

Te Pātukurea Kerikeri-Waipapa Spatial Plan

Scenario Comparison

Transport

18/10/2024

Scope and Assumptions

This report provides a high-level review of the spatial plan scenarios in regard to Transport requirements. The purpose is to inform scenario comparison (differentiators).

More detailed analysis and costing will be undertaken at the preferred scenario stage.

Assumptions:

- Growth assumptions have been taken from the Spatial Plan work to date
- Committed upgrades include Kerikeri Rd bypass, Hall Rd connection and Hone Heke roundabout
- Local roads within growth areas will be developer funded and delivered (and vested to Council).
- Intersections with existing Collector / Arterial Roads are included, however these may also be developer funded (uncertain)
- State Highway upgrades are excluded (100% NZTA funded)

Uncertainty in the cost estimate includes market conditions and construction contingencies to cover unforeseen items during construction. We have included an appropriate contingency allowance to provide a best estimate of the cost to completion for the most likely option.

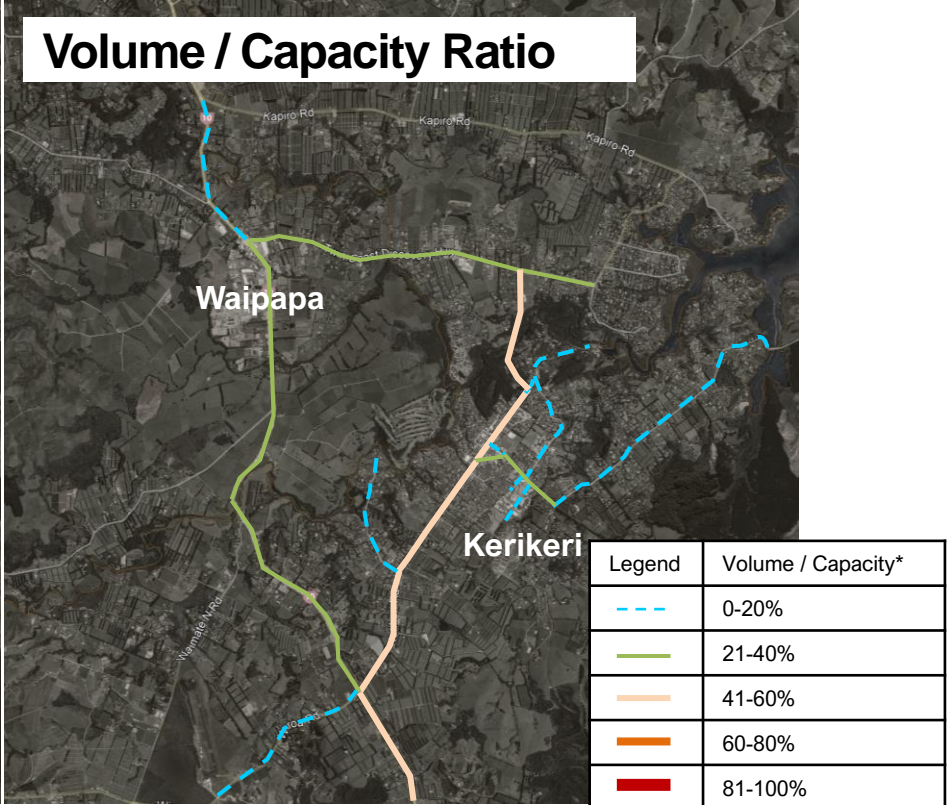
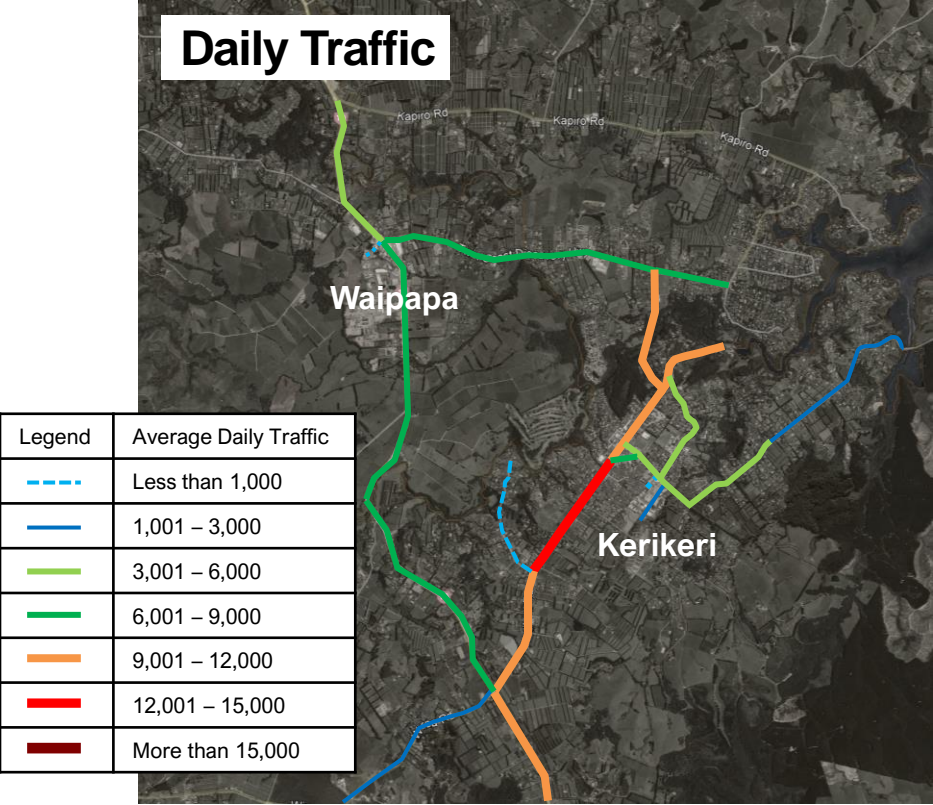
These estimates are based on concepts and should not be used for budgeting purposes.

The following optioneering cost estimates have been prepared for Far North District Council for the Te Pātukurea Kerikeri-Waipapa Spatial Plan Scenario Comparison Transport. The estimated costs included in this report are high-level, indicative assessments which have been developed solely for the purpose of comparing and evaluating the options.

* Kerikeri Transport Model, Forecast Model Development Report, Flow, 2024

Transport Context

Existing Traffic Volumes



Note: Estimated hourly volume is 12% of daily traffic.
 Estimated road capacity is 1,400 veh/lane/hr.

Projected Traffic Volumes (10yrs)

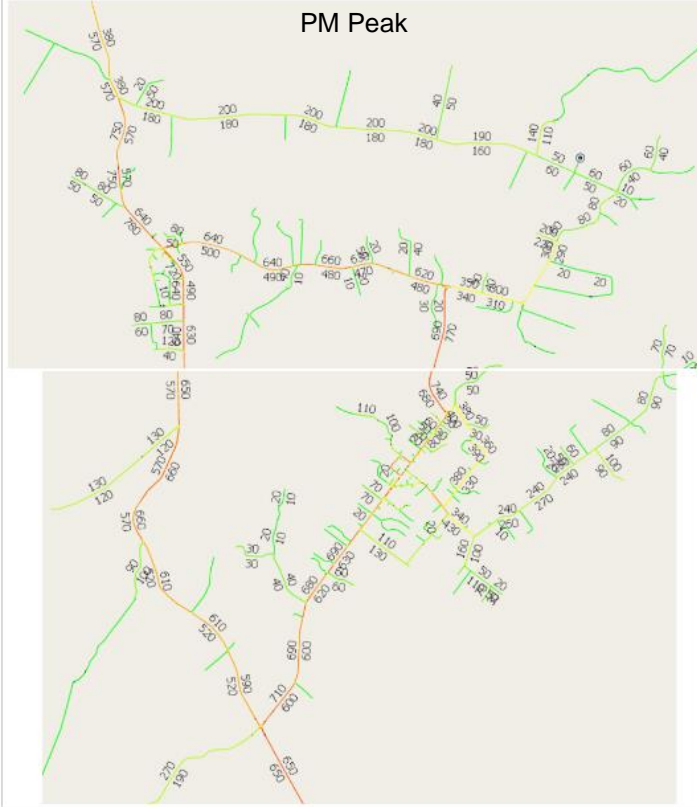
Forecast Do Minimum (2032) traffic flows

AM Peak



Forecast Do Minimum (2032) traffic flows

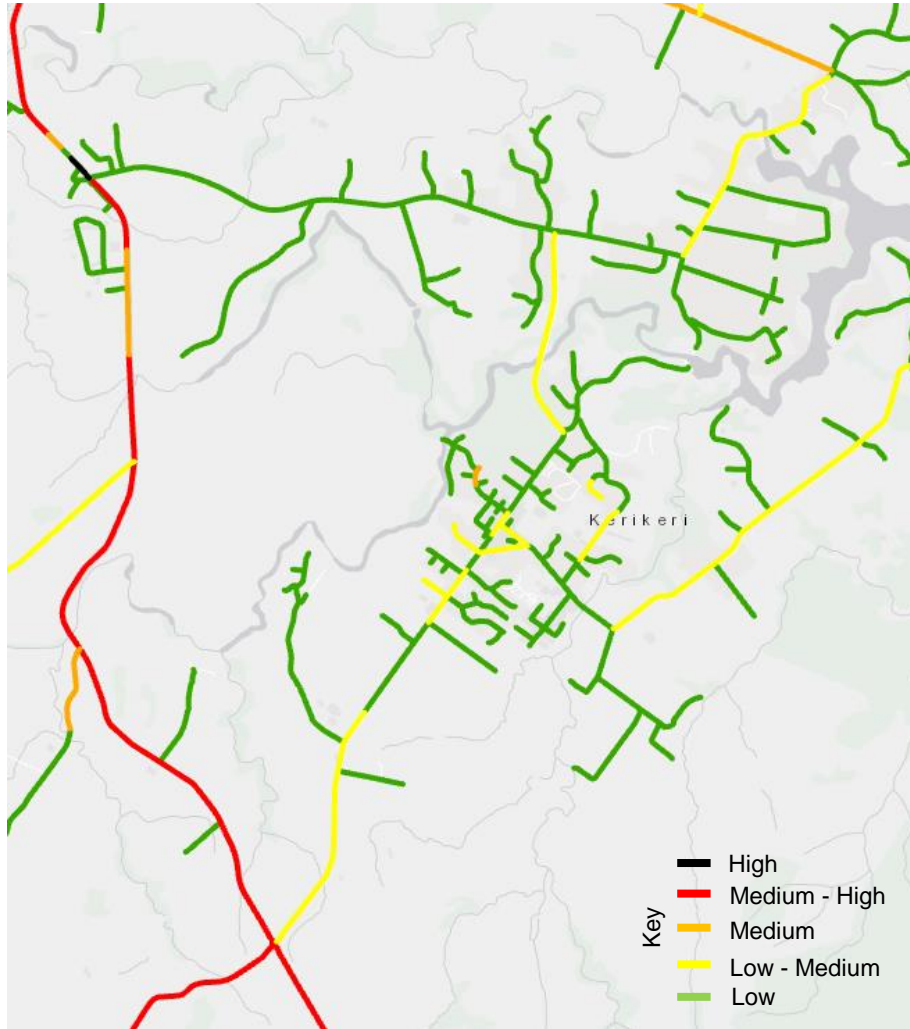
PM Peak



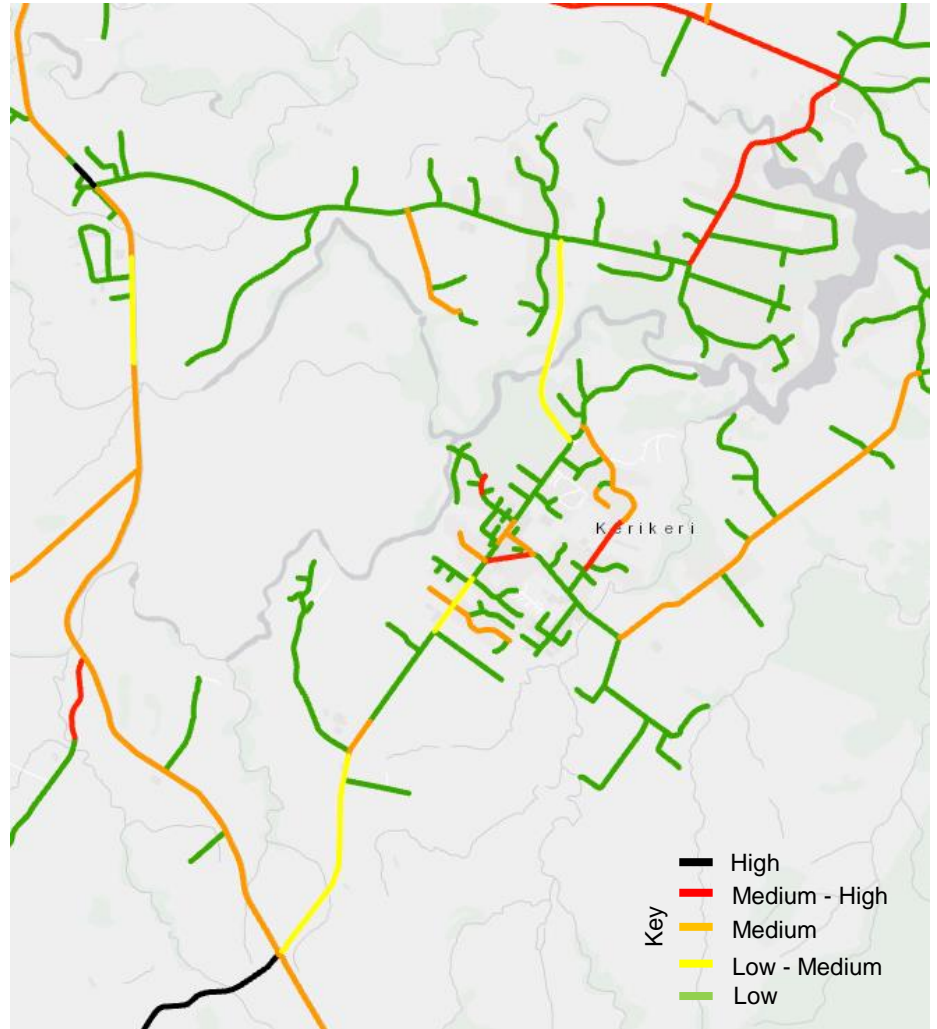
Traffic modelling* indicates the network is within capacity for the next 10 years but some links are approaching capacity

Road Safety

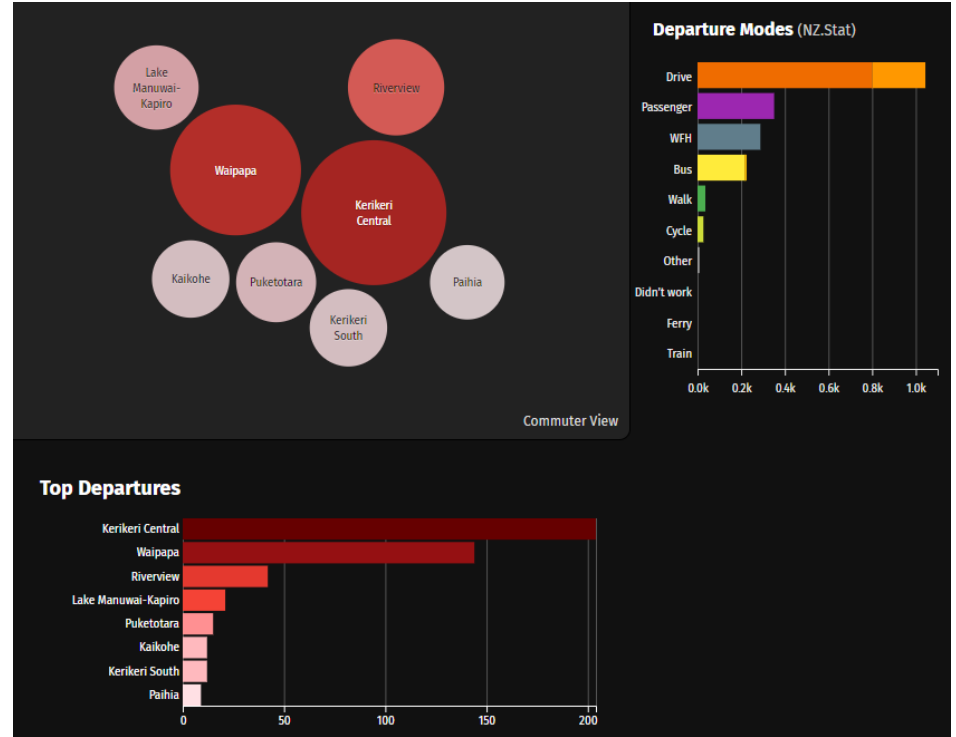
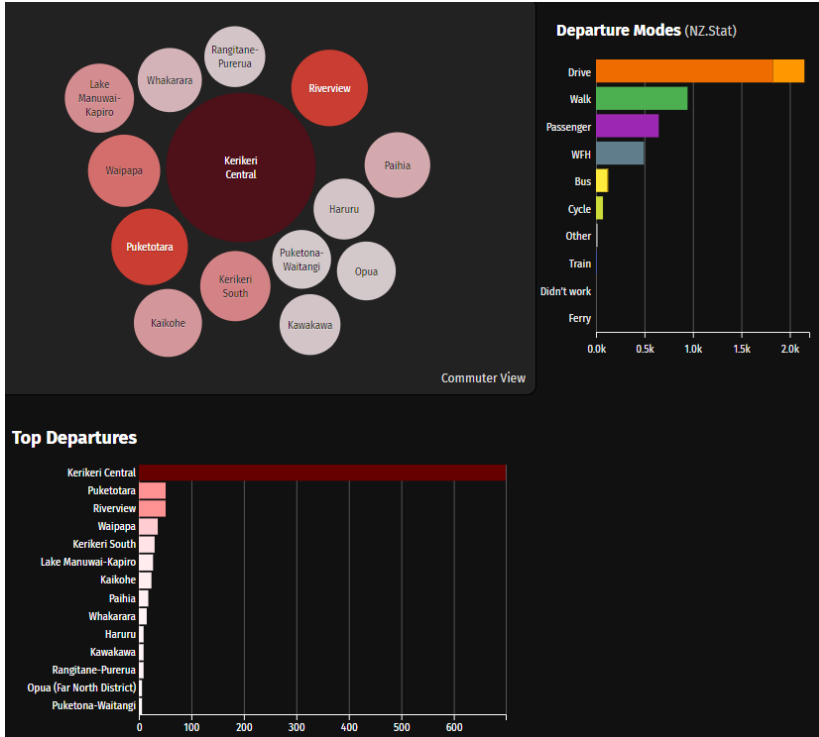
Collective Risk



Personal Risk



Traffic Movements



Origin / Destination data from the 2018 Census shows high flows between Waipapa and Kerikeri and high internalisation within Kerikeri. Travel is predominantly by private vehicle.

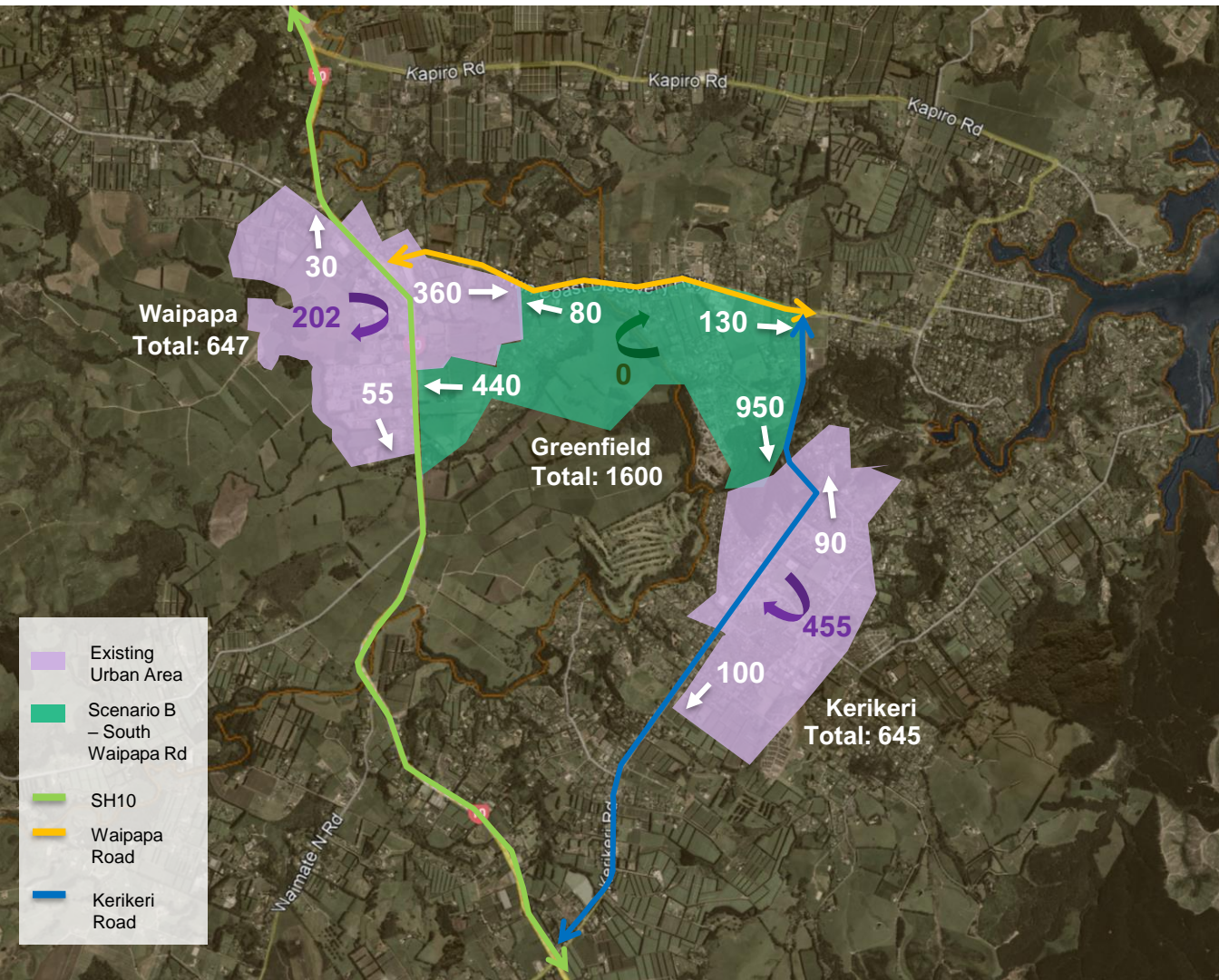
Analysis of Growth Options

Vehicle Trip Generation (residential peak hour trips)

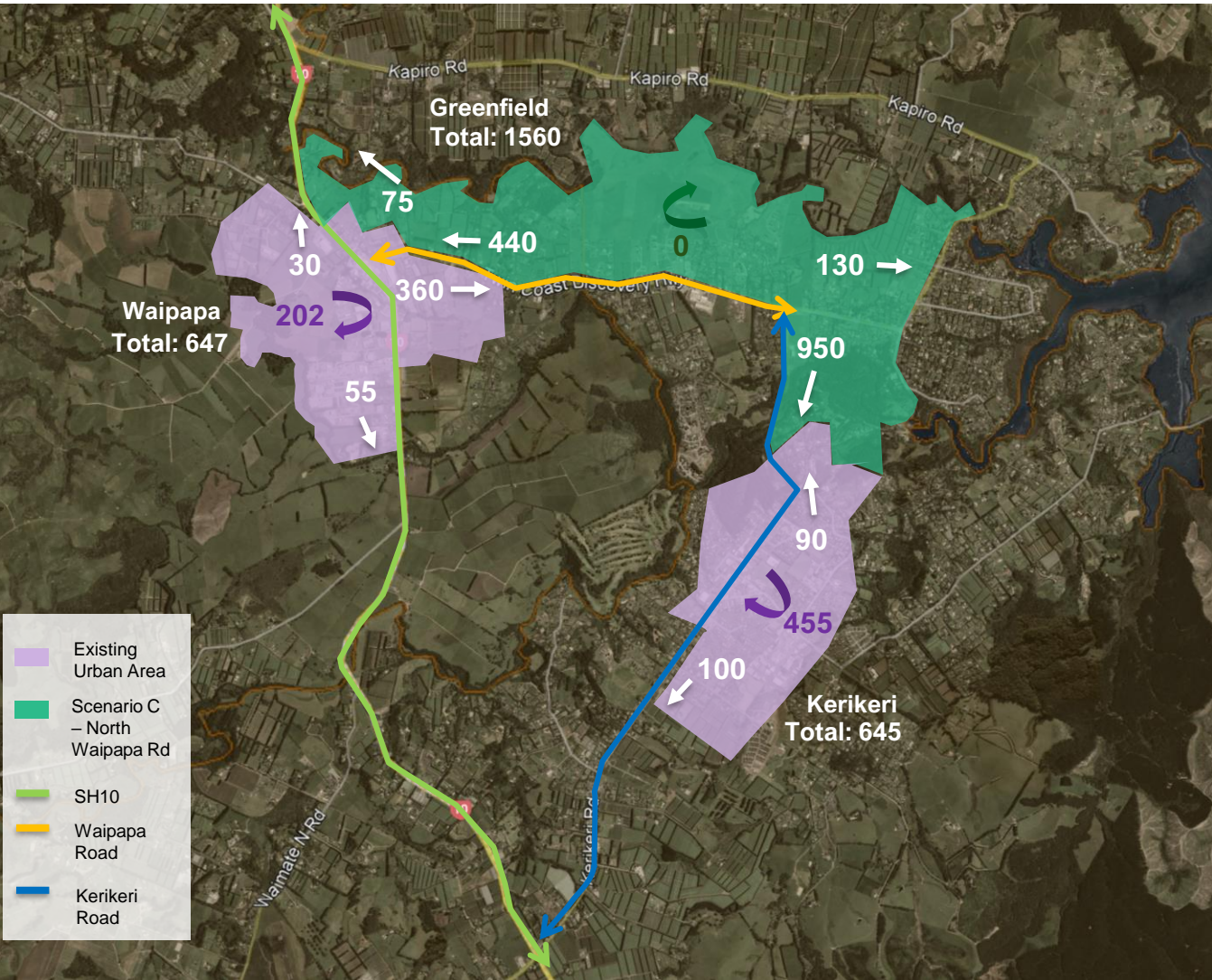
Existing population	14,000	
Projected population in 30 years	20,000 high growth projection	
Projected additional housing	4,690 conservative / high assumption	
Residential trip rates - peak hour	0.5	Urban areas (less car use, smaller hh, older populations)
	0.85	Greenfield areas
	1	Rural
Residential trip generation		
Scenario B	3,150	
Scenario C	3,150	
Scenario D	3,050	
Scenario E	3,050	
Scenario F	3,050	

Scenarios D – F have slightly lower trip generation due to higher brownfield development

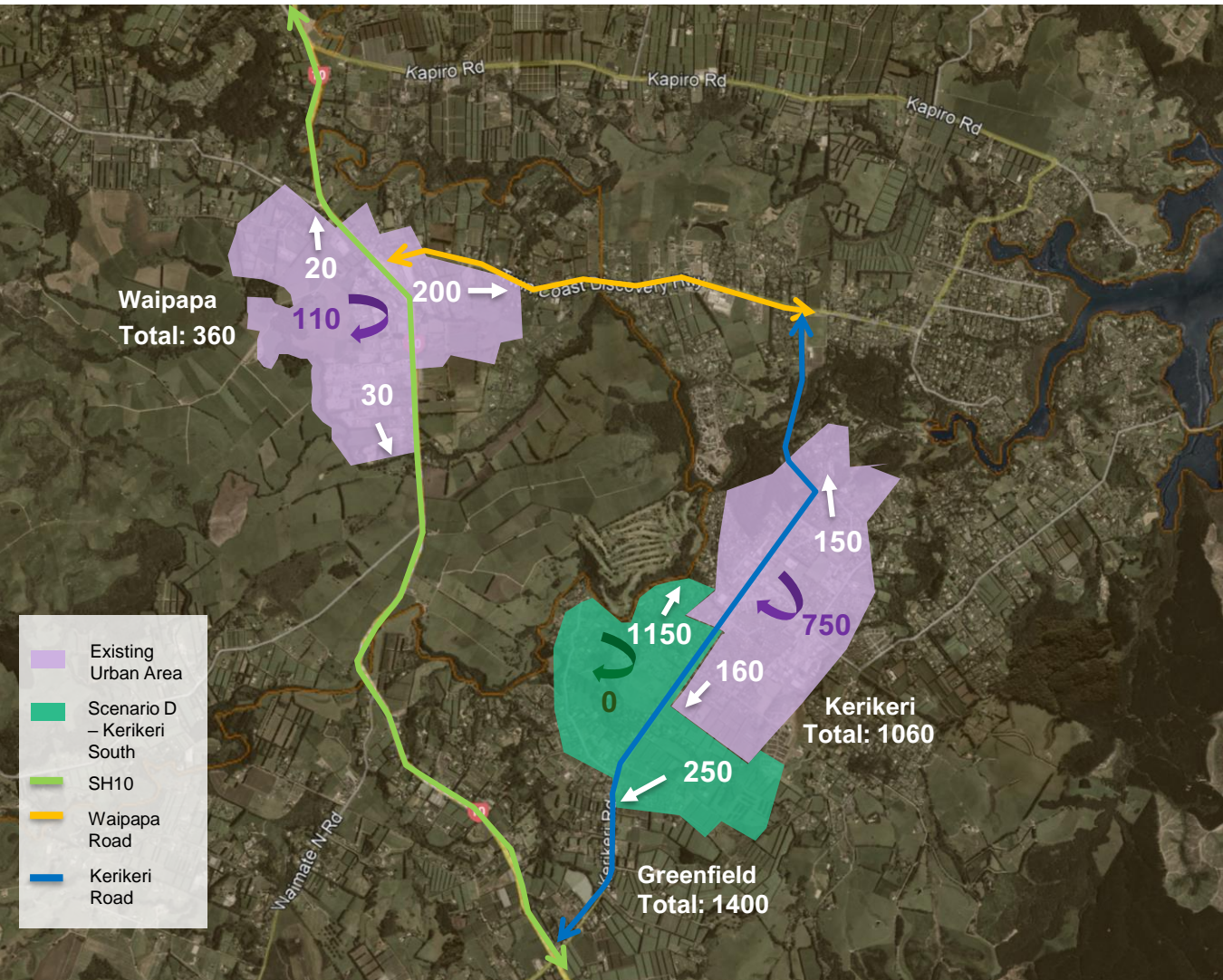
Trip Generation (AM peak hour): Scenario B – South Waipapa Road Expansion



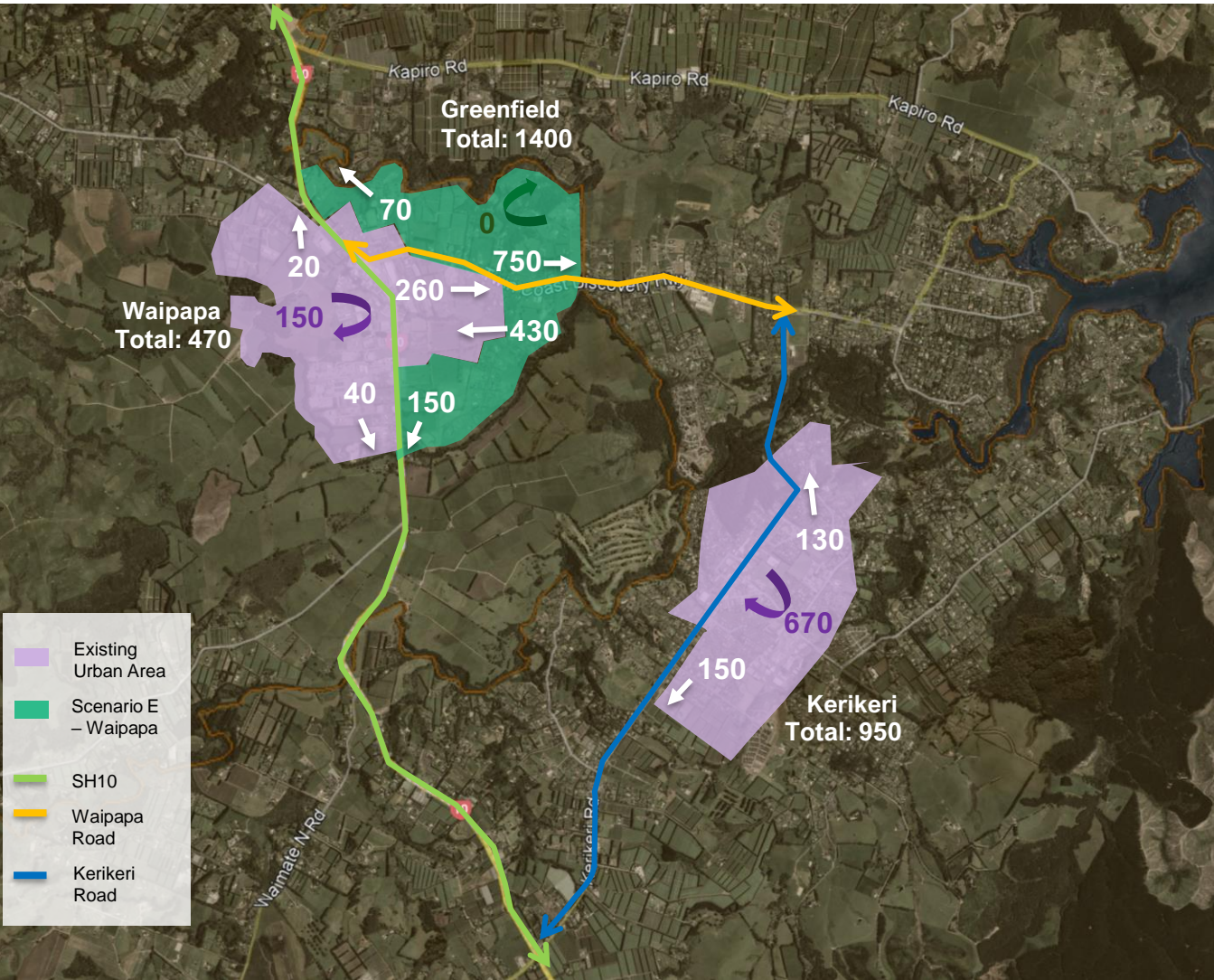
Trip Generation (AM peak hour): Scenario C – North Waipapa Road Expansion



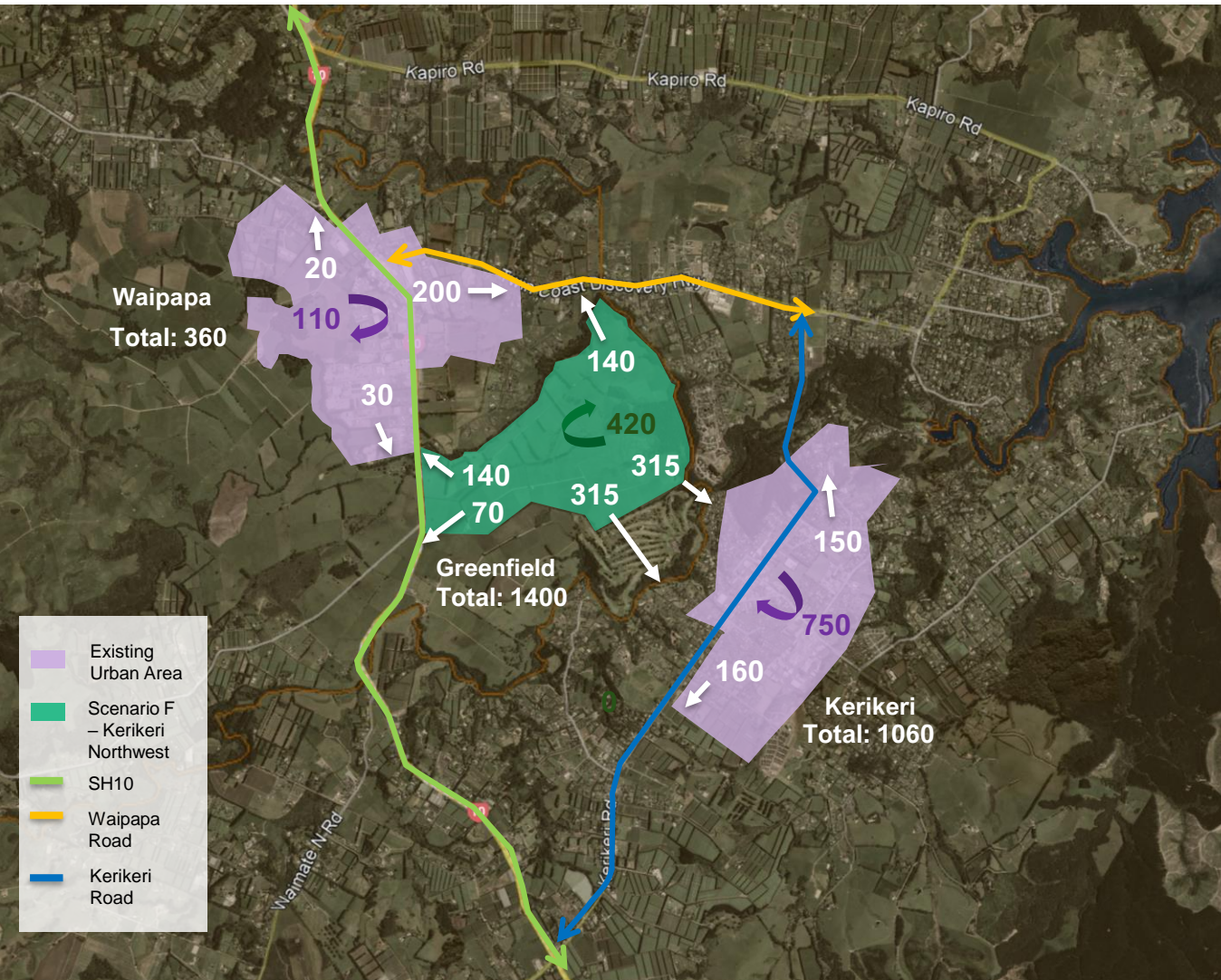
Trip Generation (AM peak hour): Scenario D – Kerikeri South Focused Expansion



Trip Generation (AM peak hour): Scenario E – Waipapa Focused Expansion

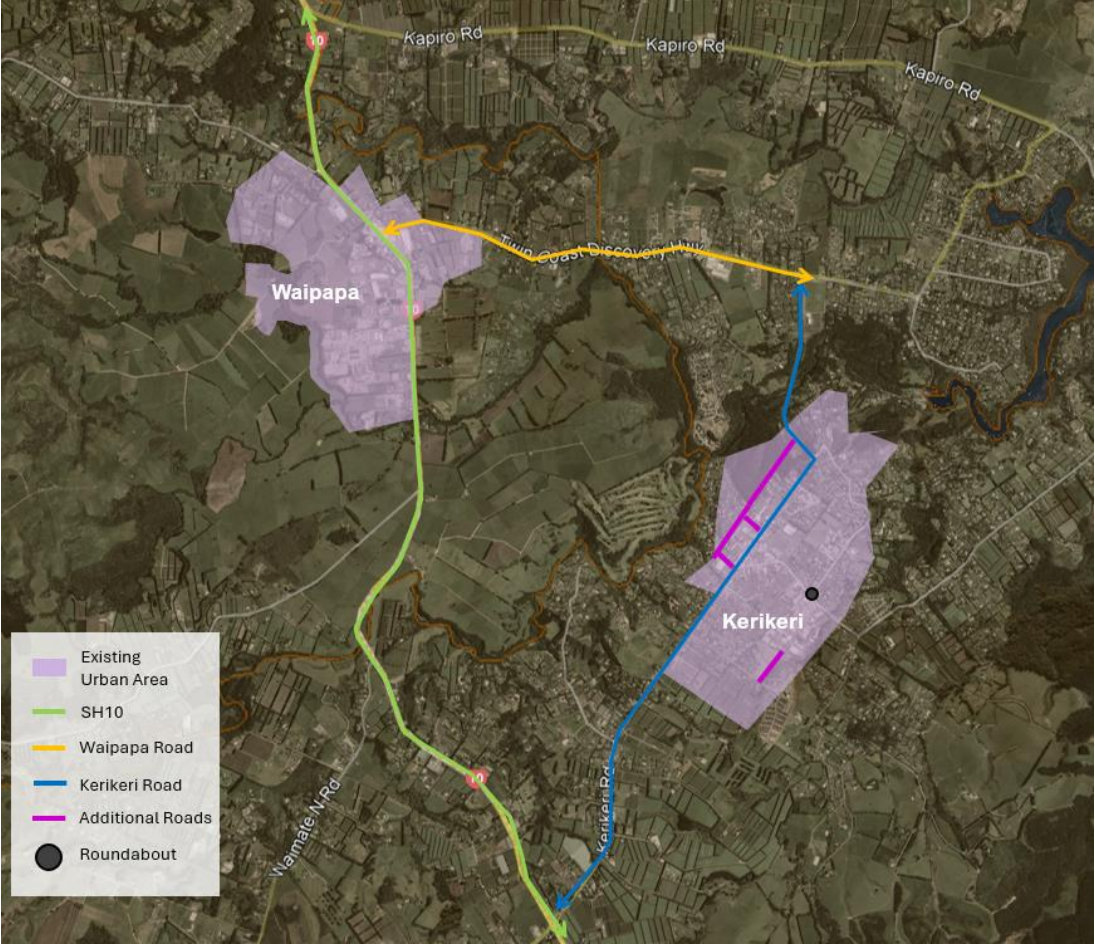


Trip Generation (AM peak hour): Scenario F – Kerikeri Northwest Expansion



Potential Transport Upgrades

Scenario A – Proposed District Plan Implementation



Do Minimum Transport Upgrades

1. Kerikeri Road Bypass
2. Hone Heke Road roundabout
3. Hall Road – Mill Lane connection

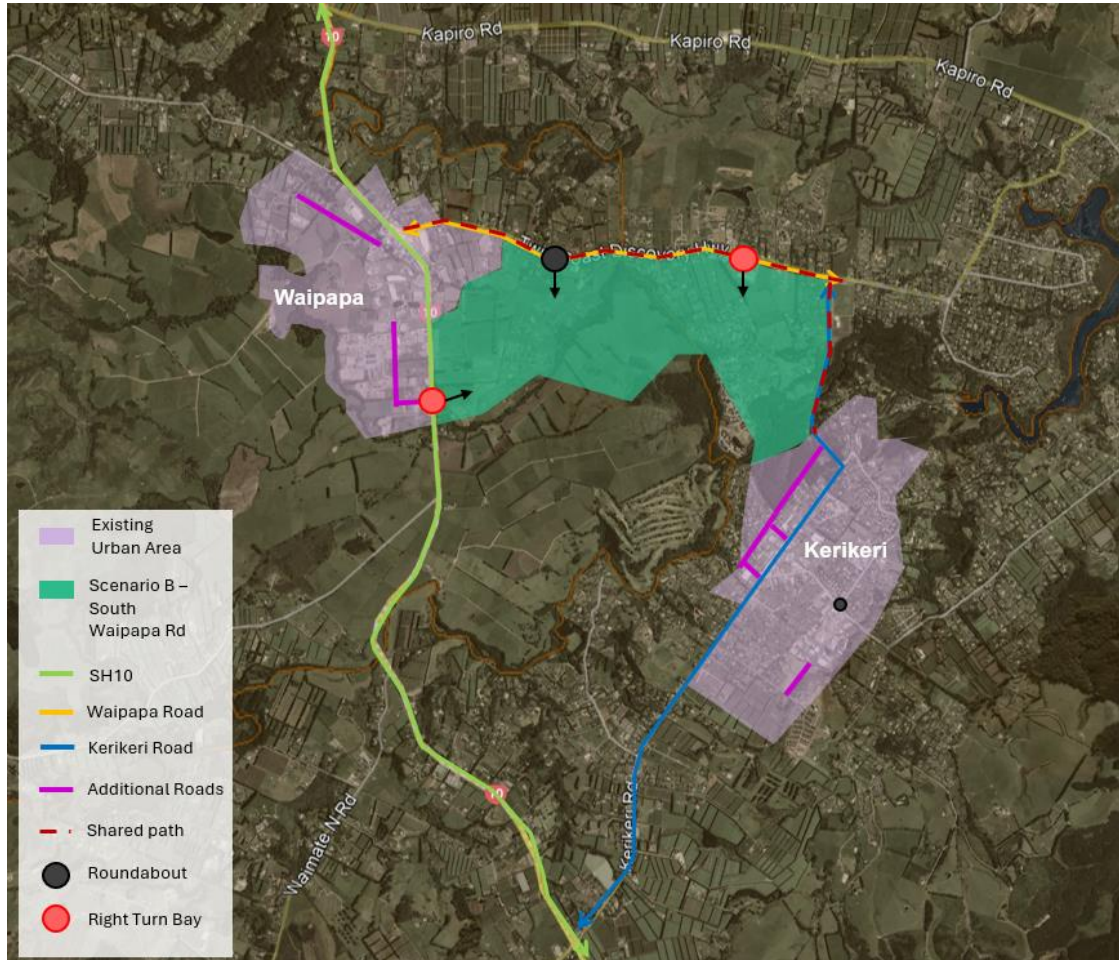
Unknown / High uncertainty with dispersed growth

Cost order of magnitude: \$32M-\$43M (plus unknown upgrades due to dispersed growth) High cost

Timeframe:

- Medium term: 10 - 20 years

Scenario B – South Waipapa Road Expansion



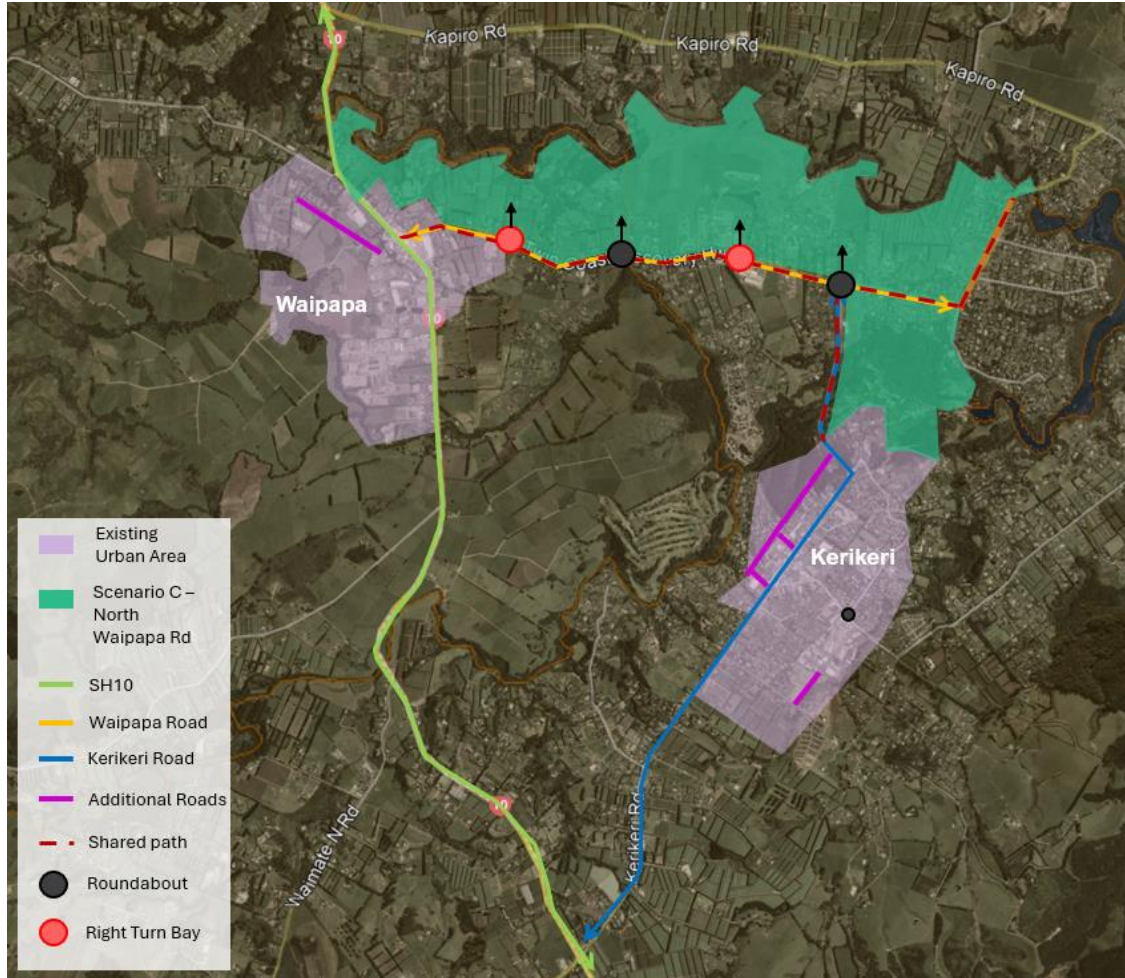
Major Transport Upgrades

1. Waipapa collector road
2. Intersections as shown
3. Path upgrade Waipapa Road
4. Bus service (not costed)
5. Bus stops
6. Pedestrian crossings
7. Street lighting
8. Speed limit review

Cost order of magnitude: \$45M-
\$55M + Do Min

Risk – capacity of Heritage
Bypass

Scenario C – North Waipapa Road Expansion



Major Transport Upgrades

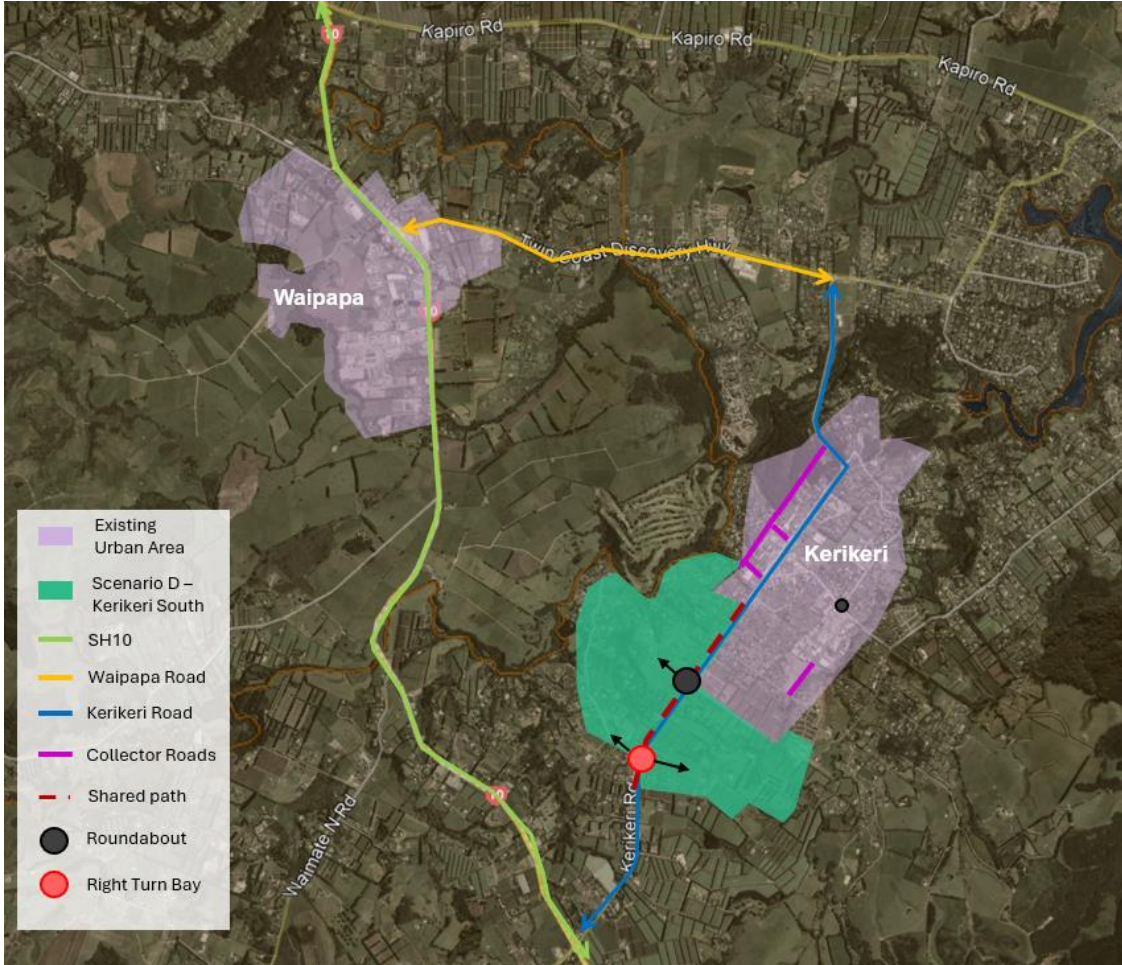
1. Waipapa roading
2. Intersections as shown
3. Public Transport service
4. Bus stops
5. Pedestrian crossings
6. Path upgrade Waipapa Road
7. Street lighting
8. Speed limit review

Cost order of magnitude: \$45M-
\$55M + Do Min

Risks – capacity of Heritage
Bypass

Capacity of SH1 intersection

Scenario D – Kerikeri South Focused Expansion

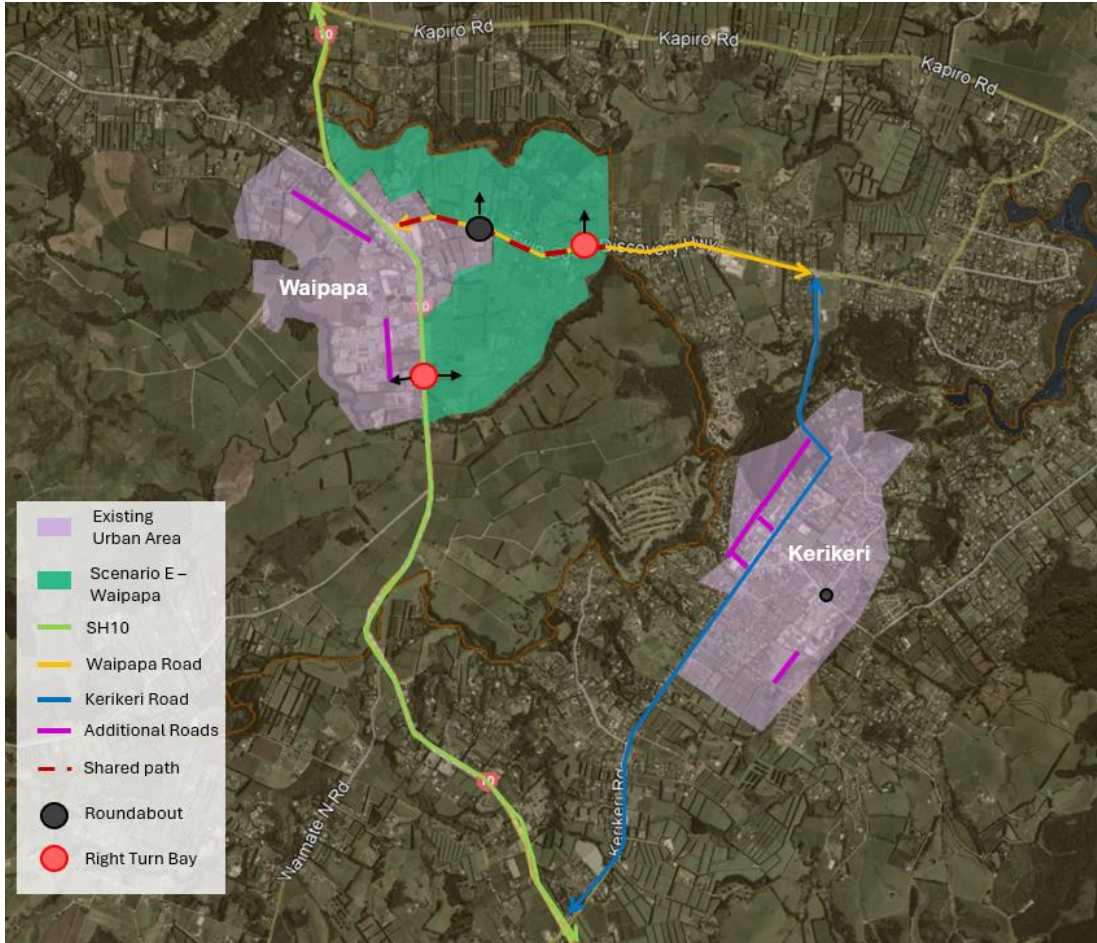


Major Transport Upgrades

1. Kerikeri collector road
2. New intersections as shown
3. Pedestrian crossings
4. Kerikeri Road shared path

Cost order of magnitude: \$15M
- \$21M + Do Min

Scenario E – Waipapa Focused Expansion



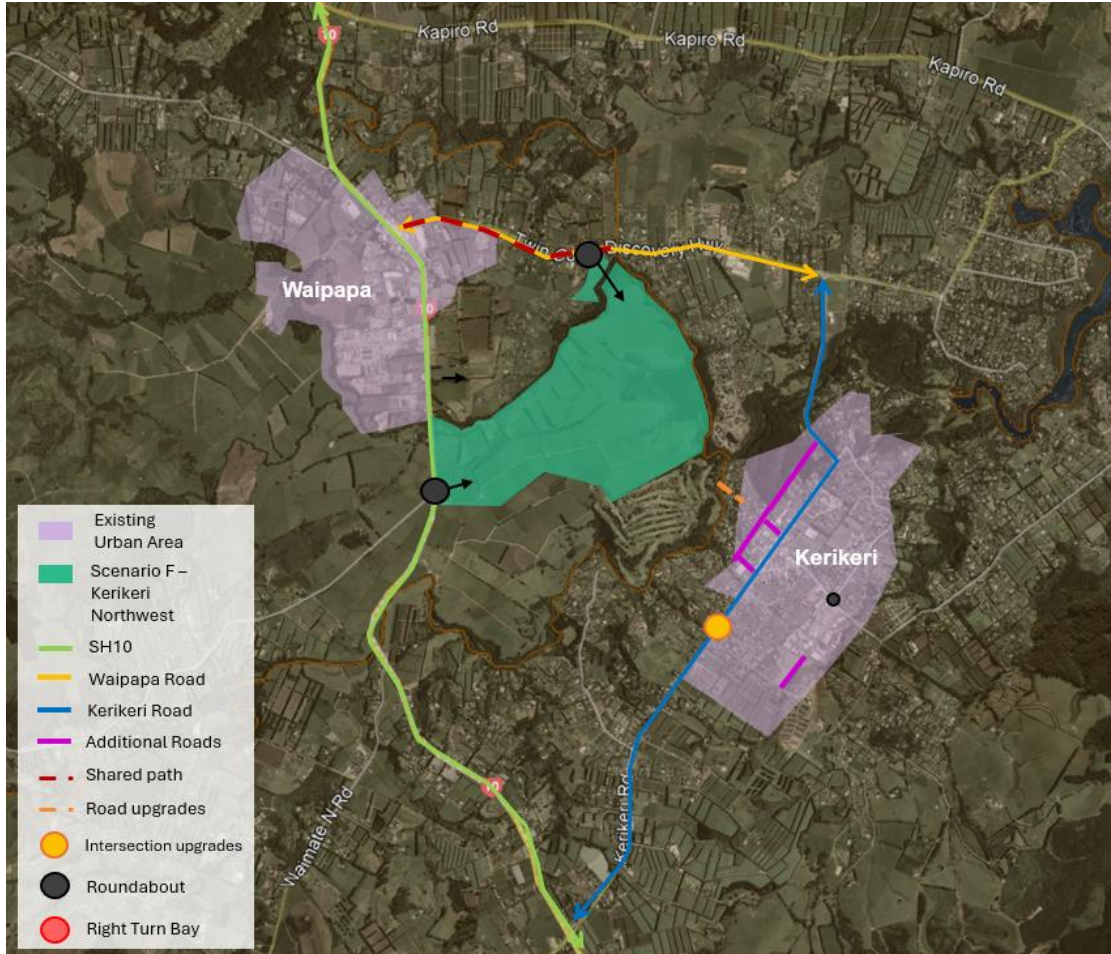
Major Transport Upgrades

1. Waipapa collector road
2. New intersections as shown
3. Public transport service
4. Bus stops
5. Pedestrian crossings

Cost order of magnitude: \$40M
- \$50M + Do Min

Risks – Capacity of Heritage
Bypass
Capacity of SH1 intersection

Scenario F – Kerikeri Northwest Expansion



Major Transport Upgrades

1. New intersections as shown
2. Potential upgrade to Golf View Road
3. Potential upgrade to Aranga Road / Kerikeri Road
4. Public transport service
5. Bus stops

Cost order of magnitude: \$24M - \$31M + Do Min

Risks – existing Golf View Rd bridge will need upgrading and 2 x new bridges (assumed to be developer funded, if not costs will be higher)

Design and Construction Challenges

General challenges

- Unknown ground conditions and services, unknown capacity of stormwater network
- Flood prone areas
- Limited road corridor space

SH10

- Power along west side of road
- Narrow shoulders, increase width closer to Waipapa centre
- No footpath prior to Skippers Lane
- Limited space to widen road without affecting roadside drainage
- If widening, would need to provide kerb & channel, stormwater present but capacity unknown
- Road widening may affect Skippers Lane operational / layout
- Verified HAIL site off Skippers Lane

SH10 / Waipapa Road Roundabout

- Limited space outside of roundabout, internal diameter of roundabout is large, may be able take some of this to create double lane RAB
- Safety issue with marked shoulders through roundabout, cyclists may think they have priority when riding in marked shoulders, riding on the far left are less likely to be seen.
- If cycle facilities provided on adjacent roads would like to see shared paths with cycle on/off ramps so cyclists can bypass roundabout

Waipapa Road - Twin Coast Discovery Highway (west to east)

- Power along south side of road
- Limited streetlighting
- Narrow cycle lanes
- Footpath only on northern side from SH10 to Lacebark Lane then changes to southern side - no formal crossing point where footpath changes side
- Limited space for widening road
- No SW main between Harmony Lane and Lacebark Lane
- Large trees are roadside hazards - unknown ownership

Waipapa Rd / Kerikeri Bypass roundabout

- No crossing point on western side of roundabout
- May need to take space from sports field and vegetated areas for improvements
- Large amount of vegetation on south-west corner

Kerikeri Heritage Bypass (north to south)

- Heavy vegetation along west side and east side once south of Kerikeri sports complex
- No overhead power along route
- Footpath on east side of road only
- Two-lane bridge over Waipেকakoura River (Kerikeri River) with path on east side only
- Steep hills down to bridge

Kerikeri Road

- Power on east side
- Narrow footpaths on both sides for urban area
- On-street parking, no cycle lanes
- Roundabouts have narrow crossing points on all approaches
- Lack of other formal crossing points

Cobham Road / Hone Heke Road intersection

- Property boundary restrictions, unlikely to fit standard size roundabout or could purchase property
- Business accesses on western side

Summary and Next Steps

- Scenarios that focus growth in existing urban areas (D and E) generate fewer and shorter vehicle trips than greenfield scenarios B and C
- This translates to lower emissions, more active travel choice
- Costs of intensification scenarios (D, E, F) are lower, and lower risk
- Capacity of Heritage Bypass a key risk that will need further work
- Scenario F has some uncertainty around bridge upgrade costs (developer vs council)
- More detailed analysis of trips and network effects, upgrades and costing is proposed to be undertaken at the preferred scenario stage.