateways are aware of the change management process and know to initiate the process before any plans are finalised.

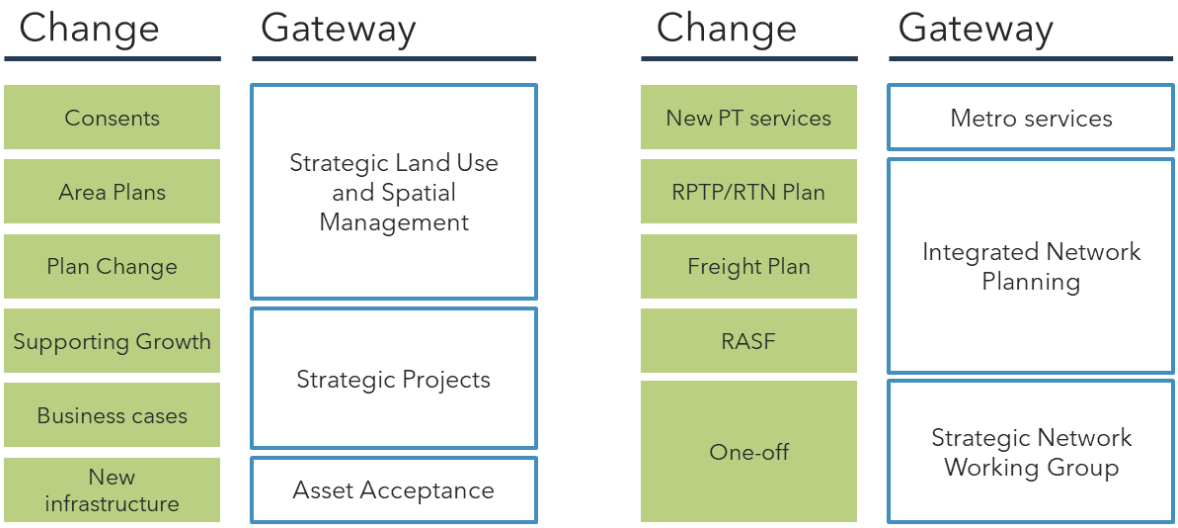



*Figure 10 Strategic Network gateways for each change type*

## 4.4 When and how to initiate the process

The change management process should be initiated at the earliest possible point. Any changes to the Strategic Networks must be assessed and approved.

Project leads or applicants required to complete the Change Proposal Form should contact the Future Connect mailbox (FutureConnect@at.govt.nz).

## 4.5 Governance

There are three levels of governance to approve changes to the Strategic Networks, and escalate if needed. Figure 11 outlines the purpose of each governance level.

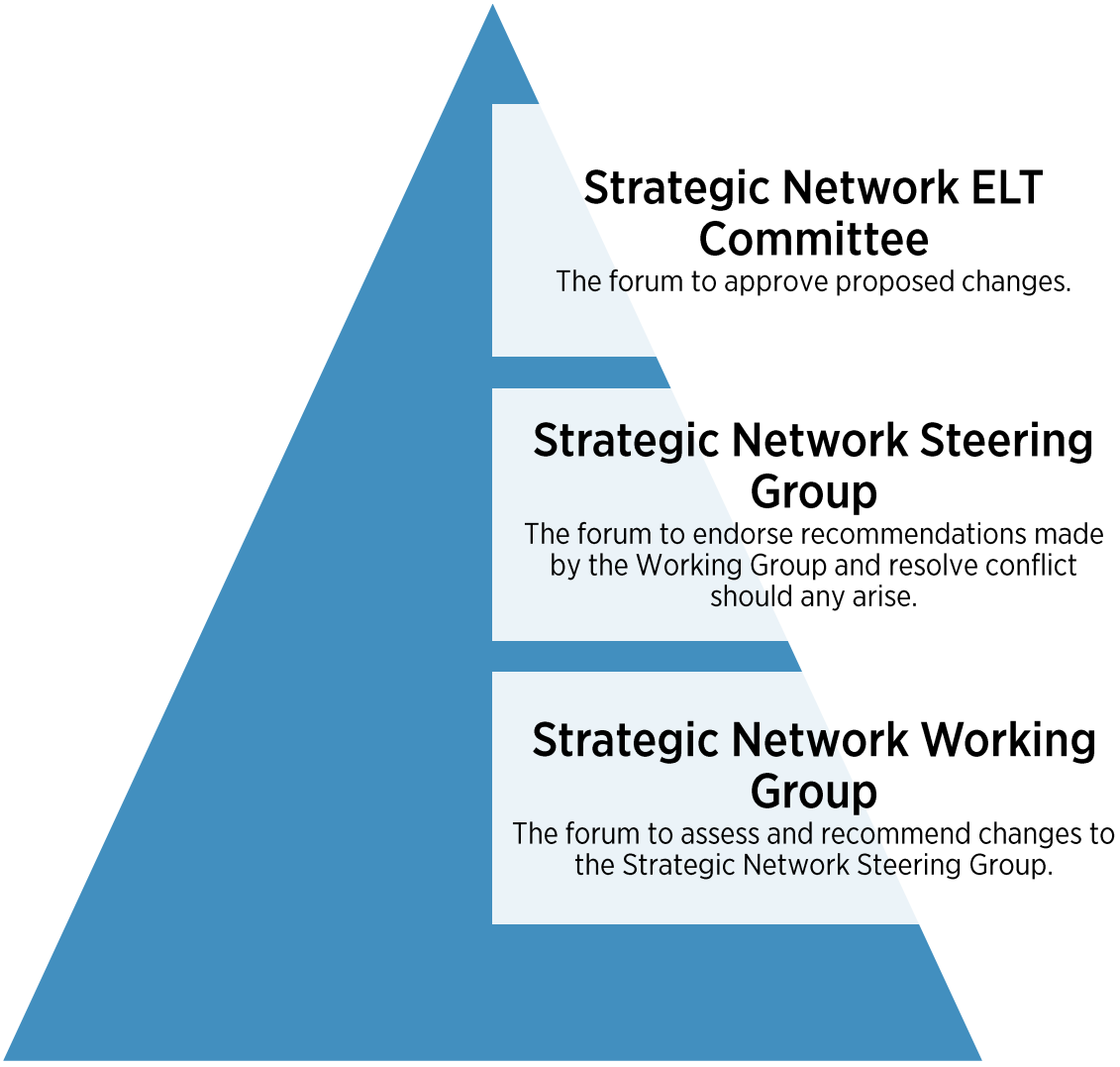



*Figure 11 Strategic Network Change Management Governance Groups*

## 4.6 Process steps

The change management process will be led by the Integrated Network Planning (INP) team. The following process is to be followed to approve Strategic Network changes:

| Who | Standard process (including temporary) |
|---|---|
| **Change instigator** | **1. Propose**<br>• Project lead or applicant completes Change Proposal Form<br>• INP reviews and recommends |
| **Working Group** | **2. Assess**<br>• Assesses Change Proposal Form<br>• Requests changes as necessary or facilitates further internal/external engagement<br>• Makes recommendation |
| **Steering Group** | **3. Endorse**<br>• Considers the recommendation<br>• Requests changes as necessary to INP<br>• Endorses recommendation |
| **ELT Committee** | **4. Approve**<br>• Approves / declines change |
| **INP** | **5. Record & Notify**<br>• Record on Change Management Log<br>• Make change in Future Connect Mapping Portal<br>• Notification to internal and external partners and stakeholders |

*Table 2: Change management process and approval steps*

## 4.7 Reviewing proposed changes

Once a proposal is received, INP will review and recommend the proposal to the Working Group. The review will consider the Change Proposal Form and RASF as follows:

1. **Change Proposal Form (Impact Assessment)**
   - **Strategic Networks** – A review of the current and future Strategic Networks, System Planning Objectives, Strategic Network Principles (Appendix B) and Integration Principles for Strategic Networks (Table 1). If modal conflict(s) are found, this requires engagement with relevant network owners, and potentially, a full RASF assessment.
   - **Deficiency & Opportunity Mapping / Indicative Focus Areas** – A review to determine if the proposed change will resolve/add/worsen problems in the corridor or area. If an Indicative Focus Area is created or made worse, the project lead should consider mitigations or alternatives.
   - **Plans and projects** – A review of current or future plans and projects in the corridor or area. Where there is overlap, engagement is required with relevant project managers, partners and stakeholders.
   - **Mitigations and alternatives** – To be considered where there is potential modal or project conflict. Depending on the scale of modal conflict, the project lead should discuss the risk with Design and Standards.

2. **Roads and Streets Framework**
   - **Full assessment** – Required for all AT capital projects.

   - **Baseline assessment** – If no RASF assessment was completed or required, a check of the proposal against the RASF baseline will be required. If the proposal is expected to impact the baseline or contradict the desired future state, a full assessment may be completed as part of the impact assessment.

# Appendix A: Definitions of modal network layers

**Definitions of modal network layers**
(Strategic and Supporting Networks)

## Public Transport Strategic Network

The 'backbone' of the wider public transport network. It is organised around the rapid and frequent services of the Rapid Transit Network (RTN) and Frequent Transit Network (FTN). The Strategic Network also includes corridors where significant volumes of services converge in order to provide key connections ('Other Strategic Public Transport Corridors').

**Strategic Network:**

- **Rapid Transit Network (RTN)**
  Services operating at least every 15 minutes, on dedicated rights-of-way removed from the congestion of general traffic lanes
- **Frequent Transit Network 1 (FTN1)**
  Services operating at least every 15 minutes with priority measures, providing strategic connections between Metropolitan Centres or Metro and City Centre
- **Frequent Transit Network 2 (FTN2)**
  Services operating at least every 15 minutes with priority measures, which are not as strategic as FTN1
- **Other Strategic Public Transport Corridors**
  Corridors where significant volumes of non-RTN/FTN services converge in order to provide a connection to key public transport hubs

**Supporting Network:**

- **Connector**
  Services operating at least every half hour, complementing RTN and FTN
- **Local and other**
  Services operating at least every hour, complement RTN and FTN. Other services include school, peak only services

## General Traffic Strategic Network

The backbone of the road network, consisting of Motorways, Strategic and Primary Arterials. The network is a vital part of the system, helping provide access to key destinations for people, goods and services. General traffic includes all private cars, motorcycles, cycles and micromobility, vans, taxis, shuttles, buses and other passenger services, and truck and commercial vehicles.

**Strategic Network:**

- **Motorway**
  Highest category roads having greatest through movement function providing inter-regional connections
- **Strategic Arterial**
  Roads that predominantly carry through traffic (but many also serve adjacent activities), providing inter-regional connections, and connect areas within a region
- **Primary Arterial**
  Roads that predominantly carry through traffic (but many also serve adjacent activities), and connect principal sectors of the region (not catered for by strategic routes)

**Supporting Network:**

- **Secondary Arterials**
  Provide movement within the district between key nodes, and connect major nodes within an area. Serve adjacent key activities
- **Collector Roads**
  Collect and distribute traffic from local roads to arterials within an area (and vice versa). Serve adjacent key activities
- **Local Roads**
  Collect and distribute traffic to/from local properties within an area

## Freight Strategic Network

The Freight Strategic Network is made up of roads and rail. The main functions are to link major areas of freight generation and attraction; minimise the impact of freight movement on the community; provide roads and routes capable of accommodating the largest vehicles (within normal legal limits); and offer convenient and reliable travel for freight between key locations.

**Strategic Network:**

- **Rail Network**
- **Level 1A**
  Roads of the highest strategic value to freight movement (motorways, State Highways, arterials)
- **Level 1B**
  Roads of the highest strategic value to freight movement (arterials where competing modes and land uses require active management)
- **Level 2**
  Local freight networks within strategic freight areas, where efficiency of freight movements should be considered
- **Level 3**
  Supporting freight networks connecting to/between strategic freight areas, where impacts of freight movement on land use requires active management

**Supporting Network:**

- **Other roads**

## Cycle & Micromobility Strategic Network

A connected, coherent, and legible network made up of the most important routes that link key destinations.

**Strategic Network:**

- **Regional**
  Mainly intra-regional routes within Auckland, focusing on longer distance trips, with the potential of becoming inter-regional too
- **Major**
  Key spine connections to the Regional routes and to high trip generators, such as rapid transit stations and metropolitan centres
- **Connector A**
  Connections to Major routes and lower order trip generators, such as neighbourhood centres and clusters of schools or larger schools

**Supporting Network:**

Note the Supporting Network is under development

## Walking Strategic Network (placeholder)

Made up of the key walking routes of high demand (current and latent) to and between major destinations for short trips (up to two kilometres).

**Strategic Network:**

- **Primary**
  Provides high quality access to adjacent commercial, retail, school and employment land uses, Public Transport Strategic Network, and carries the highest number of people on the network
- **Secondary**
  Key spines providing access to and between major destinations and may carry considerable numbers of people at certain time periods

**Supporting Network:**

- **Tertiary**
  High quality access streets within residential streets and surrounding major pedestrian generators

# Appendix B: Strategic Network Principles

| Public Transport Strategic Network Principles | |
|---|---|
| **Theme** | **Principle** |
| Safe and accessible services | • Ensure that services provide a safe user experience that is accessible to people with a range of mobility needs |
| Convenient and attractive | • Make public transport an obvious, preferred and easy choice for medium to long journeys over 15 minutes in length (including the first and last legs of a journey)<br>• Ensure services are as direct as possible between key destinations to enable them to generate high patronage |
| Services form a network | • Provide a network of services that is simple and easy to understand and is supported by integrated fares and ticketing<br>• Maximise coverage of the urban area to increase access to strategic services, while ensuring routes remain direct<br>• Provide a legible network in which services are allocated to appropriate corridors in a consistent manner<br>• Where services intersect, enable convenient and safe connections for people in order to provide access to a wider range of destinations<br>• Recognise that non-strategic services are an integral part of the wider public transport network, providing greater coverage, supporting strategic services and in some cases sharing common corridors |
| Reliable and efficient | • Enable services to operate as reliably as possible to maximise their attractiveness and the efficient use of resources<br>• Prioritise strategic corridors to minimise travel times of services using them. Priority may be provided in different ways at different times of the day |
| Support land use | • Support the place aspects of key destinations including centres by providing convenient and direct access via public transport<br>• Support high density land use within the catchments of stops and stations on the strategic network |

| General Traffic Strategic Network Principles | |
|---|---|
| **Theme** | **Principle** |
| Safe corridors | • Provide a safe network free from death and serious injury for all road users |
| Connectivity | • Support a high connectivity function linking principal sectors of the region (ports, airports, hospitals, significant tourist destinations etc.)<br>• Support predominantly a throughput function with limited access<br>• Support inter-regional connectivity |
| Support growth and economic productivity | • Support sustainable population growth by connecting growth areas with the rest of Auckland<br>• Enable corridors to evolve and ensure the long-term sustainable movement of people and goods |
| Reliable and resilient | • Support journeys that can withstand unexpected events and severe weather conditions<br>• Provide a permeable network of routes to avoid disruption or minimise it when it occurs<br>• Perform a 'lifeline' function as they may be the only corridor available to major destinations |
| Support built form | • Maximise transport options<br>• Recognise the transport functions over a 24/7 period |
| Make the best use of existing corridors | • Optimise people throughput to support current and future demand across different periods of the day<br>• Support provision of, and access to public transport and active modes<br>• While understanding the implications of kerbside functions such as parking, access, loading and servicing interaction with the road's surrounding land use functions, limit on-street parking on arterial roads where it inhibits efficient people throughput or conflicts with the objectives of other Strategic Networks |

| Freight Strategic Network Principles | |
|---|---|
| **Theme** | **Principle** |
| Safe corridors | • Provide a network that moves goods securely<br>• Minimise the impact of freight movement on local neighbourhood streets, centres and the surrounding community |
| Connected and efficient | • Enable the efficient movement of freight in Auckland to where it needs to go in a timely manner<br>• Prioritise transport access by link major areas of freight generation and attraction both within Auckland region and to/from locations outside the region |
| Reliable | • Enable convenient, reliable and relatively timely travel times for freight between key locations<br>• Maintain a priority network of quality routes that are attractive to freight users<br>• Provide a network of routes supporting over dimension/overweight freight movement |
| Sustainable and resilient | • Support the sustainable movement of freight through a resilient network that does not inhibit innovations and changes in technology |

| Cycle & Micromobility Strategic Network Principles | |
|---|---|
| **Theme** | **Principle** |
| Safe corridors | A network that is safe, secure and accessible for people of all ages, abilities and backgrounds |
| Convenient and attractive | Make cycling an obvious, preferred, and easy choice for short and medium journeys of up to 30 minutes (approximately 7km)<br>Comfortable to use for all ages and abilities, and offer a sense of equity and independence |
| Connected, direct and legible | Create a connected network to key destinations and where required to support land use<br>Provide direct routes to and between key destinations following corridors of high demand (current or latent)<br>Connect to the Public Transport Strategic Network<br>Create a coherent and legible network<br>Establish an appropriate network density for cycling, with a finer-grained network in areas of higher demand<br>Create routes that offer a pleasant and interesting environment<br>Minimise steep gradients and maximise comfort |
| Connected to off-road networks | Connect to complementary off-road cycle networks where they provide access to key destinations |

| Walking Strategic Network Principles (placeholder) | |
|---|---|
| **Theme** | **Principle** |
| Safe and comfortable | Make walking safe, secure and accessible for people of all ages, abilities and backgrounds<br><br>Comfortable to use for all ages and abilities, and offer a sense of equity and independence |
| Convenient and easy to navigate | Make walking an obvious, preferred and easy choice for short local journeys of up to 20 minutes (approximately 2km)<br><br>Provide a walkable network that is connected, permeable and easy to navigate<br><br>Prioritise connections within 2km of centres, to key destinations, and where required to support land use, including integrating with the Public Transport Strategic Network |
| Inviting and interesting | Improve the movement of people walking where place function is high<br><br>Apply the principles and standards of the Transport Design Manual |
| Connected to off-road networks | Connect to complementary off-road walking networks |

# Appendix C: Potential Strategic Network change triggers

| | Universal triggers | Walking | Cycle & Micromobility | Public Transport | Freight | General Traffic |
|---|---|---|---|---|---|---|
| **Standard** | • Plan changes including changes to land use and/or transport infrastructure<br>• Reclassification of strategic hierarchy levels due to changes in land use or functional criteria of the link<br>• Strategic Planning or project development affecting one or more modes<br>• New project delivered (major or minor) | • New footpath or shared path<br>• Land use (zone) change<br>• New public transport stops<br>• New key amenities<br>  ○ Hospital<br>  ○ Stadium<br>  ○ Tertiary education<br>  ○ Urban recreation<br>  ○ School<br>  ○ Marae | • New cycleway project not currently part of Strategic Network<br>• Corridors with increased demand current/forecasted (in line with Strategic Network role) | • New, changed or reclassified services:<br>  ○ Rail<br>  ○ RTN<br>  ○ FTN1 and FTN2<br>  ○ Ferry<br>• Significant volume increase<br>• RPTP changes | • Changes to freight routes in collaboration with freight industry<br>• New rail links | • Roading projects<br>• Revoking/declaring sections of State Highways<br>• Change to ONRC classification<br>• Plan change leading to road classification<br>• Significant volume increases in line with General Traffic Strategic Network role |
| **Temporary** | • >12-month duration<br>  ○ Response to environmental, safety or health crisis / major event<br>  ○ Construction<br>• Response to customer needs<br>• Tactical urbanism initiative (Innovating Streets Semi-permanent projects) | Innovating Streets Semi-permanent projects | Innovating Streets Semi-permanent projects | Changes to current network operations due to temporary construction | Changes to current network operations due to temporary construction | Changes to current network operations due to temporary construction |

# Terms and Conditions

The following important disclaimers apply to information available through Future Connect:

1. Future Connect is a 10-year network plan and system planning tool. The purpose is to provide strategic guidance for network planning and investment. It should not be used for other purposes without further consideration.

2. The Future Connect key outputs (i.e. Strategic Networks, Deficiency & Opportunity Mapping and Indicative Focus Areas) should always be independently reviewed and interpreted in the context set out in the Future Connect Report and these disclaimers.

3. While AT makes every reasonable effort to provide information of a quality that best meets the purposes of this publication, the information is provided on an 'as-is' basis. Information can become rapidly out-of-date. Some information has also been sourced from external parties, which has only been subjected to limited verification by Auckland Transport (AT). AT does not provide any warranty regarding the accuracy and completeness of the information. More information about the data sources can be found in the Future Connect Report.

4. Future Connect identifies the **Strategic Networks** for each mode, which provides the context for further decisions about modal priorities across the transport system. Some Strategic Networks may overlap and it may not be possible to provide for all the modes' planned level of service within the space available.

5. The Strategic Networks are built on certain assumptions regarding the current and future transport networks. All Strategic Networks are subject to change due to a variety of reasons, including further investigation, engagement, statutory approvals, changes to timing of implementation, and funding of services or project delivery. Strategic Networks will be kept up to date in the Future Connect Mapping Portal, although delays may occur.

6. All infrastructure projects undertaken on the **Cycle Network** (Strategic and Supporting) should seek to enhance safety and suitability for cyclists.

    a. Significant projects (over $10m) should provide specific interventions that enhance safety for cyclists and enable improved choices for cyclists of all ages and abilities, unless the interventions are not achievable due to RMA planning requirements or there is a risk to the availability of Waka Kotahi funding for the project as a whole.

    b. For non-strategic projects (i.e. less than $10 million), or for larger projects where specific cycling interventions are not achievable, cycling interventions are not mandatory, but the project design should still seek to enhance safety for cyclists and allow specific cycling infrastructure to be delivered in the future.

7. Where possible, reasonable endeavours should be made to align the renewals and cycling programmes through project coordination (a 'dig once' opportunity). This should occur: where project funding provides for the opportunity and is consistent with Waka Kotahi funding requirements; where specific interventions do not materially delay the core renewal works; and where it does not compromise better cycling outcomes to be delivered on another project.

8. The **Deficiency & Opportunity Mapping** provides a review of the Strategic Networks only, and has been created using a data snapshot of historic and forecast data. However, it does not represent 'live' network information and cannot be used to assess the current (month to month) operation of the network. Deficiency & Opportunity Mapping will be updated once every three years, in alignment with the Regional Land Transport Plan (RLTP) planning cycle.

9. **Forecast modelling data** is based on assumptions regarding land use change, population/employment change and project delivery that may be subject to change at any time. More information about these assumptions can be found in the Future Connect Report.

10. The key outputs of Future Connect have been developed to help guide funding and implementation decisions, but it is not an investment plan – that is the role of the RLTP. The Strategic Networks and the ranking of deficiencies and opportunities are not an indication of solution type, project prioritisation, implementation order, or funding allocation (unless committed).

11. Any map/plan is illustrative only. Whilst due care has been taken, AT gives no warranty as to the accuracy and completeness of information in these maps/plans and accepts no liability for any error, omission or use of the information.

12. The Deficiency Indicators used for the Deficiency and Opportunity Mapping (available as background layers) are derived from data provided by: Sensium, Smartrak, Auckland Forecast Centre, Urban KiwiRAP and Waka Kotahi MegaMaps.