Redhills, Westgate, and Whenuapai (RWW) Development Contributions Policy – Transport Assessment

Prepared for Auckland Council
Prepared by Beca Limited

8 August 2024

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Executive Summary

This report updates the draft assessment of the transport needs in the North West, known as the North West Infrastructure Funding and Financing Study (NWIFF), to inform the Auckland Council's (Council) Development Contributions (DC) policy for the Redhills, Westgate, and Whenuapai (RWW) funding area. Based on an overall methodology provided by Council, this report:

- Identifies the likely type and timing of new transport infrastructure to support growth in that area; and
- Estimates the likely beneficiaries of the investment, to inform allocation of the investments to the appropriate areas.

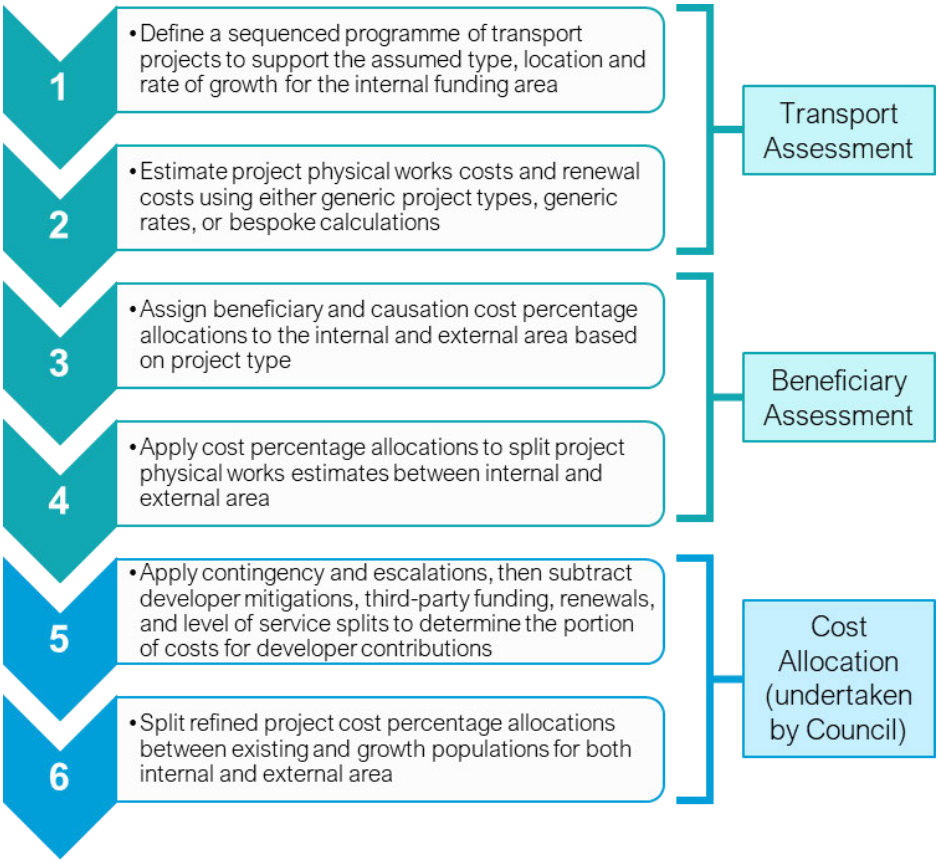
Beca has provided this assessment based on the knowledge and information developed by Te Tupu Ngātahi Supporting Growth Alliance (SGA), for its long-term route protection work for this network. That includes Indicative and Detailed Business Cases developed to inform that route protection process.

The transport planning and engineering information developed by SGA was focussed on identifying transport corridors for full buildout of these growth areas, recognising that both the land use and transport networks would develop progressively over an extended period. This means that the assessment acknowledges that the specific future land use, design detail and wider transport context is not certain, and therefore the analysis has been developed at a more 'strategic' level, and not from detailed site investigations, design, or modelling analysis. More detailed analysis would be undertaken for implementation of each project. Given the significant scale and long-term development of this programme, it is not considered feasible to develop detailed designs and capital cost estimates for this extensive programme. This approach is considered suitable for this assessment, when coupled with Council's proposal to include regular updates to the DC policy inputs as new information becomes available.

This assessment remains based on the suggested sequencing of transport infrastructure upgrades needed to support urban development developed through the NWIFF study, albeit updated with:

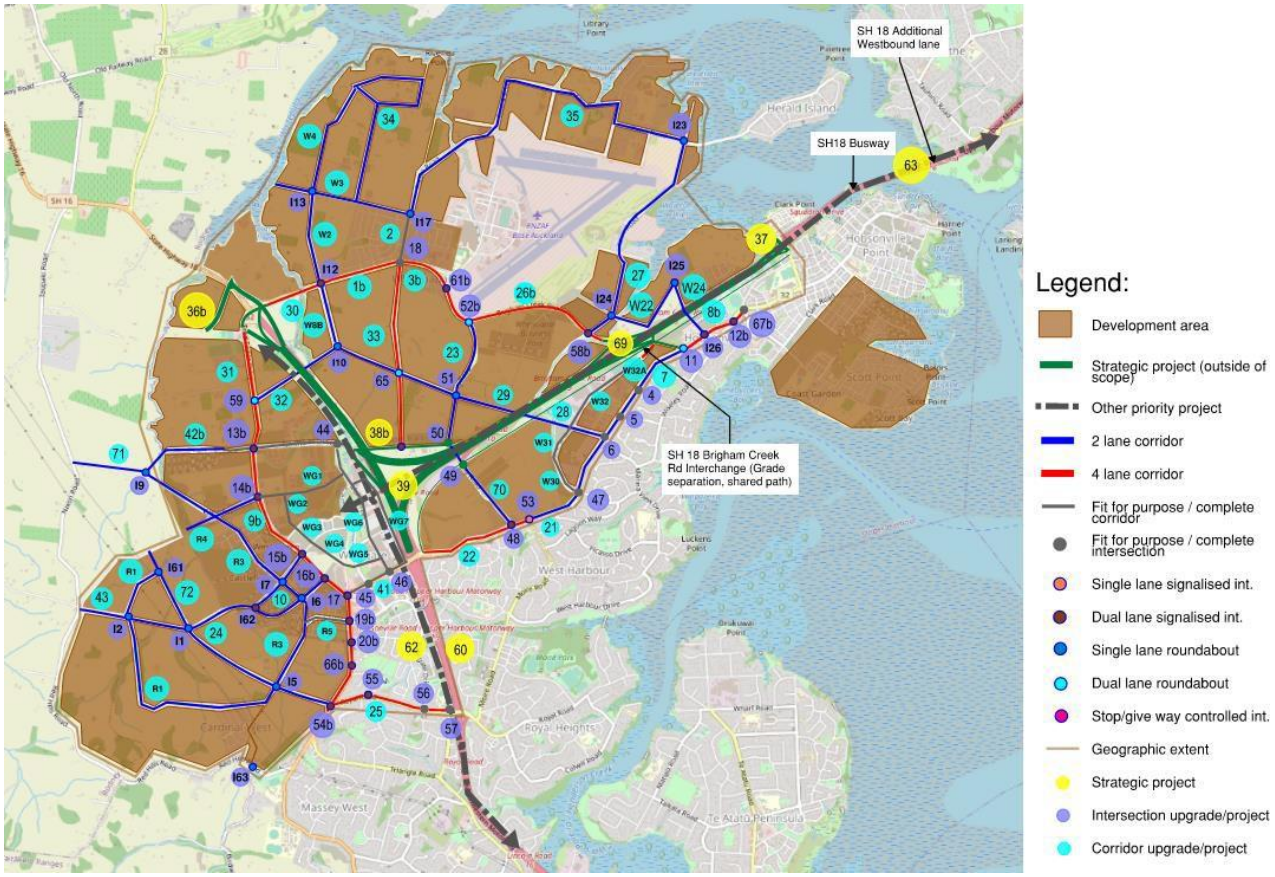
- New information regarding land use forecasts and transport system planning decisions available up until July 2024 which alter the indicated timing of projects,
- Additional projects related to collector roads, that were outside the scope of NWIFF study which focussed on arterial and strategic projects; and,
- An updated methodology developed through the Drury DC Policy update 2023.

There are significant uncertainties around how the RWW area will grow and how infrastructure will be provided over the next 30 years, which the methodology has recognised. This uncertainty is addressed through the methods used in this assessment and Council's policy framework that includes regular review of the inputs. The key steps of the assessment are shown below.



Since the previous NWIFF assessment, upgraded regional land use forecasts have become available. The Auckland Growth Strategy 2023 version 1 (AGS) forecast represents Council's view on regional growth and reflects policy direction in the Auckland Future Development Strategy (FDS). The AGS 2023 forecast covers the 2022-2052 period and does not provide full buildout values. However, a full buildout scenario for RWW was provided by Council developed from the AGS forecast for the purposes of this assessment. This scenario follows the original AGS forecast to 2052, with post-2052 growth to achieve full buildout by 2080.

The assessment identified approximately $658.4M of physical works (PW) costs for the in-scope projects supporting the future development in RWW based on the full buildout scenario. A project schedule was developed for the full buildout scenario, which include timing changes and exclusions of some projects due to differing growth rates. The figure below shows the full network of projects identified to support the future development in RWW. This figure is inclusive of many projects which are not included in the DC policy, including strategic projects which will be delivered by NZTA and projects that have already been constructed or are currently under construction.



The allocation of costs within (internal) and outside (external) the defined funding areas was based on causation and beneficiary assessments, resulting in the allocation of $590.5M to internal and $67.9M to external.

It should be noted that these are the raw estimates of infrastructure costs (step 4 above), with the final cost allocations in steps 5 and 6 above undertaken by Council in their detailed financial modelling for the DC policy.

The assessment has identified key areas of ongoing uncertainty with this long-term programme-level assessment, as indicated in the following table. While sensitivity tests were undertaken on key methodology assumptions, key risk areas remain regarding sequencing and outcomes of land use decisions, decisions regarding external funding for the programme, and the level of detail in the PW cost estimates. Given the large scale and extended timeframe for this DC Policy, a regular review of the inputs and assumptions will be required as new information becomes available to address these uncertainties.

No	Indicative Scale	Topic	Discussion	Approach
1	Medium	Scope of projects	The projects identified rely on a high-level assessment with limited design detail. As such, the scope of projects has potential to change as more detailed work is undertaken.	Appropriate levels of contingency have been applied based on discussion with AT to account for unknowns at this stage.
2	Medium	Rate and sequencing of development	The rate and sequencing of land development is uncertain, and multiple factors may affect this.	The DC policy will be reviewed periodically with updates made on the best available information.
3	Medium	Timing of project implementation	The RWW and this updated assessment suggest a date when the project is likely to be needed, based on assumptions about land use development. Those assessments did not explicitly consider constraints on funding of the infrastructure, which could defer implementation dates within the programme.	Council to consider any modifications to indicated delivery times based on any constraints/requirements of the DC policy itself.
4	Medium	Timing of strategic projects to support RTN	The RWW and this updated assessment suggest a date when the project is likely to be needed, based on assumptions about land use development. The timing of implementation for the Northwest Rapid Transit Network (RTN) stations could alter implementation dates within the programme.	Council to review project scheduling on an annual basis to ensure relevant projects are implemented to support the RTN.
5	High	External funding	Ongoing regional or national funding of this programme over the life of the programme cannot be readily predicted. These uncertainties could significantly alter the total CAPEX. New external funding of projects could reduce the assessed CAPEX requirements. Conversely, projects which are assumed to be externally funded may not be, requiring significant increase in CAPEX.	This uncertainty will remain as an area of uncertainty over the 30+-year development of this area. Council proposes a regular review of the DC assessment.
6	High	CAPEX estimates	CAPEX estimates have been based on generic rates reflecting the uncertainty in project scope. As more detailed scope and timing is known, more refined CAPEX estimates will be available.	The DC policy will be reviewed periodically with updates made on the best available information.
7	Low	Causation Assessments	In many cases causation will be confirmed through mitigation requirements in land use planning decisions, including via direct agreement between developers and road controlling authorities. This assessment has necessarily relied on assumptions and judgement regarding those likely outcomes.	This uncertainty will remain as an area of uncertainty over the 30+-year development of this area. Council proposes a regular review of the DC assessment as new information becomes available
8	Low	Beneficiary Assessment	The wide range of benefits and complex inter-dependencies between elements has meant this assessment has necessarily relied on assumptions and judgement regarding allocations for projects.	Council to consider uncertainties and sensitivities in defining the funding area and include a regular review of the DC assessment as new information becomes available
9	Low	Level of service uplift and renewal cost estimates	The assessment has adopted AT's approach to these issues. However, uncertainty is inherent in renewal costs over such a large programme.	The assessment could be updated at regular intervals with specific renewal projects if such information becomes available

1 Purpose, Context and Scope

1.1 Purpose and Background

Auckland Council (Council) seeks to enable integrated and timely transport infrastructure delivery to support growth in the Redhills, Westgate, and Whenuapai (RWW) area (see **Figure 1-1**). This involves reviewing and updating a draft assessment of the transport needs in the North West, known as the North West Infrastructure Funding and Financing Study (NWIFF). This update reflects new growth forecasts and adopts the assessment methodology applied elsewhere in Auckland including Drury and the Auckland Housing Programme (AHP).

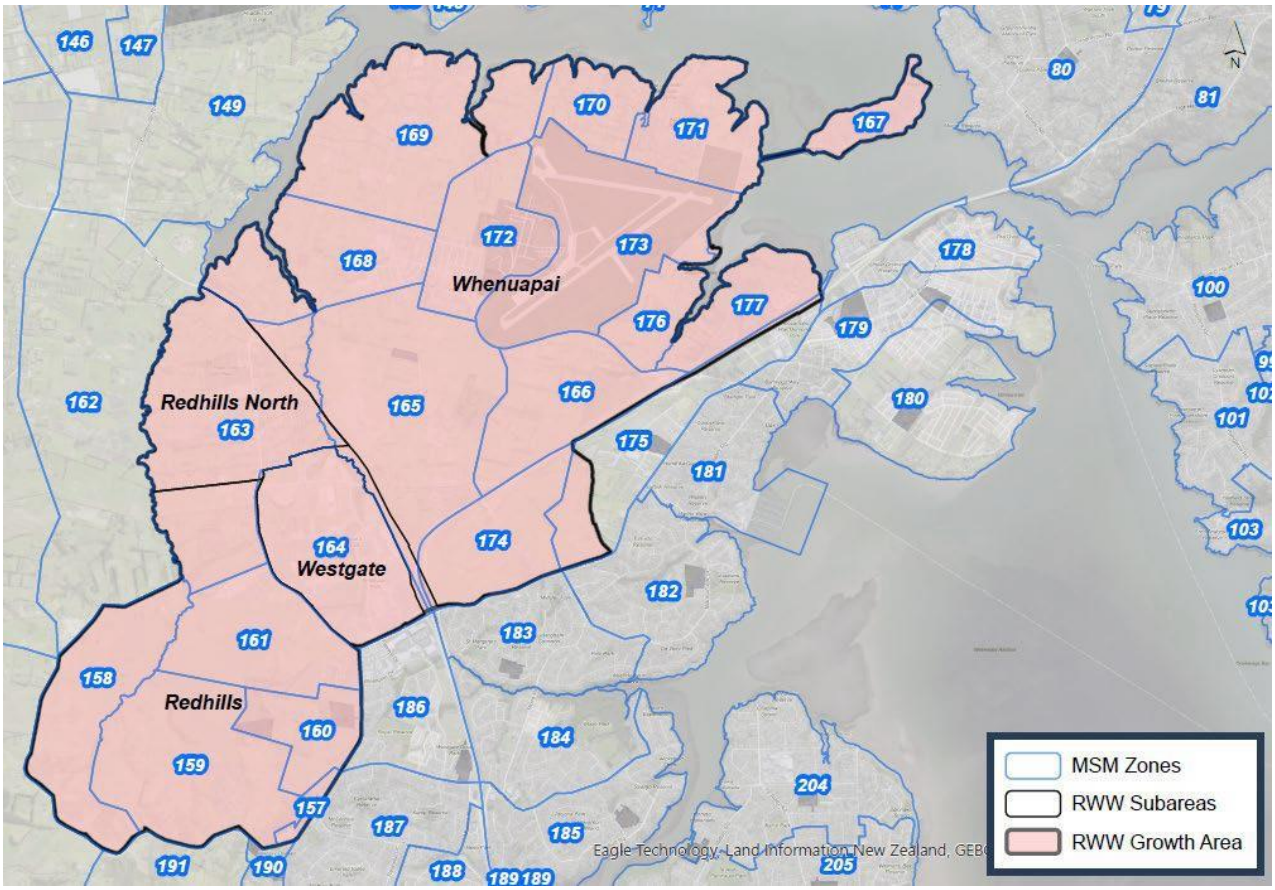


Figure 1-1: Redhills, Westgate, Whenuapai area

The broad assessment methodology was guided by AT and Council staff, based on Council's Development Contributions (DC) Policy and methods adopted in other locations.

1.2 Previous Assessments

1.2.1 North West DBC

The approved Te Tupu Ngātahi Supporting Growth Alliance (SGA) Detailed Business Case (DBC) for the North West growth area of Auckland investigated and identified a fit-for-purpose transport network for the North West growth area, which is progressing through a route protection process **(Figure 1-2**).

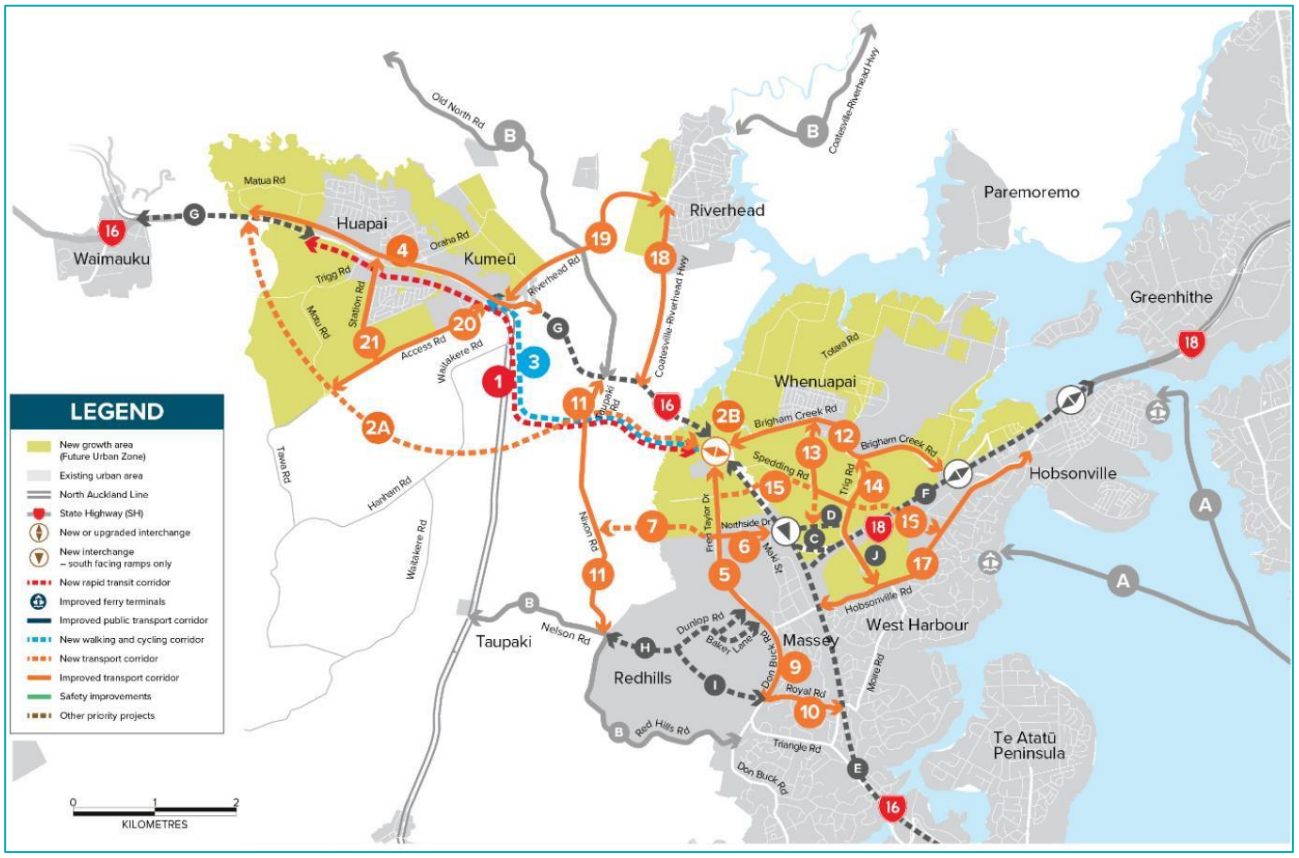


Figure 1-2. North West DBC preferred transport network.

The North West DBC provides a range of arterial and strategic transport projects and interventions in the broader Whenuapai, Redhills, Kumeū-Huapai, and Riverhead, to accommodate the long-term planned growth in this area, including inter-regional growth. The scope of transport projects included in this assessment are a sub-set of the overall North West DBC projects, along with additional local collector-road elements outside the scope of the North West DBC.

1.2.2 NWIFF Transport Assessment

A draft report for the NWIFF study was completed in March 2022 by SGA and finalised by Beca. This report presented the transport assessment elements of the NWIFF study to identify a potential staging schedule of transport infrastructure upgrades to support the growth proposed on Redhills, Westgate, and Whenuapai.

The NWIFF transport assessment represents the starting point for the RWW DC policy. The RWW assessment uses the previously assumed project form and staging based on previous growth assumptions and amends/adds to these based on updated growth assumptions and the context.

1.2.3 Drury DC Study

The Drury DC study was undertaken in September 2022 by SGA. The purpose of this assessment was to update a preliminary transport assessment undertaken in mid-2021 to inform Council's development of a DC policy for Drury. When the Drury Development Contribution Policy (Variation A) was endorsed by the Governing Body in April 2023, this included committing to the 30-year approach in Auckland's other Investment Priority Areas, including the inner North-West (Redhills, Westgate, and Whenuapai), the Auckland Housing Programme neighbourhoods and around the City Rail Link over station development sites.

The methodology developed for the Drury DC assessment, forms the starting point for the assessment of the RWW area.

1.3 Relationship to Plan Change and Infrastructure Planning Processes

At the time of preparation of this report, decisions on private plan changes in the North West are still pending (or under appeal). The status of each plan change is described later in this report.

This study therefore is based on ongoing uncertainty of regulatory decisions regarding the detail and timing of the urban development. Those processes only relate to current land use and infrastructure decisions, noting that the large scale and extended implementation period of the planned growth in North West means there will be many more future land use and infrastructure decisions in this area. Recognition of the current and future uncertainty regarding the pace, order and details of the planned growth is therefore an important element of this work. Considering this issue, the following approach has been adopted:

- Acknowledgement of the uncertainty and hence the need for any infrastructure sequencing and funding plans to be flexible and able to adapt to such ongoing changes in assumptions,
- Use of a methodology that:
  - Considers both short and long-term, so that longer-term outcomes are not compromised,
  - Accepts the need to use assumptions regarding the future, acknowledging the inherent uncertainty in those assumptions,
  - Can be readily updated without requiring highly detailed and complex analytical assessment that is highly dependent on the assumptions and inputs used; and,
  - Includes sensitivity testing on key methodology assumptions to inform the likely scale of impact.

1.4 Report Structure

The report is structured to firstly outline the transport assessment, which is followed by the developer contributions assessment later in the report. The remainder of this report is structured as follows:

- Chapter 2: Outlines the growth in North West, including the current network and land use planning processes
- Chapter 3: Describes the development of the list of projects in North West
- Chapter 4: Describes the development and application of the project cost allowances for the project list
- Chapter 5: Describes the DC methodology development and application for the North West area
- Chapter 6: Provides results of the DC assessment

2 Growth Context

2.1 Auckland Future Development Strategy

The Auckland Future Development Strategy (FDS) 2023-2053 identified several challenges that will impact Auckland's growth and development and provides a spatial response to continue the quality compact, multi-nodal model established in previous strategies, with further refinements including a stronger focus on adaptation to natural hazards and a greater recognition of the financial challenges facing Council and ratepayers.

For the North West, the FDS identified development areas for the Whenuapai-Redhills cluster. Much of the transport infrastructure needed to support this development is identified as needed for the 2025+ and 2035+ timeframes, with some infrastructure in Whenuapai North not needed until 2050+.

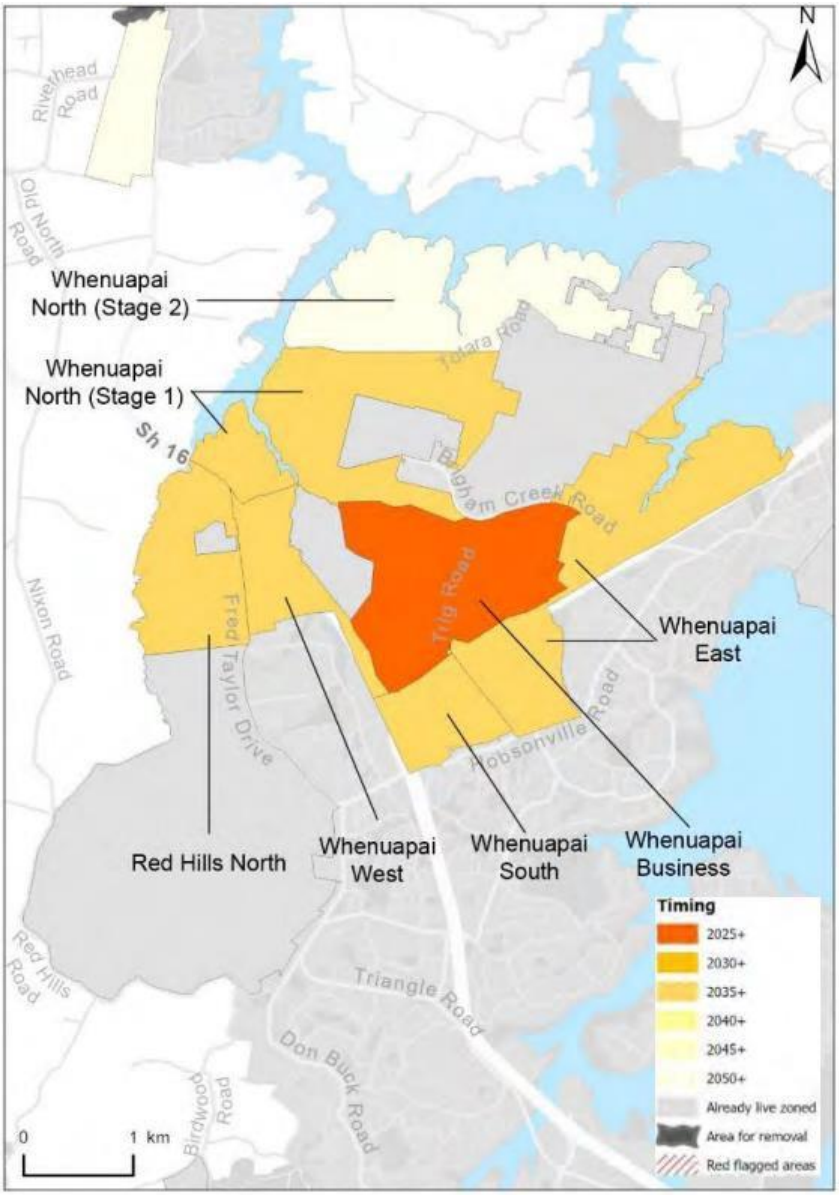


Figure 2-1. FDS North West Whenuapai-Redhills cluster

2.2 Auckland Unitary Plan

The North West area has been signalled to undergo significant urban growth in the Auckland Unitary Plan Operative in Part (AUP:OP) via the provision of future urban zoning and rezoning of areas from rural to urban in Redhills. Land use changes are in various stages of change and are shown geographically in **Figure 2-2** and later in **Figure 2-3**. It is noted that the yellow-coloured areas are zoned as Future Urban areas, subject to plan changes to enable urban development.

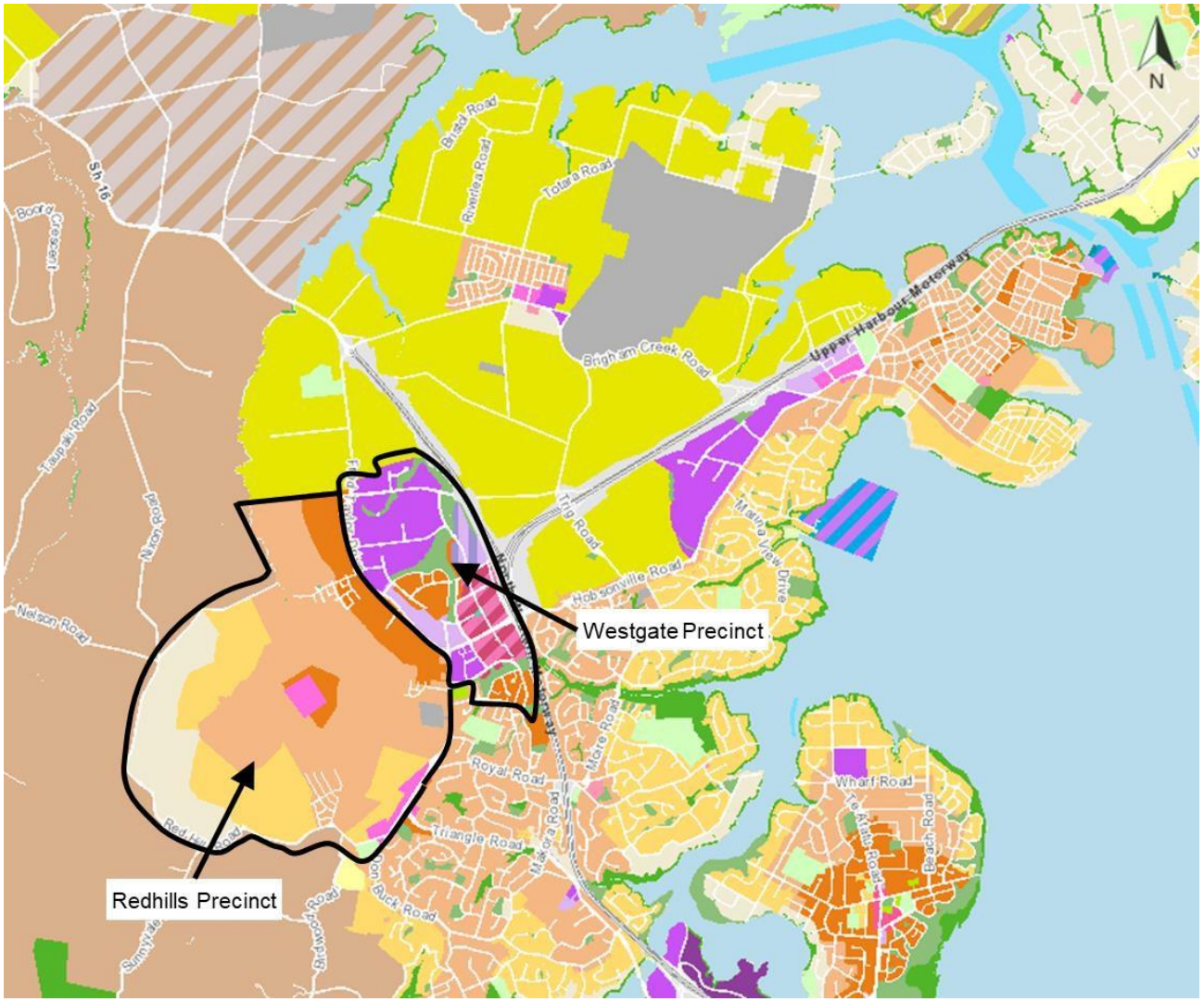


Figure 2-2. Auckland Unitary Plan Zoning and Precincts

2.2.1 Structure Plans

2.2.1.1 Whenuapai

Council completed Structure Planning for the Whenuapai area in 2016. The Whenuapai Structure Plan is shown in **Figure 2-3**, indicating both the expected pattern of urban development and the future transport projects (subject to planning and funding approvals).

Figure 2-3. Expected pattern of urban development and the future transport projects in Whenuapai.

2.2.1.2 Redhills

The southern part of the Redhills area was given live zoning as part of the AUP hearings process. The land is largely undeveloped, but recent housing developments have been progressed. The supporting road network in this area was confirmed through Environment Court mediation, resulting in the precinct plan for Redhills as shown in **Figure 2-4**.

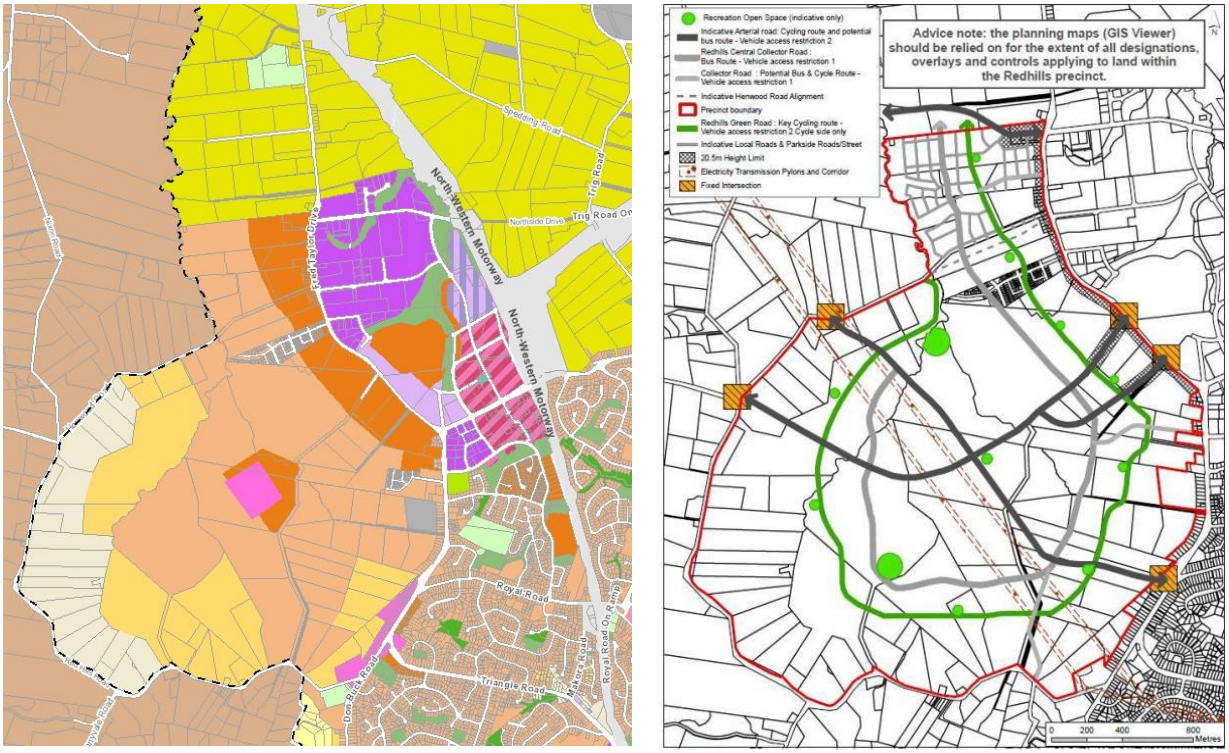


Figure 2-4. Expected pattern of urban development and the future transport projects in Redhills.

2.2.2 Plan Changes

2.2.2.1 Plan Change 5

The previous NWIFF Transport Assessment noted, that after the Whenuapai Structure Planning in 2016, Council proceeded with Plan Change 5. This proposed to change 360 ha of future urban land to a mix of business and residential land. Plan Change 5, however, was withdrawn in June 2022 primarily due to limited funding budgeted for the upgrade of the wider transport networks, and to avoid adverse resource management outcomes in terms of addressing adverse transport effects.

As live zoning had not yet been confirmed at the time of the NWIFF Transport Assessment, detailed planning provisions were not considered. As such, this assumption is consistent with the current RWW assessment.

2.2.2.2 Plan Change 78

Plan Change 78 was proposed in August 2022, responding to the government's National Policy Statement on Urban Development (NPS-UD) and the requirements of the Resource Management Act. This Plan Change is currently undergoing NPS-UD hearings. Plan Change 78 would mean that Council must:

- Enable more development in the city centre and at least six-storey buildings within walking distance of Metropolitan Centres and Rapid Transit Stops
- Enable more intensive development in and around neighbourhood, local and town centres
- Incorporate Medium Density Residential Standards that enable three storey housing in most residential areas
- Implement qualifying matters that reduce the required height and density of development where there is a feature or value that should be protected or avoided.

Regarding the RWW area, Plan Change 78 proposes some up-zoning to higher densities of parts of the live-zoned residential areas in the Redhills and Westgate precincts, as well as adjacent residential areas. The Whenuapai Future Urban area is not included in Plan Change 78.

2.3 Growth Forecasts

2.3.1 Update to Growth Forecasts

Growth forecasts for the RWW and wider areas have changed over time in response to changes in economic conditions, national population forecasts, local land use decisions and policy direction. Previously, the I11.6 growth forecast was used as a basis for the assessment of the NWIFF network, albeit extended out to full buildout estimates in the future urban areas.

Since the previous NWIFF assessment, upgraded regional population forecasts have become available. The Auckland Growth Strategy (AGS) forecast[1] represents Council's view on regional growth going forward, covering the 2022-2052 period, and reflected policy direction in the FDS. For the RWW area, the AGS forecast shows slower growth profiles over the 2022-2052 forecast period compared to I11.6. Additionally, the AGS forecast does not extend to full buildout values.

A full buildout scenario for RWW was provided by Council developed from the AGS forecast for the purposes of this assessment (AGS FBO). This scenario follows the original AGS forecast to 2052, with post-2052 growth to achieve full buildout across the RWW area by 2080.

Comparisons of the RWW area population, household, and employment forecasts between I11.6 and the AGS FBO scenario are shown in **Figure 2-5**, **Figure 2-6**, and **Figure 2-7** respectively. In previous work, the full buildout values for I11.6 were not assigned to a particular year but were assumed to occur at some non-defined time after 2048 (referred to as the '2048+' models). For comparison purposes with the AGS FBO scenario, the I11.6 2048+ full buildout values are assigned to 2060 and linearly interpolated between 2051 and 2060.

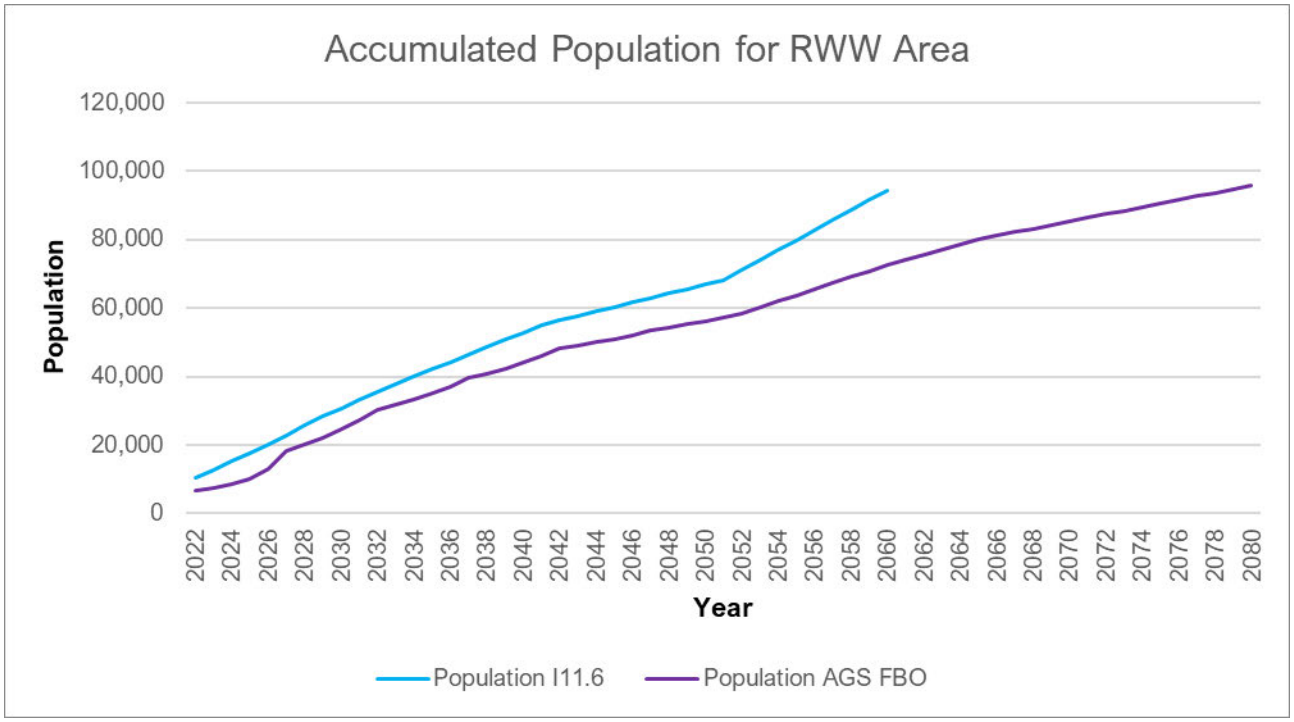


Figure 2-5: Population forecasts for the RWW area

[1] Formally, this is known as the AGS_2023_v1 forecast.

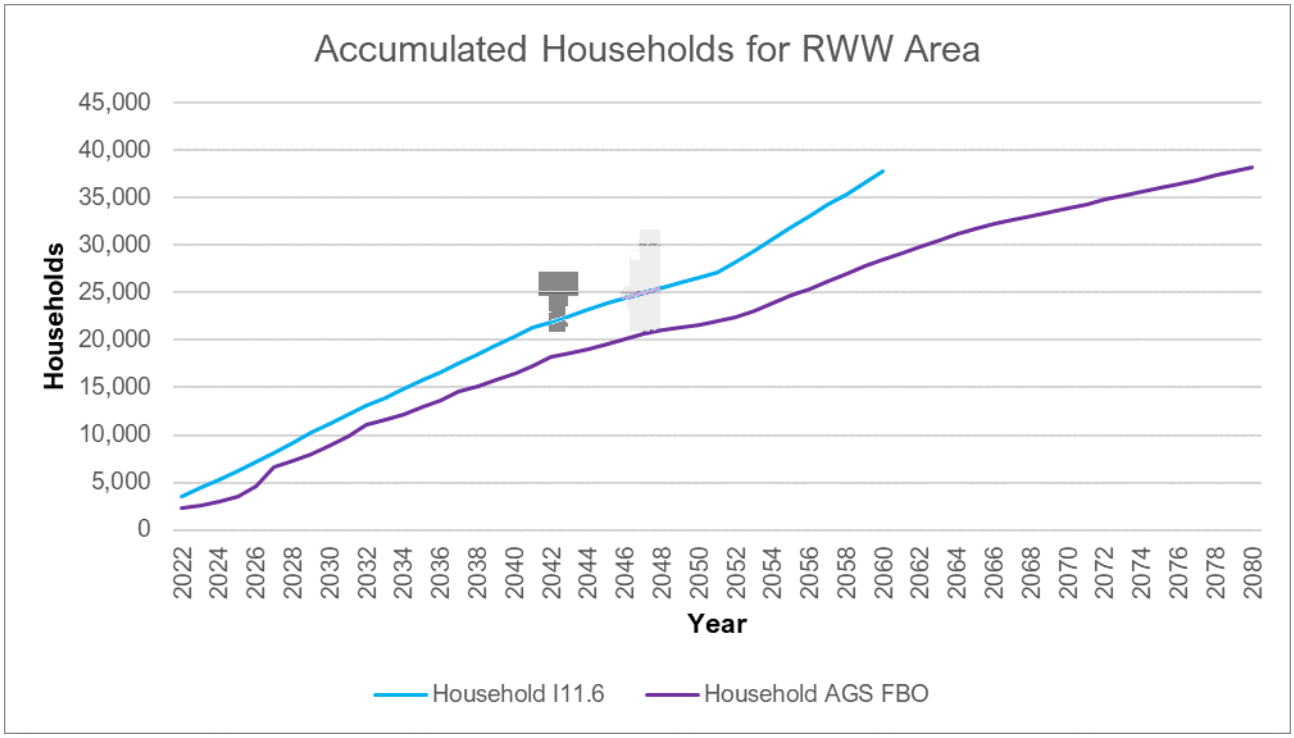


Figure 2-6: Household forecasts for the RWW area

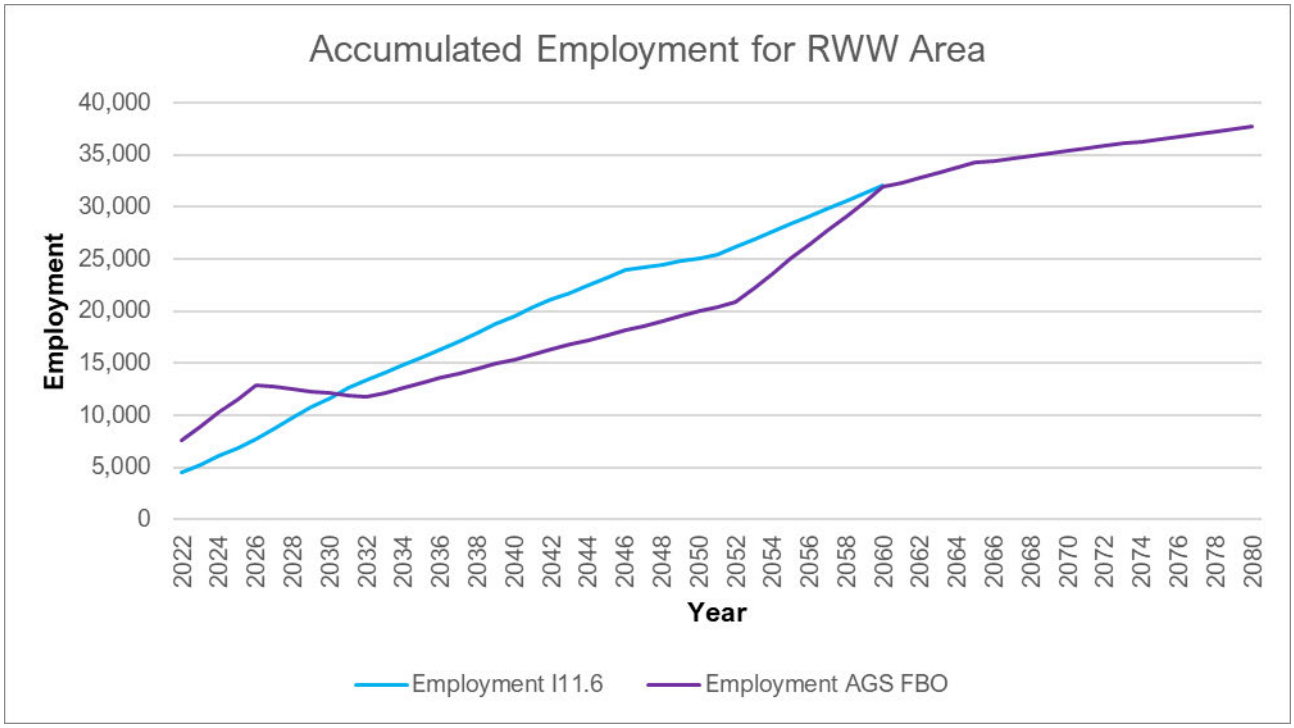


Figure 2-7: Employment forecasts for the RWW area (without scaling applied to AGS scenario)

The scheduling of projects indicated in the draft NWIFF study were updated based on the AGS FBO scenario. The timing for local collector roads, which was not included in the NWIFF scope, was estimated directly from the AGS FBO scenario.

2.3.2 Growth Areas

The study area for assessing RWW is comprised of whole Macro Strategic Model (MSM) regional model zones (based on Census area units) that overlap with the RWW area. All but one of the MSM zones included in the study area are fully covered by the RWW area; MSM zone 175 (see **Figure 1-1**). Despite the partial overlap with the RWW area, the full population, household, and employment forecasts for MSM zone 175 are included in the study area assessment for the following reasons:

- It is not feasible to accurately identify what proportion of growth from MSM zone 175 occurs within the RWW area, as this data is provided at a whole-of-zone level only.
- Any difference between a proportion and total growth from MSM zone 175 will have negligible impact on the assessment of the whole RWW area.

2.3.3 Timing of Growth

The AGS FBO scenario (as per **Section 2.3.1**) includes assumed timing of growth within each of the MSM zones applicable to the RWW area. This scenario shows slower growth in population and households compared to the I11.6 forecast. These forecasts and the Timing Principles (see **Section 3.1.2**) have been used to develop indicative project timing.

3 Development of Project List

3.1 Defining the Preferred Transport Network

The NWIFF study involved the identification of a preferred network for the North West. The desired outcomes for the North West informed the timing and design principles, which were used to define the preferred network. The current RWW Assessment uses the preferred network developed for NWIFF as a starting point for the updated RWW preferred network and uses the previous outcomes and principles alongside the adapted needs of the current assessment to inform further changes to define the RWW preferred network.

3.1.1 Transport Outcomes Sought

The transport and land use planning indicated in **Section 2** for the North West area has identified the need for a move away from low density, car-dependent developments to minimise adverse outcomes in terms of:

- Inefficient use of scarce land
- Poor environmental outcomes, including carbon emissions from car-dominated travel
- Poor urban form outcomes from dispersed development with car and movement-dominated transport systems
- Poor safety outcomes from conflicts with and between walking/cycling and high traffic flows in urban areas
- Poor economic outcomes from inefficient freight movement and poor business accessibility
- Poor social and economic outcomes from poor accessibility to social and economic opportunities and limited travel options
- Poor economic outcomes through a lack of resilience in the transport system.

The key outcomes sought through the SGA business cases were defined to address these issues. These outcomes were used in the North West DBC, NWIFF Transport Assessment and have also been used to inform the current RWW assessment. The outcomes are as follows:

- Transport systems that support quality, compact urban form, including through higher density around major public transport corridors
- Mutually supportive transport and land use systems that:
  - provide safe travel across all modes
  - provide a transformation in mode share to more sustainable modes, such as public transport, walking and cycling to aide decarbonisation goals
  - provide improved choices of travel
  - provide efficient freight movement
  - provide high levels of accessibility to social and economic opportunities
- A resilient transport system.

3.1.2 Timing and Design Principles

These principles are based on the desired transport outcomes and reflect the need to stage the upgrades in an integrated way with land use development. The principles related to early provision of mode-shift and demand management initiatives are a key element of strategies to decarbonise the transport system.

The ‘Timing and Design Principles’ were developed for the NWIFF study to inform development of the staging of transport infrastructure, based on similar principles used for the Drury DC study, with changes to recognise any North West-specific context.

The fundamental principles and application for the current RWW assessment remains similar to the NWIFF study. These principles are defined below:

Timing Principles:

1. On sites where urban development is occurring:
    a. Urbanise existing corridors within and adjacent to development concurrently with that development
    b. Provide interim facilities as part of the development and where transport improvements are provided in an interim form, ensure alignment with the full build-out network
2. Beyond sites where development is occurring, stage the form and capacity of the transport network progressively to match both development stages and system needs, including cumulative effects of urban development on transport demands on the network.
3. Provide safe and efficient public transport and active mode facilities from the outset of urban development to support a shift to more sustainable travel.
4. Sequence the provision of rapid transit systems/ stations and facilities for gaining access to rapid transit to coincide with and support:
    a. A commitment to adjacent land use of significant scale within walking distance
    b. The need to serve as a strategic PT hub to service a wider catchment with poor PT options
    c. Support significant mode shift to PT from early in the development cycle
    d. Noting a need to find a balance between criteria (4a and 4c)

Design Principles:

1. Include elements to support place function, not solely movement function (i.e., design standards change based on place value)
2. Provide safe travel by all modes
3. Provide walk and cycle connections from the start of residential development to the following key destinations/attractors within walk/cycle catchments:
    a) Closest rapid transit station
    b) Nearby education facilities
    c) Closest major centre
    d) Existing centre
    e) Major employment area
4. Provide walk and cycle connections from the start of non-residential development to the following key locations within walk/cycle catchments:
    a) Closest rapid transit station
    b) Existing centre
    c) Adjacent residential areas
5. FTN services & infrastructure provisions when needed to provide reliable, efficient & attractive frequent public transport
6. Provide local bus services and associated facilities to respond to timing, scale and location of urban development
7. General traffic improvement when needed for:
    a) Safety

b) Wider network resilience

c) Accessibility to key destinations

d) Inter-peak reliability & Level of Service for all modes

e) Alleviation of severe peak-period congestion

f) Alleviation of impact on public transport services

8. Coordination of adjacent projects for the purpose of practical construction staging

3.1.3 Key Collector Principles

Typically, collector networks in all future urban areas are generally assumed to be funded and delivered via developers. Key collectors are important in the overall network operation and can have a critical role in supporting planned land use. However, the reliance on developers to provide the collector networks can result in critical gaps in the completed network. Potential gaps in the network can be due to different sequencing of adjacent development, inability to access 3rd party property or avoidance of more complex elements such as water crossings etc. This approach means that some transport functions become inefficient (such as effective local bus routing), or an over-reliance on the adjacent arterial or strategic network for movements better served by the collector network. As such, this assessment has also involved the identification of key collectors as addressing the unfunded gaps in the transport network will often fall to Auckland Transport. Principles have been defined to inform the identification of key collectors in the preferred network:

Collector Road Principles

1. Provides a key walk and cycle connection, which will improve walk and cycle accessibility between residential development and any of the following key destinations/attractors:

    a) Closest rapid transit station

    b) Closest major centre

    c) Existing centre

    d) Major employment area

2. Provides a key route for FTN services to provide reliable, efficient & attractive frequent public transport.

3.2 Preferred Transport Network

The general scope of projects considered in this assessment are indicated in **Figure 3-1**. These projects were developed using the Design Principles described in **Section 3.1**. The full list and description of these projects can be found in **Appendix A**.

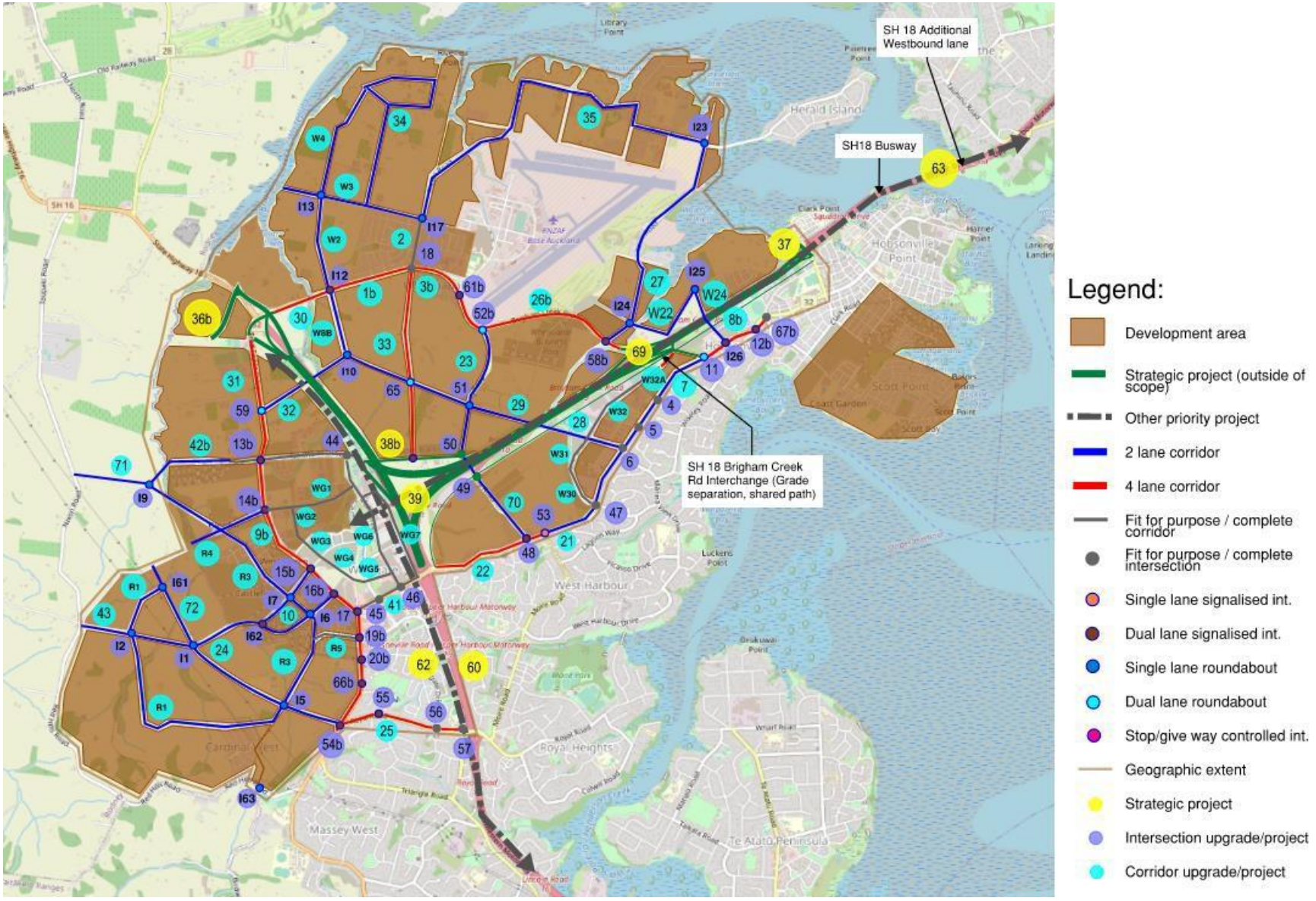


Figure 3-1. Projects included in NWIFF Staging Schedule for the RWW area.

3.3 Project Staging

Prior to the introduction of the AGS forecast, indicative timing (first operational year) of the projects included in the NWIFF Staging Schedule was developed in the context of the I11.6 forecast using the Timing Principles described in **Section 3.1**. An estimate of the Transport Activity Level (TAL) for the forecast land use was used to establish new project timings in this assessment. TAL is an approximate form of Household Unit Equivalents (HUE), and is described in **Table 3-1**.

Table 3-1: Transport Activity Level

Variable	Equation	Comments
Transport Activity Level	TAL = Households + Ɛ × Employment	• Ɛ is a coefficient where $0 \leq Ɛ \leq 1$ • $Ɛ \approx 0.38$ used in this assessment for AGS

The following process was applied to create new project timings under the AGS FBO scenario that reflects the different growth profile of the scenario:

1. TAL values are calculated for each year in I11.6 and AGS FBO scenario.

2. The TAL value from the I11.6 forecast for the given first operational year of each project is set as the TAL threshold to trigger the need for the project.

3. The adjusted first operational year of each project is then set as the first year in which the TAL threshold of the project is exceeded in the alternative forecast scenario.

4. For any projects where the adjusted first operational year sits beyond the end of the DC policy timeframe (2054), the first operational year of the project is set to 2054 if growth in the MSM zone of the project is a significant proportion of full buildout growth by 2054.

5. For any interim projects, where the number of years between the interim and ultimate are less than 11 years (i.e., within the same funding cycle), the interim project is removed. If there is existing or imminent substantive growth that will drive the need for the ultimate project, then the first operational year of the ultimate project is set to the adjusted first operational year of the interim project.

The TAL for each forecast and an example project shift from I11.6 to AGS FBO is shown in **Figure 3-2**. In this figure, the I11.6 forecast is represented by the blue line and the AGS FBO forecast is represented by the purple line. There is no significant deviation from the blue line to the purple line. As such, there are minimal changes to the full list of in-scope projects for the RWW area after applying the above process. No projects were excluded outside of the policy timeframe as per step 4, and only a handful of interim projects were excluded as per step 5.

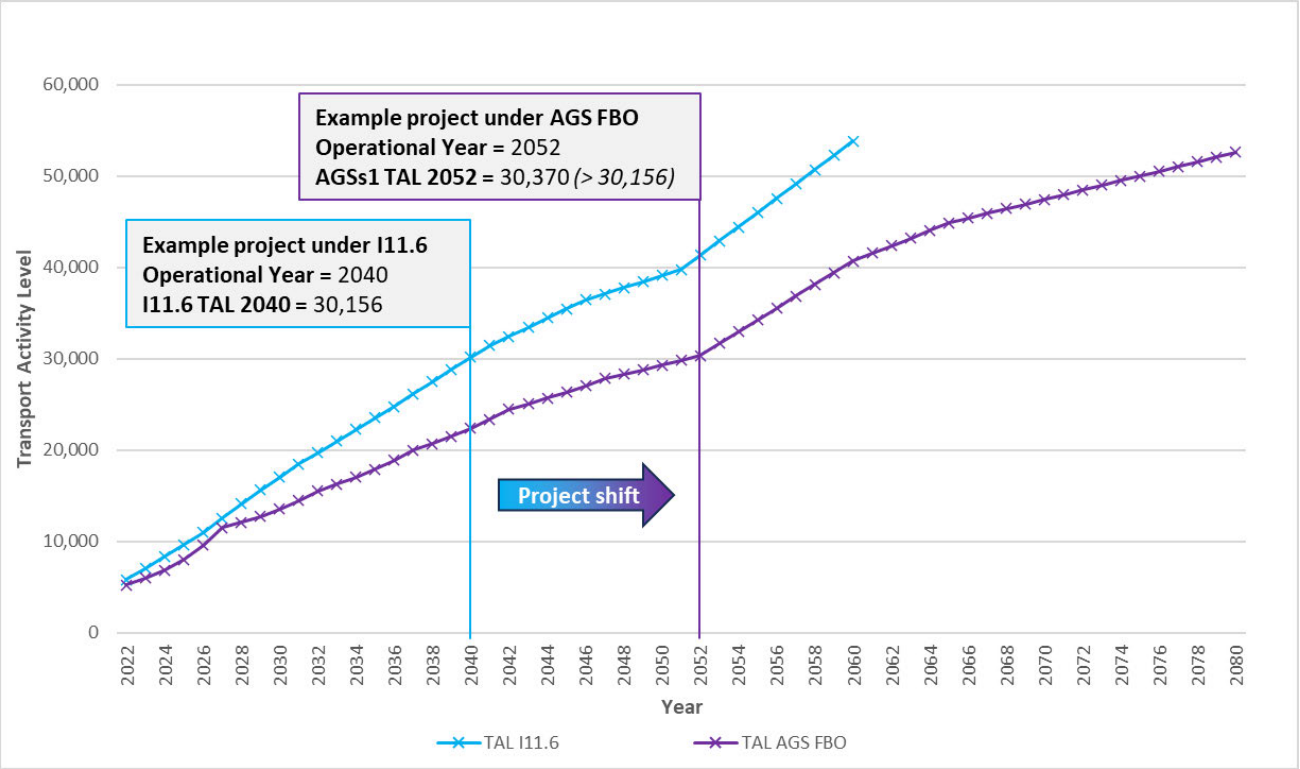


Figure 3-2: Transport Activity Level (TAL) forecasts for the RWW area with example project shift from I11.6 to AGS FBO

4 Development of Project Cost Allowances

4.1 Application of Rates

To establish a consistent approach that allows project costs to be directly compared, generic linear unit rates have been used to approximate the cost for most of the projects in the RWW programme scope. North West DBC infrastructure cost estimates have not been applied due to the multiple NWIFF projects falling within the extents of each DBC cost estimate, introducing sensitivity to assumptions when dividing the DBC cost estimate amongst each of the NWIFF projects.

The Greenfield Generic Rates and Allowances Report sets out the costing methodology and generic linear unit rates and allowances for Council's considerations of funding and finance of transport infrastructure in greenfield environments. This report has been applied for this assessment as the RWW programme contains several projects that are within a greenfield area and/or are upgrades of existing rural roads to a higher classification/standard (e.g., collector or arterial).

The extent of the North West Network is provided in **Figure 4-1**. The detailed assumptions for each of the relevant projects are included in **Appendix A**.

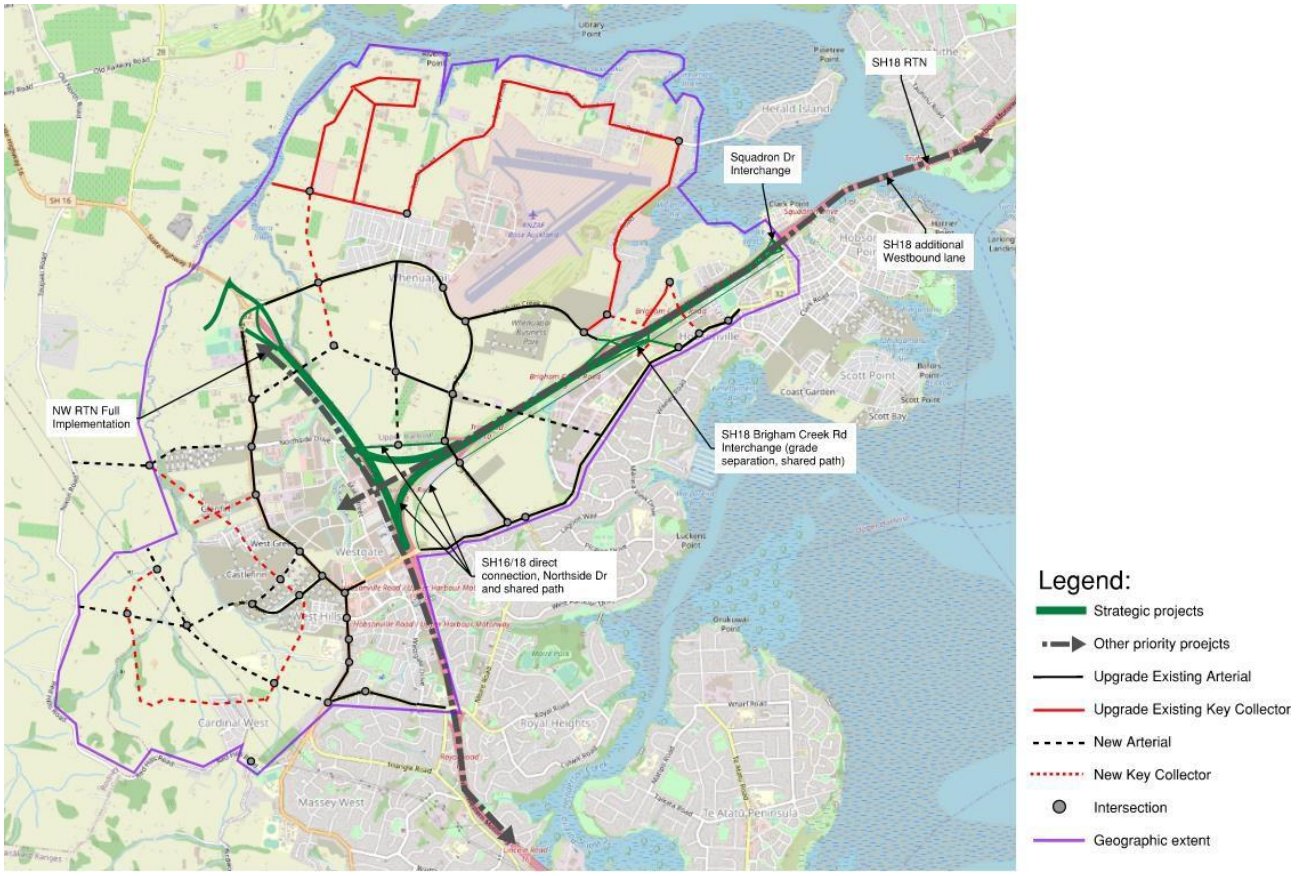


Figure 4-1. RWW Network Overview

4.2 Project Extents

Development of the transport network is expected to occur in line with development of the adjacent land, and therefore the actual extent of each project will not be determined until the Council Plan Change process and

possibly even the subsequent Resource Consent process is completed. The extent of the RWW projects has been based on the known future development shown in **Figure 4-2** below. The area includes Redhills, Westgate, Whenuapai, and an area of West Harbour located directly south of SH18.

Figure 4-2: Assumed extent of development

Depending on the rate of development, in some cases the projects will be staged over time. Where there is an 'Interim' cost, the 'Ultimate' cost allowance has been developed on the basis that the interim project had already been constructed. Where there is no 'Interim' project, the 'Ultimate' cost allowance is based on the current environment as being the base situation.

4.3 Property Acquisition

The permanent property acquisition area for each project (where North West DBC information is not available) is based on the corridor width, which has been based on the assumed form and corridor classification. The area and extents for intersection projects is informed by the corridor width and the classification of the intersecting corridors, which determines the assumed intersection profile. The classification of the intersecting roads also affects which project the property acquisition is allocated to, in cases where there is staged implementation (e.g., a new arterial road constructed in an existing greenfield environment is likely to be constructed before a collector road that it intersects with. Therefore, most of the property acquisition for the intersection project is likely to be allocated to the arterial corridor project, as the intersection project will be constructed on top of the arterial corridor.

The temporary property acquisition area for each project where North West DBC information is not available has been informed by principles regarding temporary property buffers from previous SGA assessments.

5 Development Contributions Assessment Methodology

This section outlines the key considerations and high-level methodology for the DC assessment methodology. It should be noted that **Appendix B** contains a full explanation of the DC assessment methodology and specific examples for use.

5.1 Key Assessment Steps

The overall methodology applied, as guided by AT and Council, is comprised of the key steps described in **Figure 5-1**.

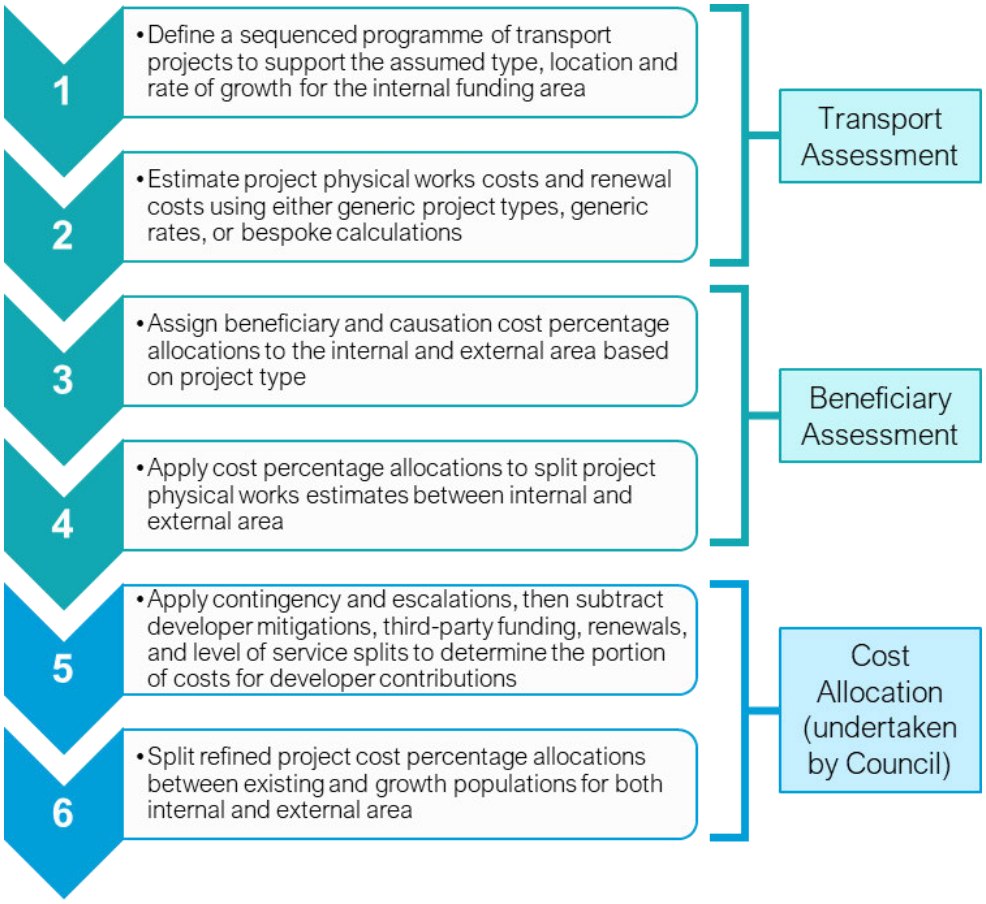


Figure 5-1. Development Contributions methodology – key steps

Appendix A contains the programme of transport projects, along with project details and cost allocations for the steps indicated in **Figure 5-1**. **Appendix B** outlines the generic Beneficiary Assessment methodology used in the assessment.

5.2 Beneficiary Assessment Spatial Allocation

The spatial allocation of causation and beneficiaries are a key part of the Beneficiary Assessment and are specific for each RWW area. Costs are allocated spatially on an assessment of the areas, communities, and movements that would either cause the need for the project or benefit from the consequential improvements to accessibility, safety, travel choice, or network resilience. For this assessment, costs are split between internal (associated with land use within RWW) and external (associated with land use outside RWW).

The benefits of the improvements are assumed to accrue broadly in proportion to the usage of the improved network. Beneficiary shares are estimated using modelled trips from regional transport models on the network to, from, and wholly within the RWW area, and those passing through the RWW area. Through movements not using local infrastructure subject to the DC policy are excluded. For example, through travel using the local network is included, but through travel using strategic State Highways is excluded.

Causation shares are developed on a similar basis, but instead consider whether the projects are likely to provide capacity or outcomes directly needed to support the planned urban development. Specifically, the assessment considers if the project would be likely to proceed in the absence of internal growth. As such, the causation spatial allocation is typically weighted further towards the RWW area than the beneficiary allocation.

The classification of the network on which the project is located, and the project purpose are used to differentiate default causation and beneficiary shares between the internal (within RWW) and external (outside RWW) areas. The purpose categories are defined as follows:

- **Mostly external:** Projects primarily in response to external growth pressures outside the RWW area and/or required to address wider network purposes.
- **Mostly Internal:** Projects primarily in response to growth pressures internal to the RWW area.
- **Mix:** Projects with a mix of both internal and external purposes.

The default internal and external shares adopted for causation and beneficiary assessments by network classification and purpose are shown in **Table 5-1** and **Table 5-2.**

Table 5-1. Default allocations for causation analysis

Network Classification	Purpose – Mostly External		Purpose – Mix		Purpose – Mostly Internal	
	Internal	External	Internal	External	Internal	External
Strategic	15%	85%	55%	45%	80%	20%
Arterial	80%	20%	85%	15%	95%	5%
Key Collector	N/A	N/A	90%	10%	100%	0%
Collector	N/A	N/A	100%	0%	100%	0%

Table 5-2: Default allocations for beneficiary analysis

Network Classification	Purpose – Mostly External		Purpose – Mix		Purpose – Mostly Internal	
	Internal	External	Internal	External	Internal	External
Strategic	15%	85%	40%	60%	60%	40%
Arterial	65%	35%	75%	25%	90%	10%
Key Collector	N/A	N/A	90%	10%	95%	5%
Collector	N/A	N/A	100%	0%	100%	0%

This process allocates project PW costs between internal and external areas only. The causation and beneficiary shares are subsequently split between existing and growth populations by Council after this assessment (see Council's supporting information for the DC Policy for more information).

6 Development Contributions Assessment and Results

This report details the allocation of base physical works (PW) costs for the RWW between internal and external populations only (see **Section 5.2**). Further DC analysis, including escalation, mitigation adjustments, and further splitting of external causation and beneficiary shares, is conducted by Council.

6.1 Result Aggregation

PW cost estimates for each project are documented in **Appendix A**, with this section only providing the aggregate totals. The PW cost estimates used in this DC assessment exclude property costs, contingencies, allowances, and escalations. Additionally, proportions of project costs estimated for renewals are not subtracted from the PW cost estimates used in this DC assessment. The profile of costs over the programme life under the AGS FBO scenario is shown below.

The overall allocation of PW costs for the projects in **Appendix A** under the AGS FBO scenario is shown in **Figure 6-1**.

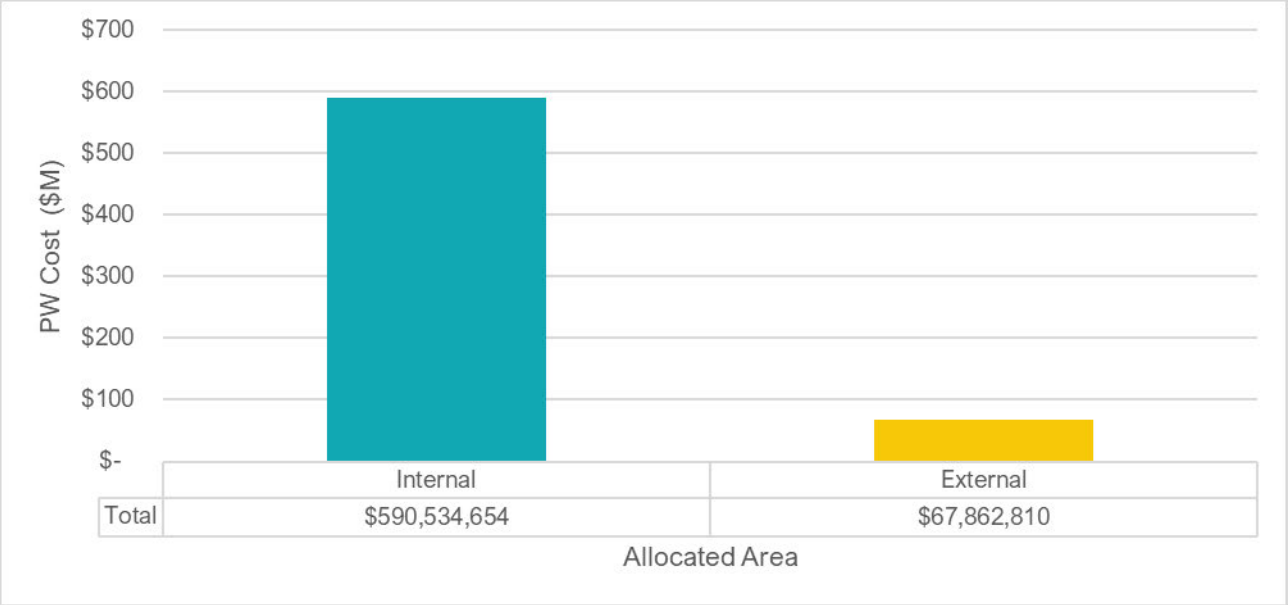


Figure 6-1: Total physical works cost estimates for the RWW area under the AGS FBO scenario

An indication of the profile of PW costs over the programme life under the AGS FBO scenario is shown in **Figure 6-2**. These costs are allocated to the estimated first operational year of the project, and as such does not reflect the likely cash-flow of projects that take longer than one year to implement.

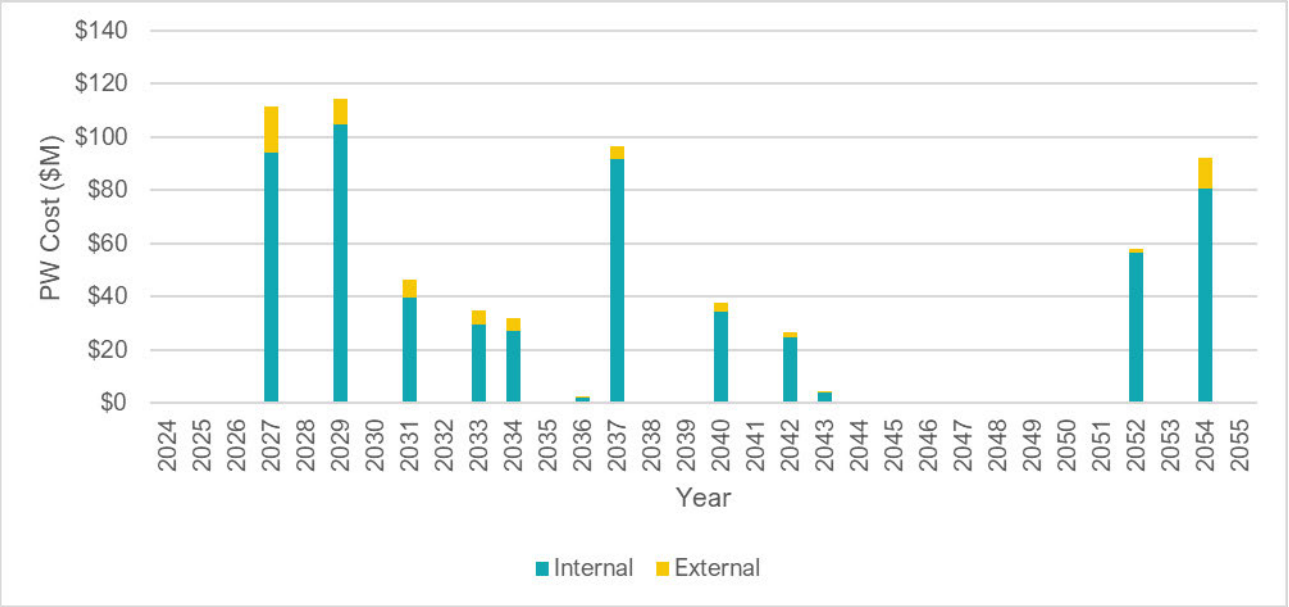


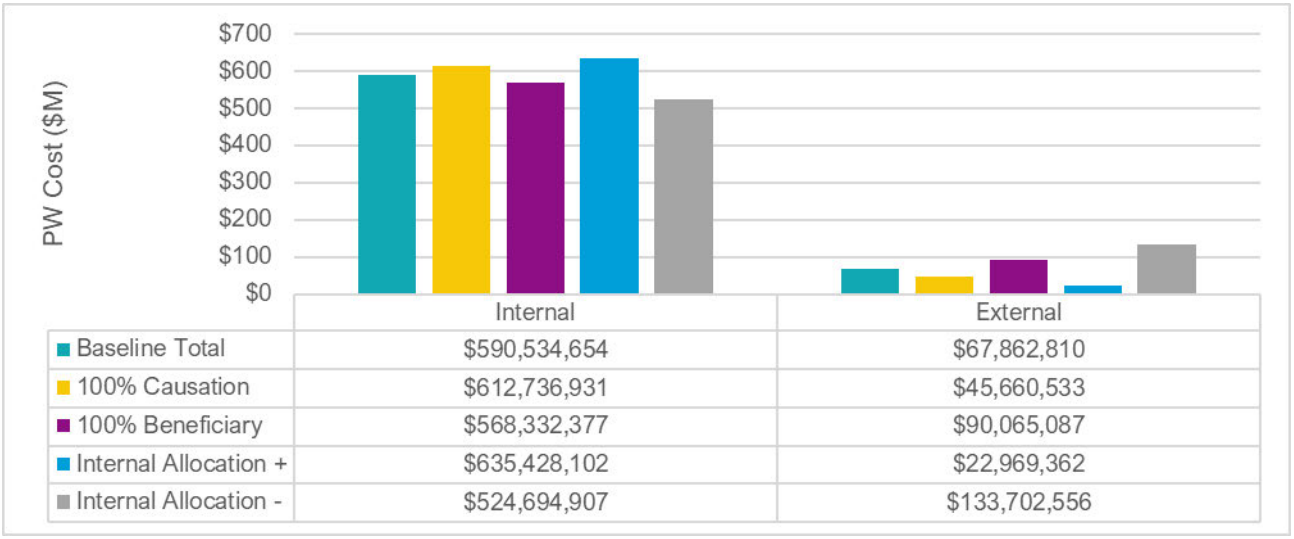
Figure 6-2: Indicative physical works cost estimates for the RWW area under the AGS FBO scenario

6.2 Sensitivity Testing

The following sensitivity tests were undertaken:

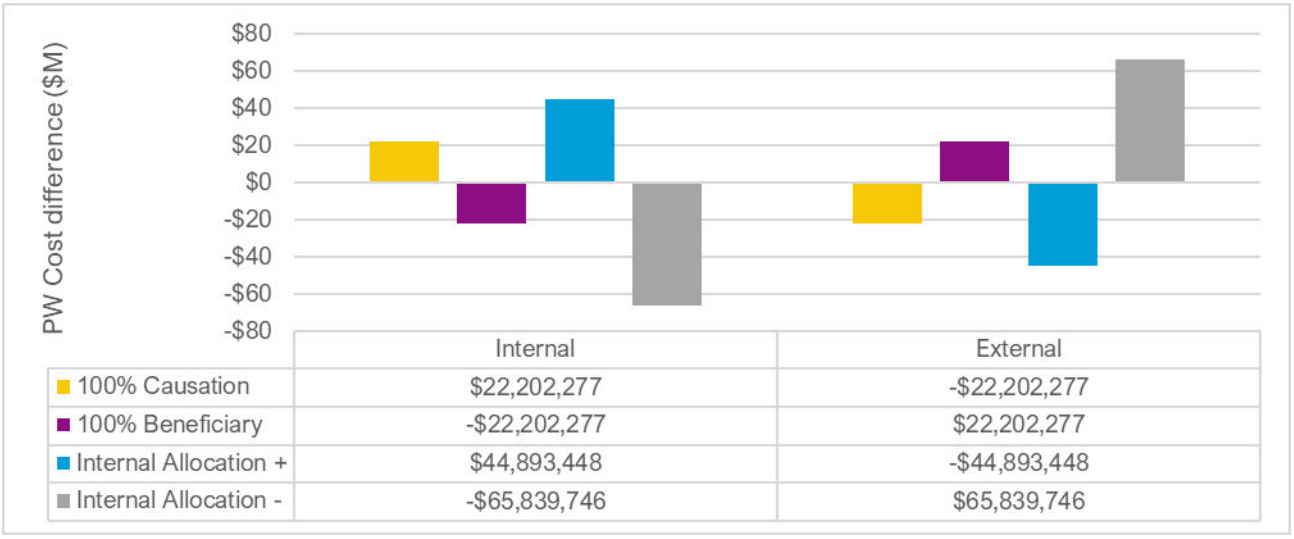
- **100% Causation:** Use 100% causation allocation, rather than 50% causation:50% beneficiary
- **100% Beneficiary:** Use 100% beneficiary allocation, rather than 50% causation:50% beneficiary
- **Internal Allocation +:** Shift a maximum of 10% from external allocations to internal allocations[2]
- **Internal Allocation -:** Shift a maximum of 10% from internal allocations to external allocations

The total PW cost by internal and external area under the AGS FBO scenario for each test are shown in **Figure 6-3**, with variances from the baseline assessment in terms of absolute cost shown in **Figure 6-4**.



	Internal	External
Baseline Total	$590,534,654	$67,862,810
100% Causation	$612,736,931	$45,660,533
100% Beneficiary	$568,332,377	$90,065,087
Internal Allocation +	$635,428,102	$22,969,362
Internal Allocation -	$524,694,907	$133,702,556

Figure 6-3: Sensitivity test results under the AGS FBO scenario



	Internal	External
100% Causation	$22,202,277	-$22,202,277
100% Beneficiary	-$22,202,277	$22,202,277
Internal Allocation +	$44,893,448	-$44,893,448
Internal Allocation -	-$65,839,746	$65,839,746

Figure 6-4: Sensitivity test cost variance from baseline under the AGS FBO scenario

[2] The amount shifted between allocations is not necessarily 10% and is dependent on the floor and ceiling of the baseline allocations (e.g., A baseline allocation of 95% internal, 5% external will become 100% internal, 0% external under the Internal Allocation + sensitivity test, which is a shift of only 5%).

7 Uncertainties

There are several notable uncertainties in this long-term, programme-level assessment. The key areas of uncertainty are identified and discussed in **Table 7-1**. This includes an indication of the potential scale of uncertainty.

Table 7-1: Discussion of key uncertainties

No	Indicative Scale	Topic	Discussion	Approach
1	Medium	Scope of projects	The projects identified rely on a high-level assessment with limited design detail. As such, the scope of projects has potential to change as more detailed work is undertaken.	Appropriate levels of contingency have been applied based on discussion with AT to account for unknowns at this stage.
2	Medium	Rate and sequencing of development	The rate and sequencing of land development is uncertain, and multiple factors may affect this.	The DC policy will be reviewed periodically with updates made on the best available information.
3	Medium	Timing of project implementation	The RWW and this updated assessment suggest a date when the project is likely to be needed, based on assumptions about land use development. Those assessments did not explicitly consider constraints on funding of the infrastructure, which could defer implementation dates within the programme.	Council to consider any modifications to indicated delivery times based on any constraints/requirements of the DC policy itself.
4	Medium	Timing of strategic projects to support RTN	The RWW and this updated assessment suggest a date when the project is likely to be needed, based on assumptions about land use development. The timing of implementation for the Northwest Rapid Transit Network (RTN) stations could alter implementation dates within the programme.	Council to review project scheduling on an annual basis to ensure relevant projects are implemented to support the RTN.
5	High	External funding	Ongoing regional or national funding of this programme over the life of the programme cannot be readily predicted. These uncertainties could significantly alter the total CAPEX. New external funding of projects could reduce the assessed CAPEX requirements. Conversely, projects which are assumed to be externally funded may not be, requiring significant increase in CAPEX.	This uncertainty will remain as an area of uncertainty over the 30+-year development of this area. Council proposes a regular review of the DC assessment.
6	High	CAPEX estimates	CAPEX estimates have been based on generic rates reflecting the uncertainty in project scope. As more detailed scope and timing is known, more refined CAPEX estimates will be available.	The DC policy will be reviewed periodically with updates made on the best available information.

No	Indicative Scale	Topic	Discussion	Approach
7	Low	Causation Assessments	In many cases causation will be confirmed through mitigation requirements in land use planning decisions, including via direct agreement between developers and road controlling authorities. This assessment has necessarily relied on assumptions and judgement regarding those likely outcomes.	This uncertainty will remain as an area of uncertainty over the 30+-year development of this area. Council proposes a regular review of the DC assessment as new information becomes available
8	Low	Beneficiary Assessment	The wide range of benefits and complex inter-dependencies between elements has meant this assessment has necessarily relied on assumptions and judgement regarding allocations for projects.	Council to consider uncertainties and sensitivities in defining the funding area and include a regular review of the DC assessment as new information becomes available
9	Low	Level of service uplift and renewal cost estimates	The assessment has adopted AT's approach to these issues. However, uncertainty is inherent in renewal costs over such a large programme.	The assessment could be updated at regular intervals with specific renewal projects if such information becomes available

8 Summary

This assessment has updated the draft assessment of the NWIFF to inform the Council DC policy for the RWW funding area. Beca has provided this assessment based on the knowledge and information developed by SGA its long-term route protection work for this network. Beyond these inputs, Beca has not provided advice to Council directly regarding development of their DC policy itself.

The transport planning and engineering information used to prepare this assessment is therefore developed at a 'strategic' level, and not from detailed site investigations, design, or modelling analysis. More detailed analysis would be undertaken for implementation of a project. Given the significant scale and long-term development of this programme, it is not considered feasible to develop detailed designs and capital cost estimates for this extensive programme. This approach is considered suitable for this assessment, when coupled with Council's proposal to include regular updates to the DC policy inputs as new information becomes available.

This report documents the methodology adapted from Council applications elsewhere. There are significant uncertainties around how the RWW area will grow and how infrastructure will be provided over the next 30 years, which the methodology has recognised. This uncertainty is addressed through the methods used in this assessment and Council's policy framework that includes regular review of the inputs.

The assessment identified approximately $658.4M of PW costs for the in-scope projects. The allocation to internal and external areas was based on causation and beneficiary assessments, resulting in the allocation of $590.5M to internal and $67.9M to external.

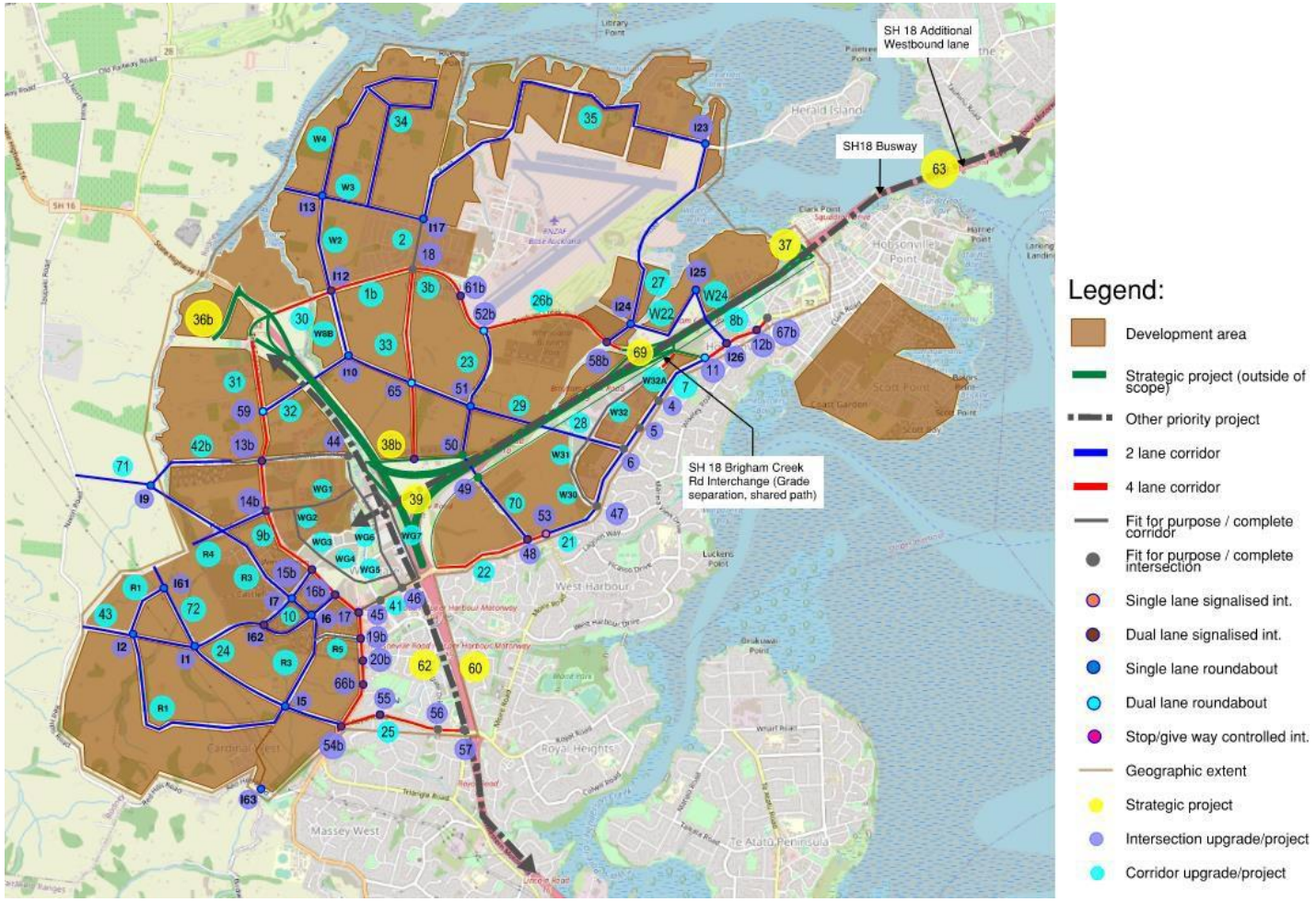
A

Appendix A – Project List

Project maps

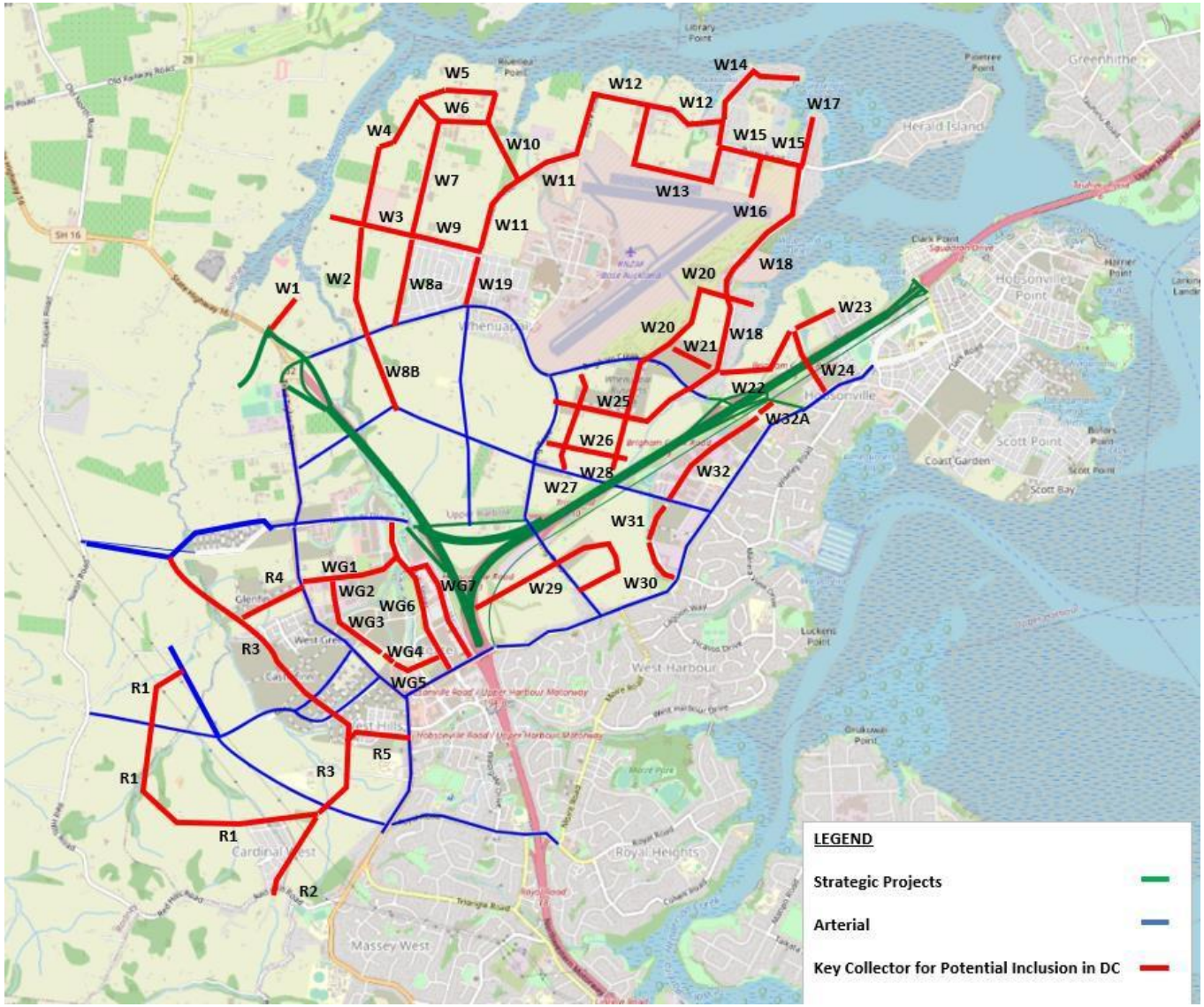
RWW Transport Network – Full Build Out

The figure below shows the full network of projects identified to support the future development in RWW. This figure is inclusive of many projects which are not included in the DC policy, including strategic projects which will be delivered by NZTA and projects that have already been constructed or are currently under construction.



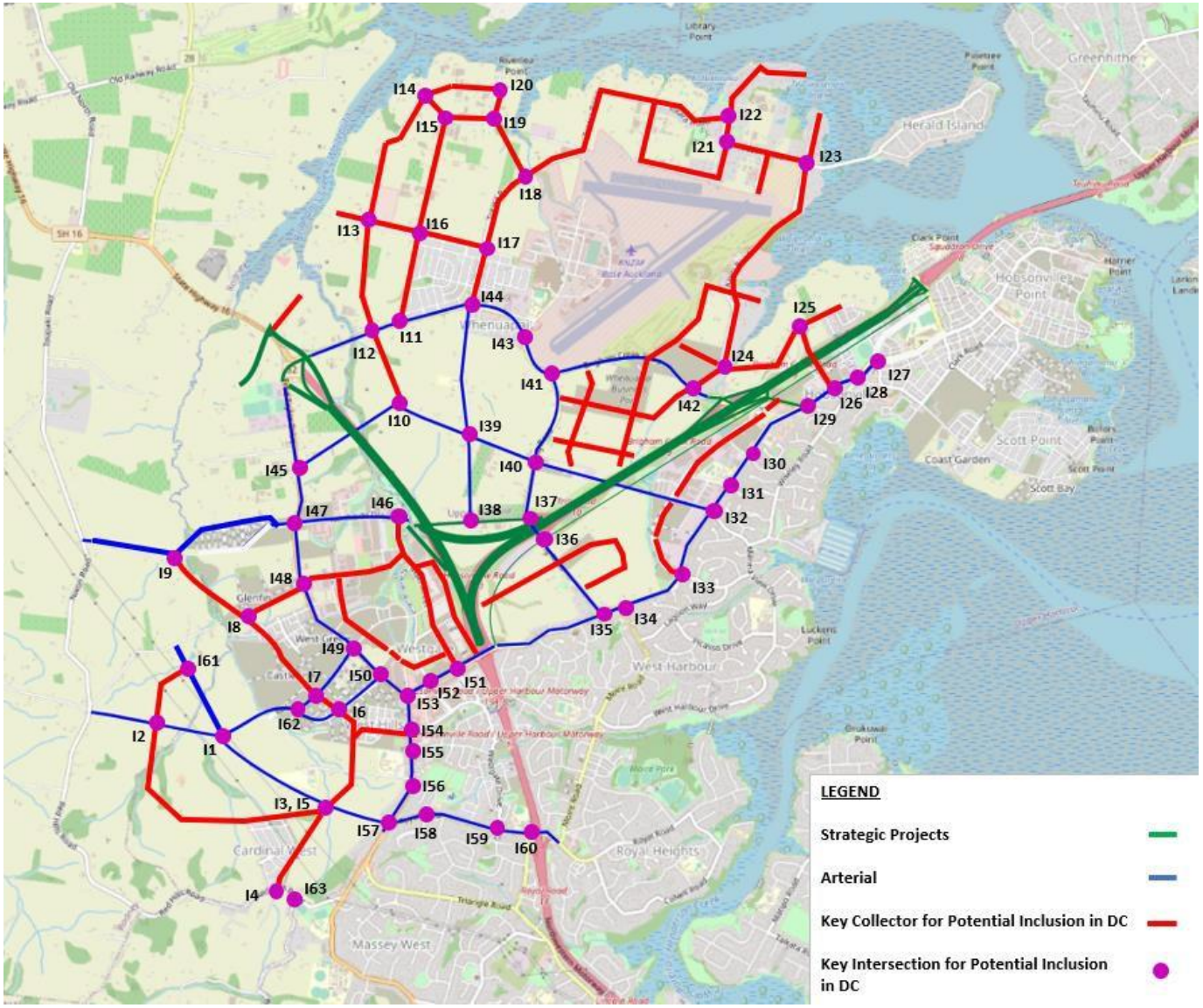
RWW Key Collector Projects

The figure below shows the location of the key collectors considered for potential inclusion in the DC Policy.



RWW Key Intersection Projects

The figure below shows the location of key intersections considered for potential inclusion in the DC Policy.



Project List Summary

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
1a	Interim	Brigham Creek Road - Joseph McDonald Drive to Totara Road	**2-lane urban**- with active modes on both sides + local intersection improvements	Exclude	Project partially completed. Remainder completed in 1b, which is less than 11 years after interim, therefore interim is excluded.		
1b	Ultimate	Brigham Creek Road - Joseph McDonald Drive to Totara Road	**4-lane urban**- upgrade 2-lane urban with active modes on both sides (SGA design)	Include		2033	Arterial
2	Ultimate	Totara Road - Brigham Creek Rd to Dale Road	**2-lane urban**- with active modes on both sides + local intersection improvements	Exclude	Project already completed		
3a	Interim	Brigham Creek Road - Totara Road to Tamatea Ave	**2-lane urban**- with active modes on both sides + local intersection improvements	Exclude	Project already completed		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
3b	Ultimate	Brigham Creek Road - Totara Road to Tamatea Ave	**4-lane urban**- upgrade 2-lane urban with active modes on both sides (SGA design)	Include		2054	Arterial
4	Ultimate	Intersection upgrade on Hobsonville Road/ Suncrest Dr	**Upgrade to** Single lane roundabout	Exclude	Project already completed		
5	Ultimate	Intersection upgrade on Hobsonville Road/ Dowdens Lane	**Upgrade intersection** to Single lane signalised intersection	Exclude	Project already completed		
6	Ultimate	Intersection upgrade on Hobsonville Road/ Marina View Dr	**Upgrade intersection** to Single lane signalised intersection	Exclude	Project already completed		
7	Ultimate	Hobsonville Road - Westpark Drive to Williams Road	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2029	Arterial
8a	Interim	Hobsonville Road - Williams Road to Hobsonville Point Road	**2-lane urban**- with active modes on both sides + local intersection improvements	Exclude	Less than 11 years between interim and ultimate under new scenario (same funding window)		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
8b	Ultimate	Hobsonville Road - Williams Road to Hobsonville Point Road	**4-lane urban**- upgrade 2-lane urban with active modes on both sides (SGA design)	Include		2029	Arterial
9a	Interim	Fred Taylor Drive/ Don Buck Rd - Kakano Road to Beauchamp Dr	**2-lane urban**- with active modes on both sides + local intersection improvements	Exclude	Less than 11 years between interim and ultimate under new scenario (same funding window)		
9b	Ultimate	Fred Taylor Drive/ Don Buck Rd - Kakano Road to Beauchamp Dr	**4-lane urban**- upgrade 2-lane urban with active modes on both sides (SGA design) FTN Upgrade	Include		2027	Arterial
10	Ultimate	Dunlop Road and Baker Lane Arterials	**New 2-lane urban** arterials	Include		2027	Arterial
11	Ultimate	Intersection upgrade on Hobsonville Road/ Brigham Creek Road	**Upgrade intersection** to Dual lane roundabout	Include		2029	Arterial
13a	Interim	Intersection upgrade on Fred Taylor Drive/ Northside Dr	**Upgrade intersection** to Single lane signalised intersection	Exclude	Project already completed		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
15a	Interim	Intersection upgrade on Fred Taylor Drive/ Dunlop Road	**Upgrade intersection** to Single lane signalised intersection	Exclude	Less than 11 years between interim and ultimate under new scenario (same funding window)		
16a	Interim	Intersection upgrade on Fred Taylor Drive/ Baker Lane	**Upgrade intersection** to Single lane signalised intersection	Exclude	Less than 11 years between interim and ultimate under new scenario (same funding window)		
17	Ultimate	Intersection upgrade on Fred Taylor Drive/ Don Buck Road	**Upgrade intersection** to Dual lane signalised intersection	Include		2027	Arterial
18	Ultimate	Intersection upgrade on Brigham Creek Rd/ Totara Road	**Upgrade intersection** to Single lane signalised intersection	Exclude	Project already completed		
19a	Interim	Intersection upgrade on Don Buck Road/ Westgate Drive	**Upgrade intersection** to Single lane signalised intersection	Exclude	Project already completed		
20a	Interim	Intersection upgrade on Don Buck Road/ Rush Creek Drive	**Upgrade intersection** to Single lane signalised intersection	Exclude	Less than 11 years between interim and ultimate under new scenario (same funding window)		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
12b	Ultimate	Intersection upgrade on Hobsonville Road/ Memorial Park Lane	**Upgrade intersection** to Dual lane signalised intersection	Include		2029	Arterial
13b	Ultimate	Intersection upgrade on Fred Taylor Drive/ Northside Dr	**Upgrade intersection** to Dual lane signalised intersection	Include		2027	Arterial
14b	Ultimate	Intersection upgrade on Fred Taylor Drive/ Kakano Road	**Upgrade intersection** to Dual lane signalised intersection	Include		2027	Arterial
15b	Ultimate	Intersection upgrade on Fred Taylor Drive/ Dunlop Road	**Upgrade intersection** to Dual lane signalised intersection	Include		2027	Arterial
16b	Ultimate	Intersection upgrade on Fred Taylor Drive/ Baker Lane	**Upgrade intersection** to Dual lane signalised intersection	Include		2027	Arterial
19b	Ultimate	Intersection upgrade on Don Buck Road/ Westgate Drive	**Upgrade intersection** to Dual lane signalised intersection	Include		2027	Arterial

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
20b	Ultimate	Intersection upgrade on Don Buck Road/ Rush Creek Drive	**Upgrade intersection** to Dual lane signalised intersection	Include		2027	Arterial
21	Ultimate	Hobsonville Road - Westpark Dr to Luckens Road	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2031	Arterial
22	Ultimate	Hobsonville Road - Fred Taylor Dr to Luckens Road	**4-lane urban**- upgrade 2-lane urban with active modes on both sides (SGA design)	Include		2031	Arterial
41	Ultimate	Upgrade Fred Taylor Drive 'fit-for-purpose' section between Don Buck Road and Hobsonville Road	**Upgrade corridor** to provide walking and cycling facilities.	Include		2029	Arterial

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
23	Ultimate	Trig Road - Brigham Creek Rd to SH18	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2031	Arterial
70	Ultimate	Trig Road -SH18 to Hobsonville Rd	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2031	Arterial
24	Ultimate	Redhills N-S arterial (Redhills Local Centre to Royal Road) & Redhills E-W arterial (Dunlop Road to local Centre)	**New 2-lane urban**- with active modes on both sides + local intersection improvements	Include		2029	Arterial
25	Ultimate	Royal Road upgrade	**4-lane urban**- upgrade 2-lane urban with active modes on both sides (SGA design) FTN Upgrade	Include		2037	Arterial

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
26a	Interim	Brigham Creek Road - Tamatea Ave to Kauri Road	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2027	Arterial
26b	Ultimate	Brigham Creek Road - Tamatea Ave to Kauri Road	**4-lane urban**- upgrade 2-lane urban with active modes on both sides (SGA design)	Include		2054	Arterial
27	Ultimate	Kauri Road - Brigham Creek Rd to Rata Rd	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2027	Key Collector
28	Ultimate	Spedding Road East - SH18 to Hobsonville Rd	**2-lane urban**- with active modes on both sides + local intersection improvements Connects to item 29 to form an overbridge across SH 18	Include		2029	Arterial
36a	Interim	SH16 / Brigham Creek roundabout interim improvements - signalisation	Roundabout signalisation Part of the SH16/ SH18 SSBC	Exclude	Strategic project by Waka Kotahi, outside policy scope		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
37	Ultimate	Squadron Drive Interchange & SH18 Shared Path (Squadron Dr to BCR)	Squadron Dr ramps in RLTP and Shared path part of SH16/18 Connections	Exclude	Strategic project by Waka Kotahi, outside policy scope		
38a	Interim	Northside Drive East 2-lane Upgrade (part of SH16/18 Connections)	Part of the SH16/18 Connections project. 2-lane arterial road with dedicated walking and cycling facilities. Includes 2 lane Northside Dr bridge. Excludes SH16 Northside Dr Interchange City facing ramps.	Include		2034	Arterial
29	Ultimate	Spedding Road East - Trig Rd to SH18	**New 2-lane urban-** with active modes on both sides + local intersection improvements. Includes SH18 overbridge	Include		2034	Arterial
30	Ultimate	Brigham Creek Rd - SH16 interchange to overlap with 1b	**4-lane urban-** upgrade 2-lane urban with active modes on both sides (SGA design)	Include		2033	Arterial

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
31	Ultimate	Fred Taylor Drive - SH16 interchange to Kakano Rd	**4-lane urban**- upgrade 2-lane urban with active modes on both sides (SGA design)	Include		2027	Arterial
32	Ultimate	Spedding Road West - Fred Taylor Drive to Trig Road	**New 2-lane urban**- with active modes on both sides + local intersection improvements	Include		2040	Arterial
33	Ultimate	Mamari Road	**New 4-lane urban** - with active modes on both sides + local intersection improvements	Include		2042	Arterial
36b	Ultimate	SH16 / Brigham Creek Road interchange (grade separation)	Split Fork Interchange	Exclude	Strategic project by Waka Kotahi, outside policy scope		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
39	Ultimate	SH16/18 Motorway-Motorway Ramps, SH16 Northside Dr Interchange Ramps, SH16 Shared path and SH Shared path (BCR to Hobsonville Rd), SH18 BCR Interchange	SH16/SH18 improvements & shared path	Exclude	Strategic project by Waka Kotahi, outside policy scope		
69	Ultimate	SH18 BCR Interchange grade separation	SH18 BCR Interchange grade separation	Exclude	Strategic project by Waka Kotahi, outside policy scope		
40	Ultimate	Sinton Road Collector from Kauri Road to Hobsonville Road	Road overbridge across SH18, supplementing existing pedestrian / cycle bridge.	Exclude	Same scope as W22 and W24		
34	Ultimate	Key Collector Rd Network: Dale Road, Riverlea Rd, Bristol Rd, Rope Rd	**2-lane urban**- with active modes on both sides + local intersection improvements.	Include		2052	Key Collector
35	Ultimate	Key Collector Rd Network through Whenuapai North: Totara Rd and Kauri Rd	**2-lane urban**- with active modes on both sides + local intersection improvements.	Include		2054	Key Collector

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
42a	Interim	Northside Drive East from Fred Taylor Dr to Stream	**new 2-lane arterial** road with dedicated walking and cycling facilities. 24m	Exclude	Project already completed		
71	Ultimate	Northside Drive West from Fred Taylor Dr to Stream	**new 2-lane arterial** road with dedicated walking and cycling facilities. 24m	Include		2054	Arterial
43	Ultimate	Redhills N-S Arterial Nixon Road to Redhills Local Centre	**new 2-lane urban-** with active modes on both sides + local intersection improvements	Include		2037	Arterial
44	Ultimate	Intersection upgrade on Northside Drive/ Maki Street	**Upgrade intersection** to Single lane signalised intersection	Exclude	Project already completed		
45	Ultimate	Intersection upgrade on Fred Taylor Drive/ Fernhill Dr	**Upgrade to** Dual lane signalised intersection	Exclude	Project already completed		
46	Ultimate	Intersection upgrade on Fred Taylor Drive/ Maki St	**Upgrade to** Dual lane signalised intersection	Exclude	Project already completed		
47	Ultimate	Intersection upgrade on Hobsonville Road/ Westpark Drive	**Upgrade to** Single lane signalised intersection	Exclude	Project already completed		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
48	Ultimate	Intersection upgrade on Hobsonville Road/ Trig Road	**Upgrade to** Dual lane signalised intersection	Include		2031	Arterial
49	Ultimate	Intersection upgrade on Trig Road/ SH18 Off-ramp	**Upgrade to** Single lane signalised intersection	Exclude	Assumed this is in NZTA motorway ramp scope.		
50	Ultimate	Intersection upgrade on Trig Road/ SH18 On-ramp	**Upgrade to** Single lane signalised intersection	Exclude	Assumed this is in NZTA motorway ramp scope.		
51	Ultimate	Intersection upgrade on Trig Road/ Spedding Road East	**Upgrade to** Single lane roundabout	Include		2034	Arterial
52a	Interim	Intersection upgrade on Trig Road/ Brigham Creek Rd	**Upgrade to** Single lane roundabout	Include		2027	Arterial
52b	Ultimate	Intersection upgrade on Trig Road/ Brigham Creek Rd	**Upgrade to** Dual lane roundabout	Include		2054	Arterial

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
53	Ultimate	Intersection upgrade on Hobsonville Road/ Luckens Road	**Upgrade to** Single lane signalised intersection	Include		2031	Arterial
54a	Interim	Intersection upgrade on Don Buck Road/ Royal Road	**Upgrade intersection to** Single lane signalised intersection	Exclude	Less than 11 years between interim and ultimate under new scenario (same funding window)		
66a	Interim	Intersection upgrade on Don Buck Road/Beauchamp Dr	**Upgrade intersection to** Single lane signalised intersection	Exclude	Less than 11 years between interim and ultimate under new scenario (same funding window)		
54b	Ultimate	Intersection upgrade on Don Buck Road/ Royal Road	**Upgrade to** Dual lane signalised intersection	Include		2029	Arterial
55	Ultimate	Intersection upgrade on Royal Road/ Beauchamp Dr	**Upgrade to** Dual lane signalised intersection	Include		2037	Arterial

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
56	Ultimate	Intersection upgrade on Royal Road/ Westgate Dr	**Upgrade to** Dual lane signalised intersection	Exclude	AT considers this intersection to be of current standard.		
57	Ultimate	Intersection upgrade on Royal Road/ Makora Rd	**Upgrade to** Dual lane signalised intersection	Exclude	Project already completed		
66b	Ultimate	Intersection upgrade on Don Buck Road/Beauchamp Dr	**Upgrade to** Dual lane signalised intersection	Include		2027	Arterial
58a	Interim	Intersection upgrade on Brigham Creek Rd/ Kauri Road	**Upgrade intersection to** Single lane signalised intersection	Include		2027	Arterial
58b	Ultimate	Intersection upgrade on Brigham Creek Rd/ Kauri Road	**Upgrade to** Dual lane signalised intersection	Include		2054	Arterial
59	Ultimate	Intersection upgrade on Fred Taylor Dr / Spedding Road West	**Upgrade to** Dual lane roundabout	Include		2040	Arterial
61a	Interim	Intersection upgrade on Brigham Creek Rd/ Tamatea Ave	**Upgrade to** Single lane signalised intersection	Include		2027	Arterial

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
61b	Ultimate	Intersection upgrade on Brigham Creek Rd/ Tamatea Ave	**Upgrade to** Dual lane signalised intersection	Include		2054	Arterial
65	Ultimate	Intersection upgrade on Mamari Rd / Spedding Rd West	**Upgrade to** Dual lane roundabout	Include		2042	Arterial
67a	Interim	Intersection upgrade on Hobsonville Rd/ Buckley Ave	**Upgrade to** Single lane signalised intersection	Exclude	Project already completed		
67b	Ultimate	Intersection upgrade on Hobsonville Rd/ Buckley Ave	**Upgrade intersection to** Dual lane signalised intersection	Exclude	Project already completed		
60	Ultimate	NW short term bus improvements	Extending bus shoulders on the Northwestern motorway between Westgate and Newton Road with a new bus interchange at Westgate	Exclude	Project already completed, outside of policy scope		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
62	Ultimate	North West RTN Full Implementation	Full implementation of the RTN corridor (mode to be confirmed) has been identified through the NWRTN IBC from the City Centre to a future Brigham Creek station, including potential stations at Westgate and Royal Road.	Exclude	Strategic project by Waka Kotahi, outside policy scope		
63	Ultimate	State Highway 18 RTN	RTN corridor on SH18 between Westgate and Constellation, including stations near Spedding Road East and Hobsonville centre	Exclude	Outside of policy scope		
68	Ultimate	Fred Taylor Drive to Hobsonville Road - SH16 active modes overbridge	Active modes overbridge in addition to existing vehicle overbridge	Exclude	AC noted this project is unlikely to be required.		
72	Ultimate	Redhills N-S Arterial Henwood Road to Redhills Local Centre	**new 2-lane urban**- with active modes on both sides + local intersection improvements	Include		2037	Arterial
W2	Ultimate	W2 - Key Collector - Brigham Creek Rd to Dale Rd	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2052	Key Collector

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
W3	Ultimate	W3 - Key Collector - Dale Rd, west of Riverlea Rd	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2052	Key Collector
W4	Ultimate	W4 - Key Collector - Bristol Rd, from Dale Rd to Rope Rd	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2052	Key Collector
W8B	Ultimate	W8B - Key Collector - Brigham Creek Rd to Spedding Rd	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2033	Key Collector
W10	Ultimate	W10 - Key Collector - Riverlea Rd to Totara Rd	**2-lane urban**- with active modes on both sides + local intersection improvements	Exclude	Project would add minimal value to network considering the cost to deliver it, and unlikely to get developer mitigation		
W32A	Ultimate	W32A - Key Collector - Westpoint Dr to Brigham Creek Rd	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2037	Key Collector
R1	Ultimate	R1 - Key Collector - R2 to 72	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2037	Key Collector

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
R2	Ultimate	R2 - Key Collector - Red Hills Rd to 24	**2-lane urban**- with active modes on both sides + local intersection improvements	Exclude	The current extent of development and land ownership means it will be difficult to ever realise this road. Also not considered a priority for AC to fund.		
R3	Ultimate	R3 - Key Collector - 24 to 42	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2029	Key Collector
R4	Ultimate	R4 - Key Collector - Kakano Rd to Henwood Rd	**2-lane urban**- with active modes on both sides + local intersection improvements	Include		2027	Key Collector
I1	Ultimate	I1 - Key Collector Intersection	Single lane roundabout	Include		2029	Arterial
I2	Ultimate	I2 - Key Collector Intersection	Single lane roundabout	Include		2037	Arterial
I4	Ultimate	I4 - Key Collector Intersection	Single lane roundabout	Exclude	R2 has been excluded.		
I5	Ultimate	I5 - Key Collector Intersection	Single lane roundabout	Include		2029	Arterial
I6	Ultimate	I6- Key Collector Intersection	Single lane roundabout	Include		2027	Arterial
I7	Ultimate	I7 - Key Collector Intersection	Single lane roundabout	Include		2027	Arterial

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
I9	Ultimate	I9 - Key Collector Intersection	Single lane roundabout	Include		2036	Arterial
I10	Ultimate	I10 - Key Collector Intersection	Single lane roundabout	Include		2033	Arterial
I12	Ultimate	I12 - Key Collector Intersection	Dual lane signalised intersection	Include		2033	Arterial
I13	Ultimate	I13 - Key Collector Intersection	Single lane roundabout	Include		2052	Key Collector
I17	Ultimate	I17 - Key Collector Intersection	Single lane roundabout	Include		2052	Key Collector
I18	Ultimate	I18 - Key Collector Intersection	Single lane roundabout	Exclude	Excluded as connecting project W10 excluded		
I19	Ultimate	I19 - Key Collector Intersection	Priority controlled	Exclude	Excluded as connecting project W10 excluded		
I23	Ultimate	I23 - Key Collector Intersection	Single lane roundabout	Include		2054	Key Collector
I24	Ultimate	I24 - Key Collector Intersection	Single lane roundabout	Include		2027	Key Collector
I25	Ultimate	I25 - Key Collector Intersection	Single lane roundabout	Include		2037	Key Collector
I26	Ultimate	I26 - Key Collector Intersection	Dual lane signalised intersection	Include		2037	Arterial
I61	Ultimate	I61 - Key Collector Intersection	Single lane roundabout	Include		2037	Arterial

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
29 - Bridge	Ultimate	Spedding Road East - Trig Rd to SH18	New 2-lane urban- with active modes on both sides + local intersection improvements. Includes SH18 overbridge	Include		2034	Arterial
32 - Bridge	Ultimate	Spedding Road West - Fred Taylor Drive to Trig Road	New 2-lane urban- with active modes on both sides + local intersection improvements	Include		2040	Arterial
40 - Bridge	Ultimate	Sinton Road Collector from Kauri Road to Hobsonville Road	Road overbridge across SH18, supplementing existing pedestrian / cycle bridge	Exclude	Same scope as W22 and W24		
72 - Bridge	Ultimate	Redhills N-S Arterial Henwood Road to Redhills Local Centre	new 2-lane urban- with active modes on both sides + local intersection improvements	Include		2037	Arterial
W2 - Bridge	Ultimate	W2 - Key Collector - Brigham Creek Rd to Dale Rd	2-lane urban- with active modes on both sides + local intersection improvements	Include		2052	Key Collector
W10 - Bridge	Ultimate	W10 - Key Collector - Riverlea Rd to Totara Rd	2-lane urban- with active modes on both sides + local intersection improvements	Exclude	Project would add minimal value to network considering the cost to deliver it, and unlikely to get developer mitigation		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
R1 - Bridge	Ultimate	R1 - Key Collector - R2 to 72	2-lane urban- with active modes on both sides + local intersection improvements	Include		2037	Key Collector
R3 - Bridge	Ultimate	R3 - Key Collector - 24 to 42	2-lane urban- with active modes on both sides + local intersection improvements	Include		2029	Key Collector
W1	Ultimate	W1 - Collector		Exclude	Local access function, no through function		
W8a	Ultimate	W8a - Collector		Exclude	Not required as a collector rd due to proximity to W2		
W13	Ultimate	W13 - Collector		Exclude	Local access function, no through function		
W14	Ultimate	W14 - Collector		Exclude	Local access function, no through function		
W16	Ultimate	W16 - Collector		Exclude	Local access function, no through function		
W17	Ultimate	W17 - Collector		Exclude	Local access function, no through function		
W19	Ultimate	W19 - Collector		Exclude	Recently constructed, overlap with project 2		
W20	Ultimate	W20 - Collector		Exclude	Local access function, no through function		
W21	Ultimate	W21 - Collector		Exclude	Local access function, no through function		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
W23	Ultimate	W23 - Collector		Exclude	Local access function, no through function		
W25	Ultimate	W25 - Collector		Exclude	Local access function, no wider network function as in between BCR and Spedding arterial corridors		
W26	Ultimate	W26 - Collector		Exclude	Local access function		
W27	Ultimate	W27 - Collector		Exclude	Local access function		
W28	Ultimate	W28 - Collector		Exclude	Local access function		
W29	Ultimate	W29 - Collector		Exclude	Local access function		
W30	Ultimate	W30 - Collector		Exclude	Recently Constructed		
W31	Ultimate	W31 - Collector		Exclude	Local access function, likely to be constructed soon		
W32	Ultimate	W32 - Collector		Exclude	Recently Constructed		
WG1	Ultimate	WG1 - Collector		Exclude	Recently Constructed		
WG2	Ultimate	WG2 - Collector		Exclude	Local access function, likely to be constructed soon		
WG3	Ultimate	WG3 - Collector		Exclude	Recently Constructed		
WG4	Ultimate	WG4 - Collector		Exclude	Local access function, likely to be constructed soon		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
WG5	Ultimate	WG5 - Collector		Exclude	Recently Constructed		
WG6	Ultimate	WG6 - Collector		Exclude	Recently Constructed		
WG7	Ultimate	WG7 - Collector		Exclude	Recently Constructed		
R5	Ultimate	R5 - Collector		Exclude	Recently Constructed		
I3	Ultimate	I3 - Collector Intersection		Exclude	Priority controlled		
I8	Ultimate	I8 - Collector Intersection		Exclude	Priority controlled		
I11	Ultimate	I11 - Collector Intersection		Exclude	W8a excluded		
I14	Ultimate	I14 - Collector Intersection		Exclude	Priority controlled		
I15	Ultimate	I15 - Collector Intersection		Exclude	Priority controlled		
I16	Ultimate	I16 - Collector Intersection		Exclude	Priority controlled		
I20	Ultimate	I20 - Collector Intersection		Exclude	Priority controlled		
I21	Ultimate	I21 - Collector Intersection		Exclude	Priority controlled		
I22	Ultimate	I22 - Collector Intersection		Exclude	Priority controlled		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
38b	Ultimate	Northside Drive East 4-lane Upgrade (part of SH16/18 Connections), motorway ramps	Part of the SH16/18 Connections project. 4 lane North Side Drive East.	Exclude	Strategic project by Waka Kotahi, outside policy scope		
I62	Ultimate	I62 - Key Collector Intersection	Single lane signalised intersection	Include		2029	
W22	Ultimate	W22 - Collector	Collector from Clarks Ln to Kauri Rd.	Include		2037	Key Collector
W24	Ultimate	W24 - Collector	Road overbridge across SH18, supplementing existing pedestrian / cycle bridge	Include		2037	Key Collector
W22 - Bridge	Ultimate	W22 - Collector	Collector from Clarks Ln to Kauri Rd.	Include		2037	Key Collector
W24 - Bridge	Ultimate	W24 - Collector	Road overbridge across SH18, supplementing existing pedestrian / cycle bridge	Include		2037	Key Collector
W5	Ultimate	W5 - Key Collector		Exclude	Already included in project 34		
W6	Ultimate	W6 - Key Collector		Exclude	Already included in project 34		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
W7	Ultimate	W7 - Key Collector		Exclude	Already included in project 34		
W9	Ultimate	W9 - Key Collector		Exclude	Already included in project 34		
W11	Ultimate	W11 - Key Collector		Exclude	Already included in project 35		
W12	Ultimate	W12 - Key Collector		Exclude	Already included in project 35		
W15	Ultimate	W15 - Key Collector		Exclude	Already included in project 35		
W18	Ultimate	W18 - Key Collector		Exclude	Already included in project 35		
71 - Bridge	Ultimate	Northside Drive West from Fred Taylor Dr to Stream	new 2-lane urban- with active modes on both sides + local intersection improvements	Include		2054	Arterial
38a - Bridge	Interim	Northside Drive East 2-lane Upgrade (part of SH16/18 Connections)	Part of the SH16/18 Connections project. 2-lane arterial road with dedicated walking and cycling facilities. Includes 2 lane Northside Dr bridge. Excludes SH16 Northside Dr Interchange City facing ramps. Bridge component of 38a.	Include		2034	Arterial

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
42b	Ultimate	Northside Drive East from Fred Taylor Dr to Stream	new 2-lane arterial road with dedicated walking and cycling facilities. 24m	Include		2054	Arterial
33 - Bridge	Ultimate	Mamari Road	New 4-lane urban - with active modes on both sides + local intersection improvements	Include		2042	Arterial
I63	Ultimate	Intersection - Red Hills Road and Birdwood Road	Single lane roundabout	Include		2037	Arterial
I27	Ultimate	I27 - Key Arterial Intersection		Exclude	Same as project 67		
I28	Ultimate	I28 - Key Arterial Intersection		Exclude	Same as project 12		
I29	Ultimate	I29 - Key Arterial Intersection		Exclude	Same as project 11		
I30	Ultimate	I30 - Key Arterial Intersection		Exclude	Same as project 4		
I31	Ultimate	I31 - Key Arterial Intersection		Exclude	Same as project 5		
I32	Ultimate	I32 - Key Arterial Intersection		Exclude	Same as project 6		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
I33	Ultimate	I33 - Key Arterial Intersection		Exclude	Same as project 47		
I34	Ultimate	I34 - Key Arterial Intersection		Exclude	Same as project 53		
I35	Ultimate	I35 - Key Arterial Intersection		Exclude	Same as project 48		
I36	Ultimate	I36 - Key Arterial Intersection		Exclude	Same as project 49		
I37	Ultimate	I37 - Key Arterial Intersection		Exclude	Same as project 50		
I38	Ultimate	I38 - Key Arterial Intersection		Exclude	Included in project 38		
I39	Ultimate	I39 - Key Arterial Intersection		Exclude	Same as project 65		
I40	Ultimate	I40 - Key Arterial Intersection		Exclude	Same as project 51		
I41	Ultimate	I41 - Key Arterial Intersection		Exclude	Same as project 52		
I42	Ultimate	I42 - Key Arterial Intersection		Exclude	Same as project 58		
I43	Ultimate	I43 - Key Arterial Intersection		Exclude	Same as project 61		
I44	Ultimate	I44 - Key Arterial Intersection		Exclude	Same as project 18		
I45	Ultimate	I45 - Key Arterial Intersection		Exclude	Same as project 59		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
I46	Ultimate	I46 - Key Arterial Intersection		Exclude	Same as project 44		
I47	Ultimate	I47 - Key Arterial Intersection		Exclude	Same as project 13		
I48	Ultimate	I48 - Key Arterial Intersection		Exclude	Same as project 48		
I49	Ultimate	I49 - Key Arterial Intersection		Exclude	Same as project 15		
I50	Ultimate	I50 - Key Arterial Intersection		Exclude	Same as project 16		
I51	Ultimate	I51 - Key Arterial Intersection		Exclude	Same as project 46		
I52	Ultimate	I52 - Key Arterial Intersection		Exclude	Same as project 45		
I53	Ultimate	I53 - Key Arterial Intersection		Exclude	Same as project 17		
I54	Ultimate	I54 - Key Arterial Intersection		Exclude	Same as project 19		
I55	Ultimate	I55 - Key Arterial Intersection		Exclude	Same as project 20		
I56	Ultimate	I56 - Key Arterial Intersection		Exclude	Same as project 66		
I57	Ultimate	I57 - Key Arterial Intersection		Exclude	Same as project 54		
I58	Ultimate	I58 - Key Arterial Intersection		Exclude	Same as project 55		

Project number	Stage	Project name	Project Description	Include in DC model	Reasoning for exclusion	Operational Date: Transport Assessment date	Corridor Type
I59	Ultimate	I59 - Key Arterial Intersection		Exclude	Same as project 56		
I60	Ultimate	I60 - Key Arterial Intersection		Exclude	Same as project 57		

The project list has been included within the Sharepoint Link (Project List Spreadsheet)

B

Appendix B – Generic Beneficiary/Causation Assessment Methodology

Generic Transport Causation/Beneficiary Assessment Methodology

Development Contributions Policy

Prepared for Auckland Council
Prepared by Beca Limited

27 June 2024

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Revision History

Revision N°	Prepared By	Description	Date
1.0	Joshua Hafoka and Michael Sewell	Draft	14/06/2024
2.0	Michael Sewell	Updated draft following client feedback	21/06/2024
3.0	Michael Sewell	Finalised draft for consultation	27/06/2024

Document Acceptance

Action	Name	Signed	Date
Prepared by	Joshua Hafoka and Michael Sewell	[redacted]	27/06/2024
Reviewed by	Andrew Murray	[redacted]	27/06/2024
Approved by	Rob Mason	[redacted]	27/06/2024
on behalf of	Beca Limited		

1 Introduction

The purpose of this report is to describe the Causation/Beneficiary Assessment (the Assessment) of transportation infrastructure for ongoing and future Development Contributions (DC) assessments, and how this assessment fits into the overall DC approach. The Assessment defines how the cost for transport infrastructure should be allocated to those who cause the need, and those who benefit.

This report is intended to provide guidance for ongoing and future DC workstreams. The methodology in this report has been represented generically to allow application to greenfield and brownfield environments.

This report has been developed in collaboration with Auckland Council (Council) and Auckland Transport (AT).

2 Development Contributions Methodology Development

The Assessment is a series of steps within the overall DC methodology. The DC methodology was previously developed for the Drury DC Policy within Te Tupu Ngātahi Supporting Growth Alliance (SGA), with Drury being a primarily greenfield/rural environment. However, the DC methodology has been adapted for applicability to greenfield and brownfield environments to support ongoing and future DC workstreams. This was adapted through a series of technical workshops held with staff from AT and Council. The purpose of those workshops was to:

- Agree the specific outputs of the assessment; and
- Provide guidance on the general approach to assessing DC inputs, particularly regarding assessment of renewal elements, growth components and Causation/Beneficiary Assessment

3 Key Assessment Steps

The overall DC methodology applied (as guided by AT and Council) includes the key steps shown in **Figure 3-1**. The DC methodology is for the cost allocation of transport infrastructure. As such, inputs, such as growth forecasts, and further steps, such as developer mitigation and third-party funding, are provided and determined by Council.

Key modifications from the previous Drury DC methodology to suit application to all area types are demonstrated in **Figure 3-1**.

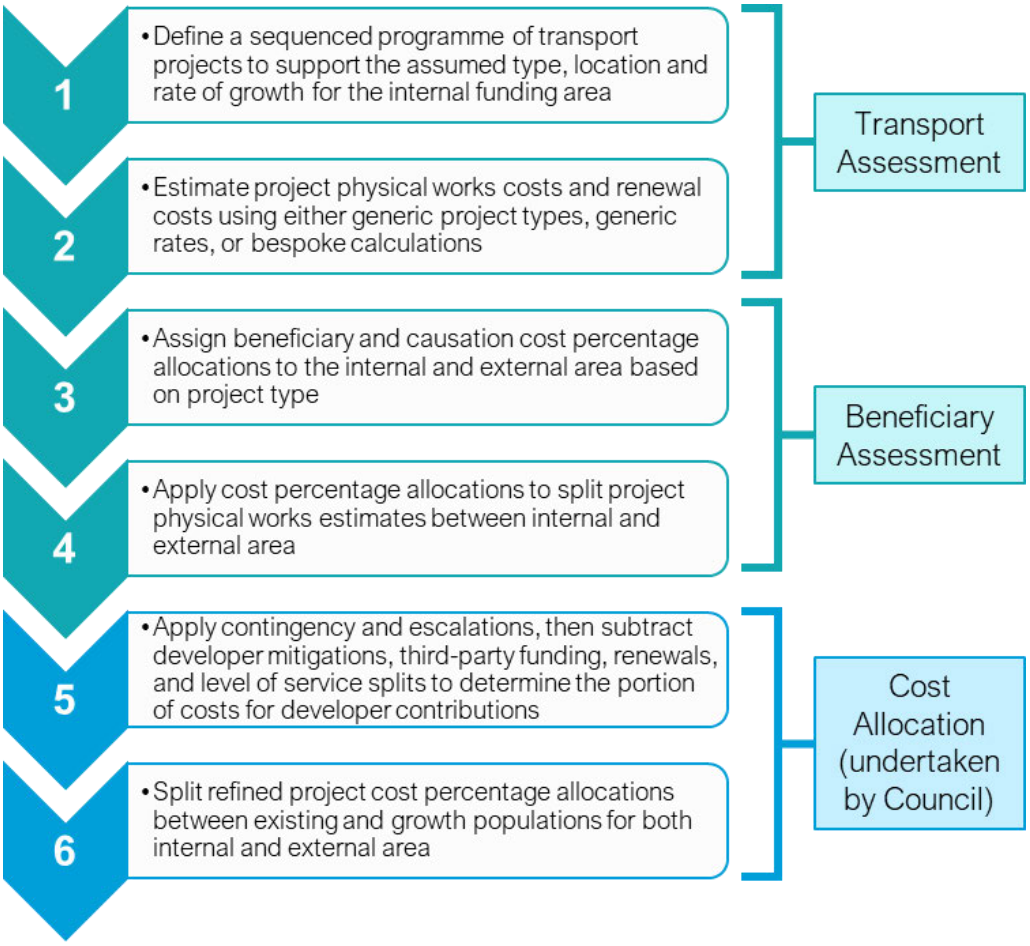

Figure 3-1: Development Contributions assessment methodology

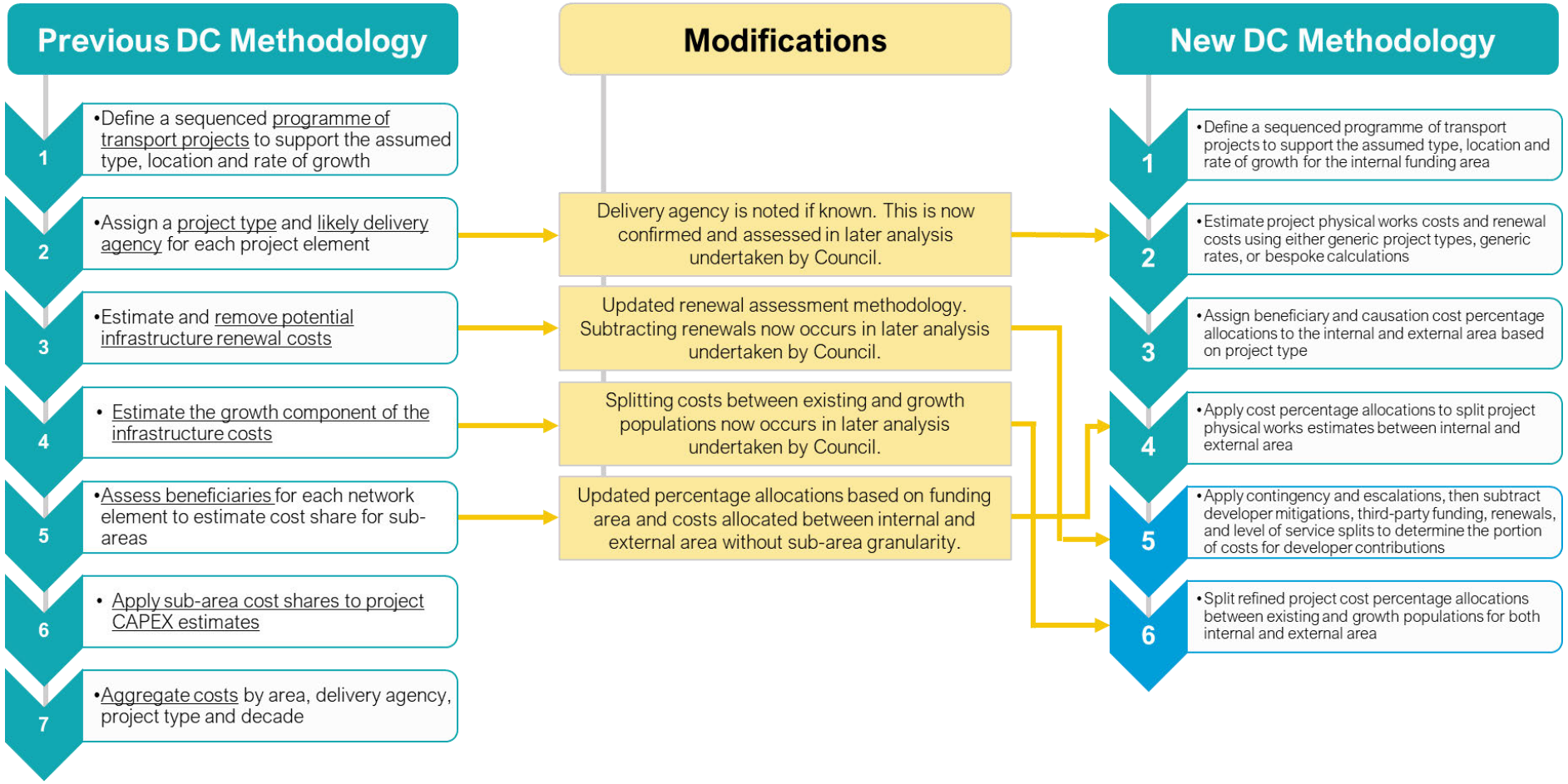

Figure 3-2: Illustration of key modifications from previous Drury development contributions assessment methodology

3.1 Areas of Assessment

A full transport system has been planned for each funding area and adjacent areas that integrate into the existing system. This full network is considered necessary for those local communities to be connected and integrated. As such, the proposed network helps enable the function of the wider community rather than solely individual developments. This connected-network approach implies that smaller sub-areas would not be appropriate. For the ongoing DC workstreams, the funding area is defined by Council, as is assumed in this report.

Live-zoned areas will often have precinct plan provisions staging development until specific transport infrastructure is provided. This means that developers will often agree with the road controlling authority to directly fund or physically deliver infrastructure as part of mitigation and/or development of their site. This is addressed this by discounting the costs included in the DC policy by excluding components that are likely to be provided by developers (see **Section 3.2** below).

3.2 Cost to be Included

The Council DC Policy 2022 notes specific asset costs that should not be included in the DC assessment:

> 28. Within these activities, development contributions will not be required to fund:
>
> a. operating and maintenance costs
> b. any part of capital expenditure projects that is funded from another source
> c. costs incurred by the council to fund renewal of assets and/or to increase existing levels of service that are below the stated service standard.

Only infrastructure base physical works (PW) costs are included in the DC assessments, without consideration of operating and maintenance costs. The level of discounting of costs for typical components likely to be provided by developers vary for each DC workstream as they are dependent on each project type. The DC Policy requires exclusion of asset renewal, which is outlined in **Section 3.3**.

3.3 Renewal Costs

As noted in the Council DC Policy 2022, costs associated with renewal of existing infrastructure should not be included in the DC assessments. The existing local transport network in the funding areas comprises of urban and/or rural roads, of which many of the roads will be upgraded or converted to a different form. Unlike the Drury DC, which was primarily a greenfield environment, brownfield environments typically do not involve rural or new roads. Therefore, renewal elements are especially relevant to brownfield environments.

The PW cost estimates for the projects often assume re-construction of the existing road to provide the appropriate urban streets. As such, it is likely that those re-construction costs would replace or remove the need for renewal of those roads if they are not reconstructed. An estimate of renewal costs is therefore made and removed from the PW cost estimates. This implies that a proportion of the reconstruction PW cost estimates should apply to existing rate payers rather than to new urban development.

Renewal rates are determined under advisement from AT and vary for each DC workstream depending on the project type and are applied by Council after the beneficiary assessment stage.

4 Causation/Beneficiary Assessment

4.1 Causation/Beneficiary Assessment between areas

The use of a Causation/Beneficiary Assessment is based on the principle that the project should be funded by those who cause the need for the project and those who benefit from the project. As noted in the Council DC Policy 2022, the DCs are levied in accordance with the Local Government Act (2002). Clause 197AB (1)(c) of the Act specifically notes the following in this regard:

> (c) cost allocations used to establish development contributions should be determined according to, and be proportional to, the persons who will benefit from the assets to be provided (including the community as a whole) as well as those who create the need for those assets:

This notes that DCs should be allocated both to those who cause the need for the project as well as those who benefit from it. Based on this directive and the guidance from AT based on other DC policy applications, the following approach was adopted:

1. Allocate PW costs based on those who cause the need for the project (causation analysis)
2. Allocate PW costs based on those who benefit from the operation of the project (beneficiary analysis)
3. The adopted allocations for the funding area are based on a 50:50 weighting of these two assessments.

The beneficiary analysis allocates spatially between the internal funding area and the external area (see

Figure 4-1). Shares are proportionally allocated based on an assessment of the areas, communities or movements that would gain improved transport outcomes.[1] This assessment may also be informed by regional transport model trip proportions relative to the internal area, assuming that benefits gained are proportional to usage. The spatial allocation shares are determined individually for each funding area.

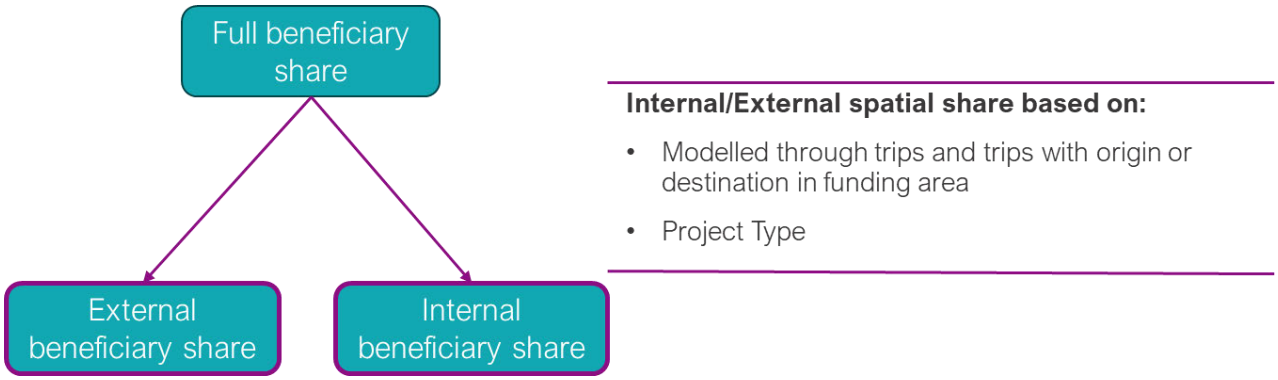

Figure 4-1: Breakdown of causation/beneficiary share allocation

The causation analysis follows a similar process, but instead considers whether the projects are likely to provide capacity or outcomes directly needed to support the planned urban development. As such, the causation spatial allocation is typically weighted further towards the funding area than the beneficiary allocation. The weighting of the causation can differ based on the project type, purpose, and role for internal or external growth purposes.

[1] This includes improved accessibility, safety, travel choice, and network resilience.

The type and scale of benefit will vary significantly between areas and between projects. For example, transport benefits could include:

- Local or wider-area travellers who benefit from direct usage of the new facility or service (e.g., via greater accessibility or safety).
- Local or wider-area travellers who benefit from having additional transport choices available.
- Local or wider-area travellers who derive a benefit through an improved overall transport system, even if they don't directly use the facility (e.g., indirect benefits through reduced congestion or improved network resilience).
- Local or wider-area communities that benefit from reduced vehicle movement through their neighbourhoods (e.g., through improved safety and amenity).
- Local or regional communities who benefit from the projects helping imbed changes in general travel behaviours (e.g., a shift to more sustainable travel modes).

Beneficiaries could be either people who gain direct and regular benefits (e.g., improved accessibility between communities), or less direct and less frequent benefits (e.g., improved travel choices or a more resilient network). Additionally, the scale and timing of benefits for some project elements will be dependent on the timing of other elements in the network. For example, the improved accessibility benefits of a new link could be different depending on if another proposed new link is assumed to be in place at that time horizon.

Some benefits are estimated analytically (via traffic model predictions). However, this is less feasible for benefits such as improved travel choices and network resilience. It can also become complex and require judgement to explicitly weight the different types of benefits to a single result. As such, analytical estimation of benefits is treated as supplementary information to inform judgement on the distribution of benefits. Additionally, analytical results from transport models are also much more sensitive to the assumptions used in the model, such as the level of growth and inter-dependency with the presence of other projects.

4.2 Further Causation/Beneficiary Assessment

The process described in **Section 4.1** allocates project PW costs between internal and external areas only. Further DC analysis, including escalation, mitigation adjustments, and further splitting of external causation and beneficiary shares between existing and growth populations, is conducted by Council. See Council's supporting information for the Development Contributions policy for more information.

5 Illustrative Example of Causation/Beneficiary Assessment

This section outlines an example to illustrate the application of the Causation/Beneficiary Assessment methodology. The inputs are not representative of any project and are provided to support the demonstration of the example.

5.1 Inputs

- Project X involves an upgrade of an existing urban arterial road to a strategic facility. Its primary role included both supporting adjacent local urban development and providing improved regional multi-modal connections and network resilience.
- The indicative PW to fully redevelop the corridor into the proposed new form is $150 million.

5.2 Worked Example

1. The external share for this project was set at 40% for causation, being a strategic project needed in response to both local and external purposes. Therefore, the internal causation share is 60%.
2. The beneficiary external share for this project is set at 50%, being a strategic project supporting trips with local and external purposes. Therefore, the internal beneficiary share is 50%.
3. The average of the causation and beneficiary assessments gives 45% for the external area and 55% for the internal area.
4. Applying the shares to the $150 million PW gives an external PW share of $67.5 million, and an internal PW share of $82.5 million for Project X.

Table 5-1: Illustrative example of physical works allocation

Step	Value	Calculation
1	**Internal causation** share from external share	100% - 40% = 60%
2	**Internal beneficiary** share from external share	100% - 50% = 50%
3	**External** share	(40% + 50%) / 2 = 45%
	Internal share	(60% + 50%) / 2 = 55%
4	**External** PW share	$150M x 45% = $67.5M
	Internal PW share	$150M x 55% = $82.5M

6 Consideration of Uncertainties

As noted in the discussions above, there are uncertainties in most of the key inputs and assumptions required for this assessment. **Figure 6-1** indicates several of the inputs, assumptions and methods that are required for this assessment. These kinds of uncertainties are inherent given the scale and timeframes for programmes of these kinds involving major urban expansion, especially in a greenfield setting. The approach adopted recognises these uncertainties, enabling DC workstreams to:

- Use simplifying methodologies where suitable,
- Build up the assessment from specific project elements that would allow Council to update the assessments as new information becomes available,
- Aggregate the assessment at a larger, programme level that could be more resilient to changes in specific individual items; and,
- Undertake high-level sensitivity testing using different assumptions.

Each funding area for which this assessment is applied should consider and discuss the key uncertainties relevant to the area.

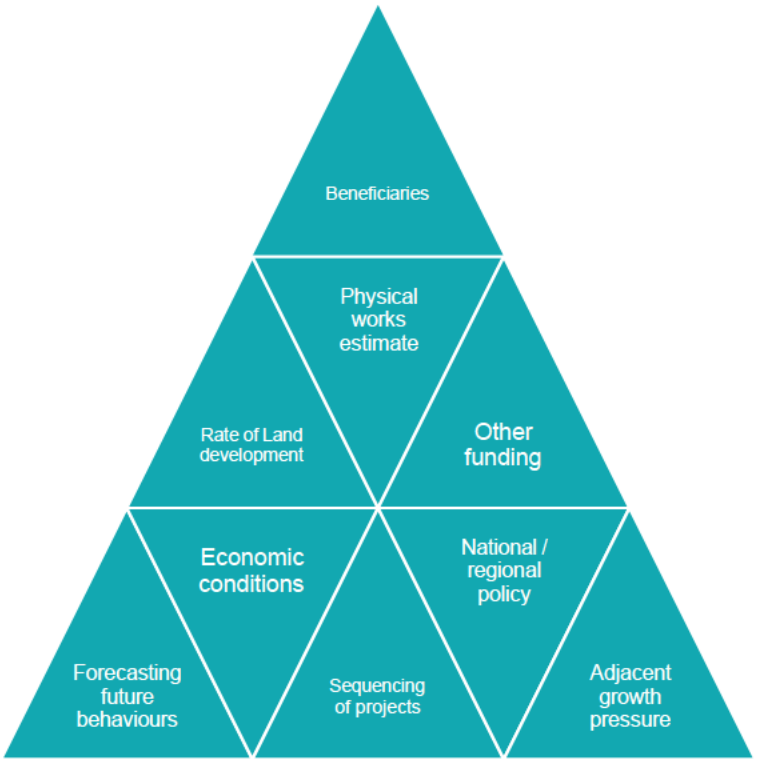

Figure 6-1: Illustrative Combination of Key Risks and Uncertainties

This technical note has been included within the Sharepoint Link