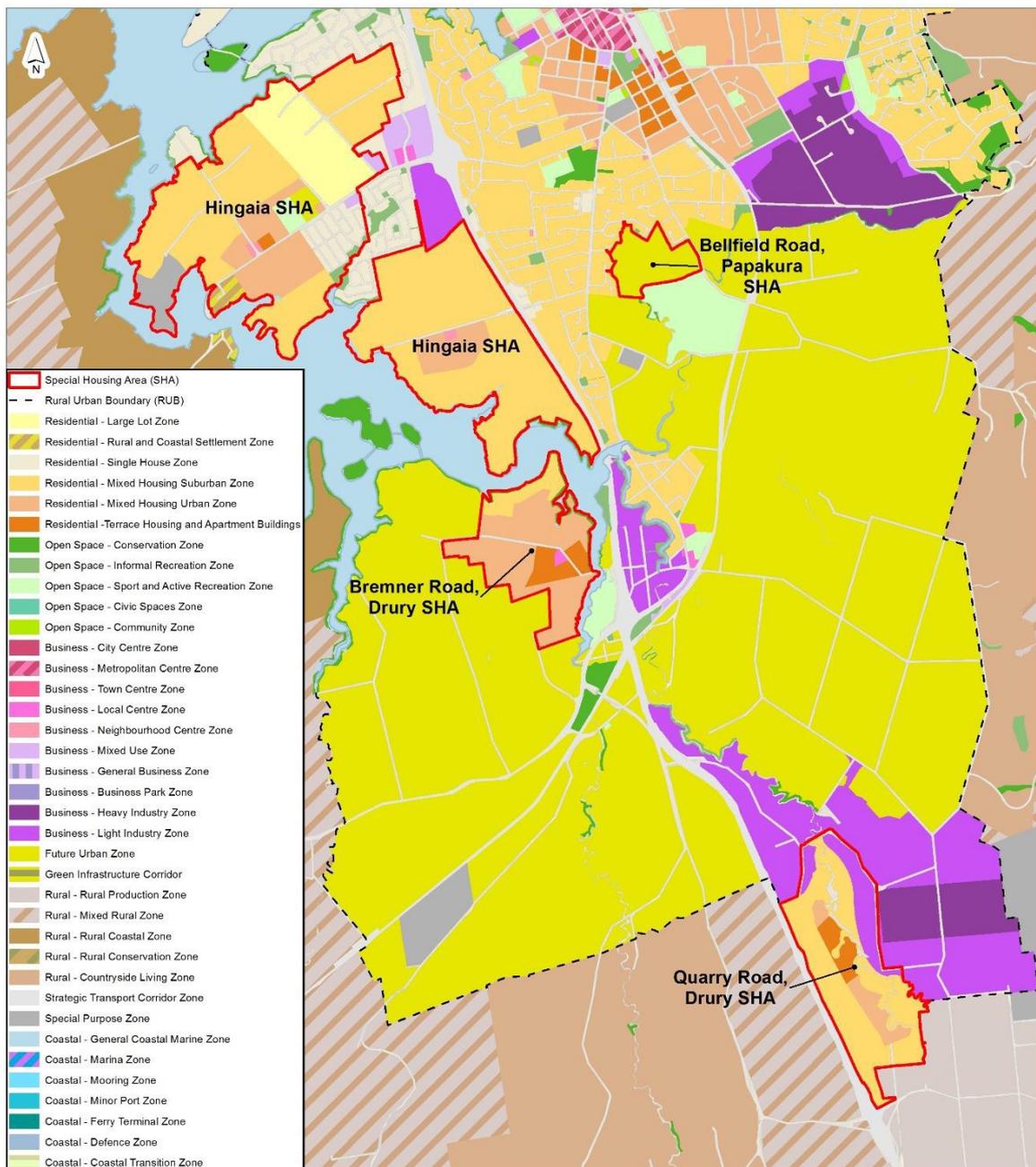


Drury

The Drury growth area, including Opaheke, Drury, Drury South, Drury West and parts of Karaka consists of 2,154 hectares of predominantly rural land, which is the largest greenfield area to be developed in the Auckland Region. It is located 35 km from Auckland’s CBD, 14 km from Manukau and 6km away from Papakura. Including planned development in Hingaia, the area has the capacity for approximately 23,500 dwellings, or nearly 60,000 people.

Figure 19: Opaheke – Drury and Drury West, showing zoning under the Auckland Unitary Plan and the Special Housing Areas

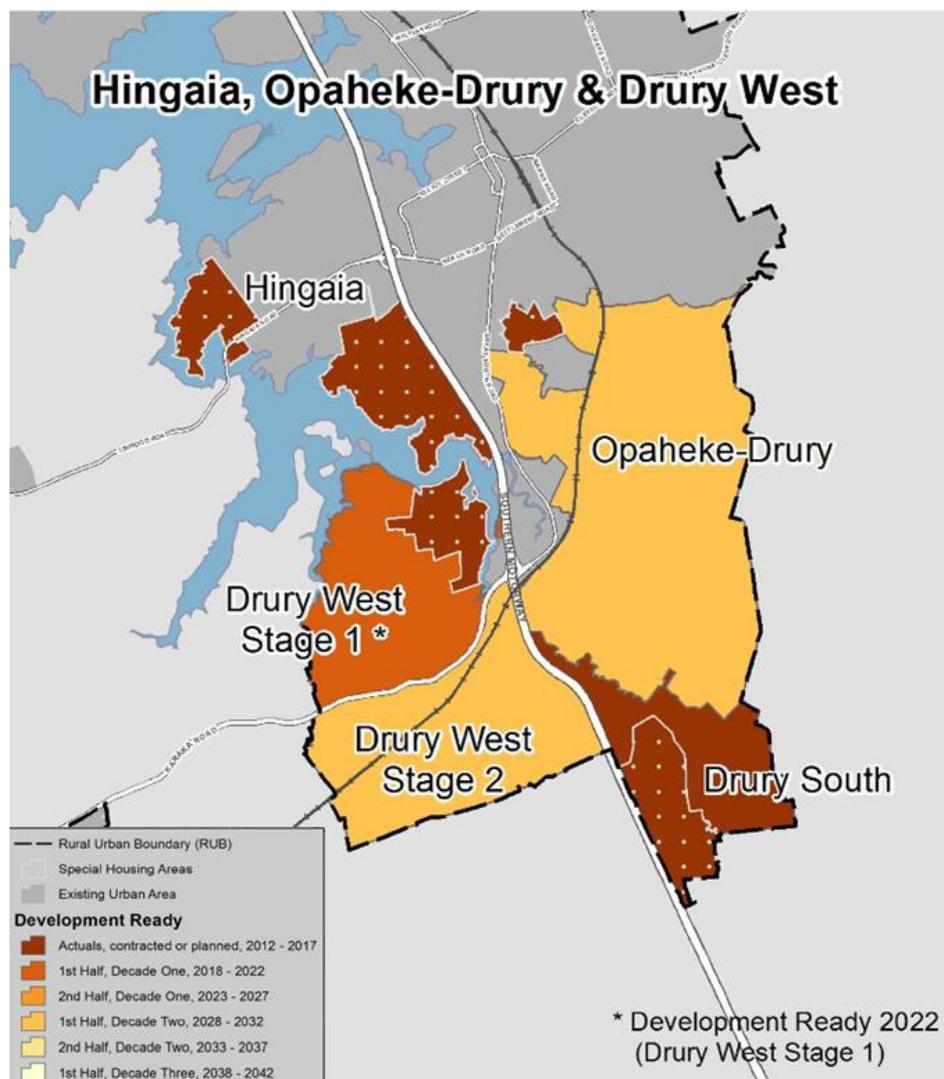


The area is bisected by State Highway One, the southern rail line and in the west State Highway 22 as shown in Figure 19. The area provides for significant opportunities for employment, with the existing Papakura industrial area to the north of Opaheke, the existing Drury industrial area adjacent to SH1 at the centre of the growth area, and the recently

rezoned industrial area (owned by Stevenson’s) to the south. It is anticipated that the Drury area could provide around 422 hectares of business land to provide for local employment opportunities which could yield as many as 12,500 jobs.

Development is already occurring within the Special Housing Areas (SHA) established there (as shown in Figure 19 above). Plan Changes have occurred in each of the SHA’s and consents have been lodged. In each case the plan change has rezoned the area within the SHA from Future Urban to a range of residential zones. As a result, planning for water and waste servicing and transport infrastructure has commenced. While relatively detailed planning has been undertaken within the SHA’s as part of the plan changes and consenting, some infrastructure planning has also occurred to understand the connections between the areas of development.

Figure 20: Future Urban Area sequencing - Opaheke-Drury and Drury West



The Bremner Road SHA is located at the north-eastern corner of the Drury West area (see Figure 19). The recent plan variation in the SHA has rezoned 84.6 hectares of land from Future Urban Zone to a combination of Terrace Housing and Apartment Building, Mixed

Housing Urban, Mixed Housing Suburban, and Local Centre zones and the Drury 1 Precinct was established. This SHA will ultimately provide a yield of approximately 1,350 dwellings.

The Quarry Road SHA was established within the Drury South Structure Plan area. The Unitary Plan rezoned 361 hectares of rural land to industrial land use. A subsequent SHA variation recently rezoned 73 hectares of the Drury South area to residential use; including Mixed Housing Urban, Mixed Housing Suburban and Terrace Housing and Apartment Building zones. This SHA will ultimately provide for around 900 – 1,200 dwellings.

The Bellfield SHA sits at the interface between Papakura and Opaheke. The recent plan change created the Opaheke 1 precinct and rezoned the 26.875 hectares area from Future Urban to Mixed Housing Urban, Mixed Housing Suburban, Neighbourhood Centre and Open Space: Conservation zones. This SHA will ultimately provide for around 500 dwellings.

The majority of the Hingaia Peninsula which sits north of Drury West was also established as a SHA. Recent plan changes have rezoned over 500 hectares of rural land to mostly residential use. It is anticipated that the Hingaia SHA will ultimately provide for 4,500 – 5,000 dwellings.

As shown in Figure 20 under the Future Urban Land Supply Strategy, Stage 1 of the Drury West area (north of SH 22) is expected to be development ready by 2022. Stage 2 of the Drury West area (south of SH 22), and the Opaheke - Drury area is scheduled to be development ready between 2028 and 2032. The following description of infrastructure requirements focuses on what need to be delivered within the next ten years.

Table 17: Proposed dwelling capacity and anticipated business land in Opaheke and Drury

Proposed timing – development ready	Area	Proposed dwelling capacity for each area (approx.)	Gross Business Area (ha.) ¹⁶
Actuals, contracted or planned 2012 - 2017	Hingaia	3,070	0
	Drury South	1,000	223
	Bremner Rd (Drury West)	1,350	0
	Bellfield Rd (Opaheke)	300	0
1st half Decade One 2018 – 2022	Drury West Stage 1*	4,200	0
1st half Decade Two 2028 - 2032	Drury West (Stage 2)	5,700	74
	Opaheke - Drury	7,900	125

6.1 Wastewater

Watercare are in the process of developing a long term strategy that will service Drury West, Opaheke, Drury South and Paerata. These plans rely on the proposed short term and long term wastewater connections for the Bremner Road Special Housing Area.

Stage 1 requires the construction of a pump station to be located at 160 Bremner Road. Wastewater from the Bremner Road development will gravitate to the proposed Bremner Road

¹⁵ Business land referred to in this table is restricted to land extensive business activities such as manufacturing, transport and storage, construction, wholesale trade (e.g. light industrial and general business zones); Business land within neighbourhood, local or town centres is not included.

pump station, which will then convey flows to the existing Hingaia pump station via a single rising main. The pipe will cross under Drury Creek in order to get to the Hingaia pump station which is on the opposite side of the creek at the bottom of the Hingaia peninsula. The Hingaia pump station will convey flows to the Southern Interceptor, and ultimately to the Mangere Wastewater Treatment Plant. The Hingaia pump station has spare capacity for a total of approximately 1,400 dwellings (which will be met by both the Hingaia and Bremner Road SHA developments). Upgrades will be needed to service the medium and long term growth requirements. A new bulk wastewater sewer pipe is also required between the Hingaia pump station and existing bulk assets with capacity in Manurewa. Due to the topography between Hingaia and Manurewa, this will need to be a rising main. Watercare is currently investigating and assessing the feasibility of the options for this infrastructure.

Two options are being considered as outlined in the Southern Growth Area Wastewater Servicing Strategy dated November 2016. The first relies on the rising main eventually bypassing the Hingaia pump station; the second relies on gravity, eventually removing the Bremner Road pump station.

Table 18: Potential wastewater supply projects, timeframes and costs – Drury

Project / Programme	Start	Finish	Indicative Cost (2018)
Hingaia Wastewater pump station and rising main	2018	2022	\$60 million
Opaheke wastewater trunk extension	Not in Asset Management Plan		
Southern Interceptor Augmentation	2018	2027	\$115 million

6.2 Water

A new bulk supply point on the Waikato Watermain will be constructed to supply the Bremner Road development, Hingaia and Drury West areas.

6.3 Stormwater

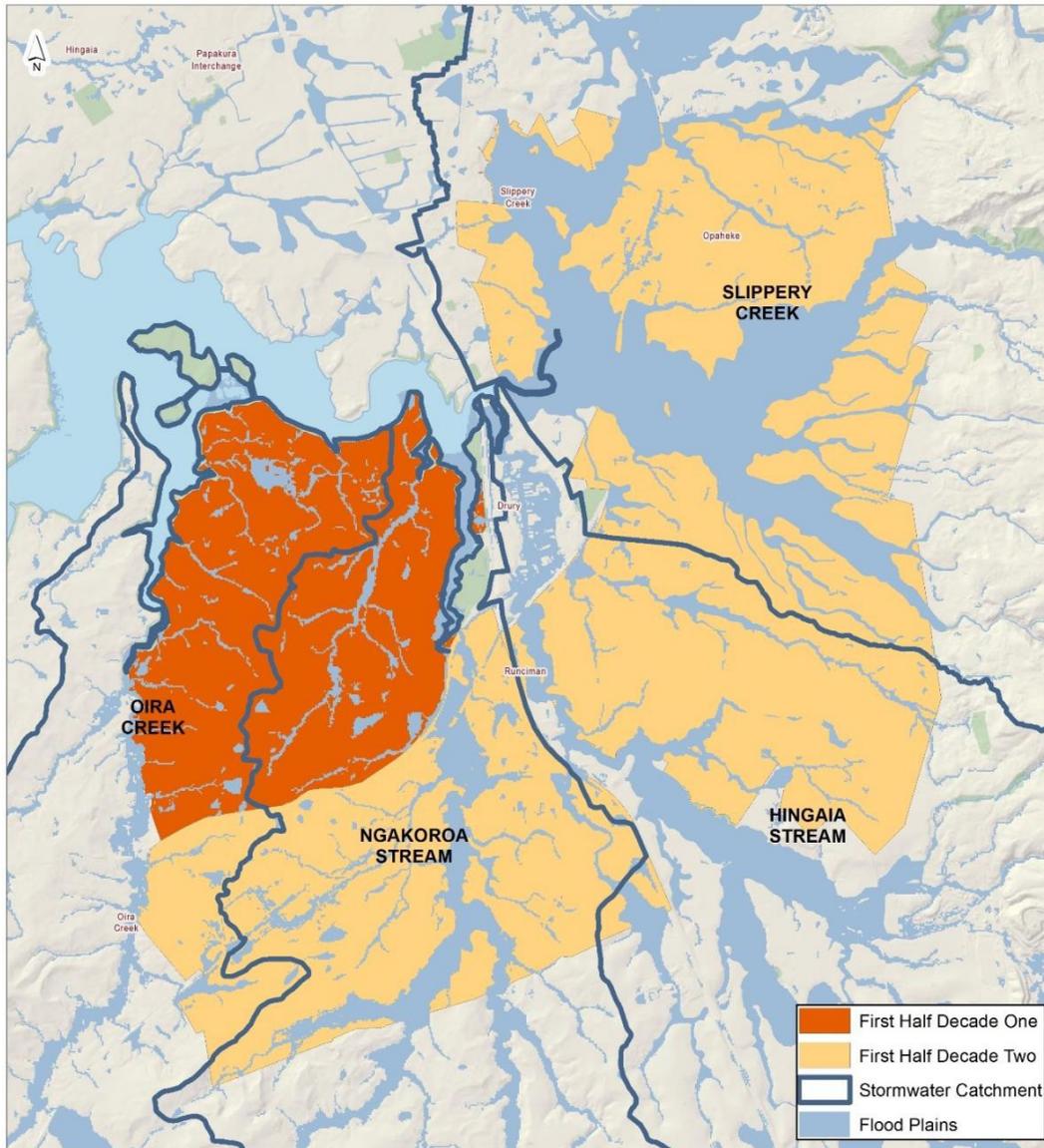
The Drury growth area, including Opaheke, Drury, Drury South, Drury west and parts of Karaka fall within four different stormwater catchments. Figure 21 shows the Future Urban zones in the context of the catchments they fall within. Generally the southern future growth areas are located in the lower areas of very large stormwater catchment which presents challenges for flood management.

Drury West

The Drury West area currently has no existing public stormwater network or an existing stormwater catchment plan. The topography naturally divides the proposed development area into two natural drainage areas – the Ngakoroa Stream and the Oira Creek catchments. The Future Urban area programmed for the first decade has very little flooding issues. Flooding within the Ngakoroa Stream catchment is located within Drury West Stage 2 (south of State Highway 22) and is subject to further planning work which is not underway at this stage. Flood plains and overland flow paths associated with permanent and intermittent streams will be required to be protected and enhanced during development.

The Ngakoroa and the Oira catchments are predominantly rural, with the Bremner Road Special Housing Area has been approved at the extreme downstream end. The floodplains are generally confined and Ngakoroa in particular is incised at the downstream extent.

Figure 21: Catchments and flood plains within the Opaheke-Drury and Drury West area



Auckland Council holds no detailed modelling for either catchment and the published floodplains are from a coarse regional scale Rapid Flood Hazard Assessment. A more up to date, fine resolution Rapid Flood Hazard Assessment is recommended for these catchments.

A Network Discharge Consent for the Bremner Road Special Housing Area was granted in December 2016. A Stormwater Management Plan has also been submitted as a part of the plan variation and is supported by the Healthy Waters Department.

The Stormwater Management Plan seeks to implement Water Sensitive Design approach to stormwater management, combining both detention and retention, and both quantity and quality stormwater treatment. The proposed treatment varies depending on whether the stormwater discharges to a stream or to the estuary.

In particular the developer proposes to manage floodplains within green corridors and locate residential development outside of the floodplains. A number of stormwater devices are proposed including rain gardens, rain water tanks, permeable paving communal retention/detention devices, green outfalls, proprietary devices, the alignment of overland flowpaths in road corridors and swales.

A similar approach is envisaged for the rest of the Future Urban zoned areas. Generally all infrastructure required within this catchment will be provided by the developer.

6.4 Transport

The south is the largest future urban growth area in Auckland with around 5,300 hectares of land identified for urban development. This could result in 42,000 homes and 19,000 jobs over 30 years. The decision version of the Unitary Plan provides for greater capacity should this be required. With a lot more people living in the area, significant new transport infrastructure will be needed.

At the heart of the proposed network for the south is a well-connected Rapid Transport Network with electric trains extended to Pukekohe and extra rail capacity. New stations at Tironui, Drury, Drury West and Paerata will improve access to trains.

Rapid transit links between the airport, Manukau, Flat Bush and Botany, along with high frequency buses between Manukau and Drury West will be provided via a high frequency bus corridor. Future improvements to park and ride facilities, along with implementation of the Southern New Network in October 2016, will provide a strong public transport network.

Another key focus is the upgrade of the Mill Road corridor from Manukau and Flat Bush to Papakura and an extension to Drury. This will help improve safety, provide greater access to new growth areas and provide an additional north-south route. It will likely link to State Highway 1 and to a new expressway between Drury, Paerata and Pukekohe. The widening of State Highway 1 between Manukau and Papakura may be extended to Drury.

NZTA is currently implementing the Southern Corridor (SH1) Improvements Project which is anticipated to be completed by October 2018. This project covers the stretch of Southern Motorway from the SH20/SH1 connection at Manukau down to Papakura. The Project includes additional lanes in both directions, an upgrade to the Takanini Interchange and a 4.5km shared use pedestrian/cycle path.

As the Future Urban zoned area urbanises, the role of State Highway 22 (Paerata Road and Karaka Road) will change. There will be an interrelationship between State Highway 22 and the provision of additional arterials around Pukekohe. The role that each of these routes play will be assessed in coordination as part of the next stages of investigation. Safety improvements on State Highway 22 will also improve travel between Drury and Pukekohe

Opaheke - Drury and Drury West is one of the key areas identified for growth and transport upgrades in the Supporting Growth – Delivering Transport Networks project, as seen below in Figure 22. Key actions relevant to the Opaheke – Drury and Drury West area are summarised in Table 19.

Figure 22: Supporting Growth – Transport Networks in the South

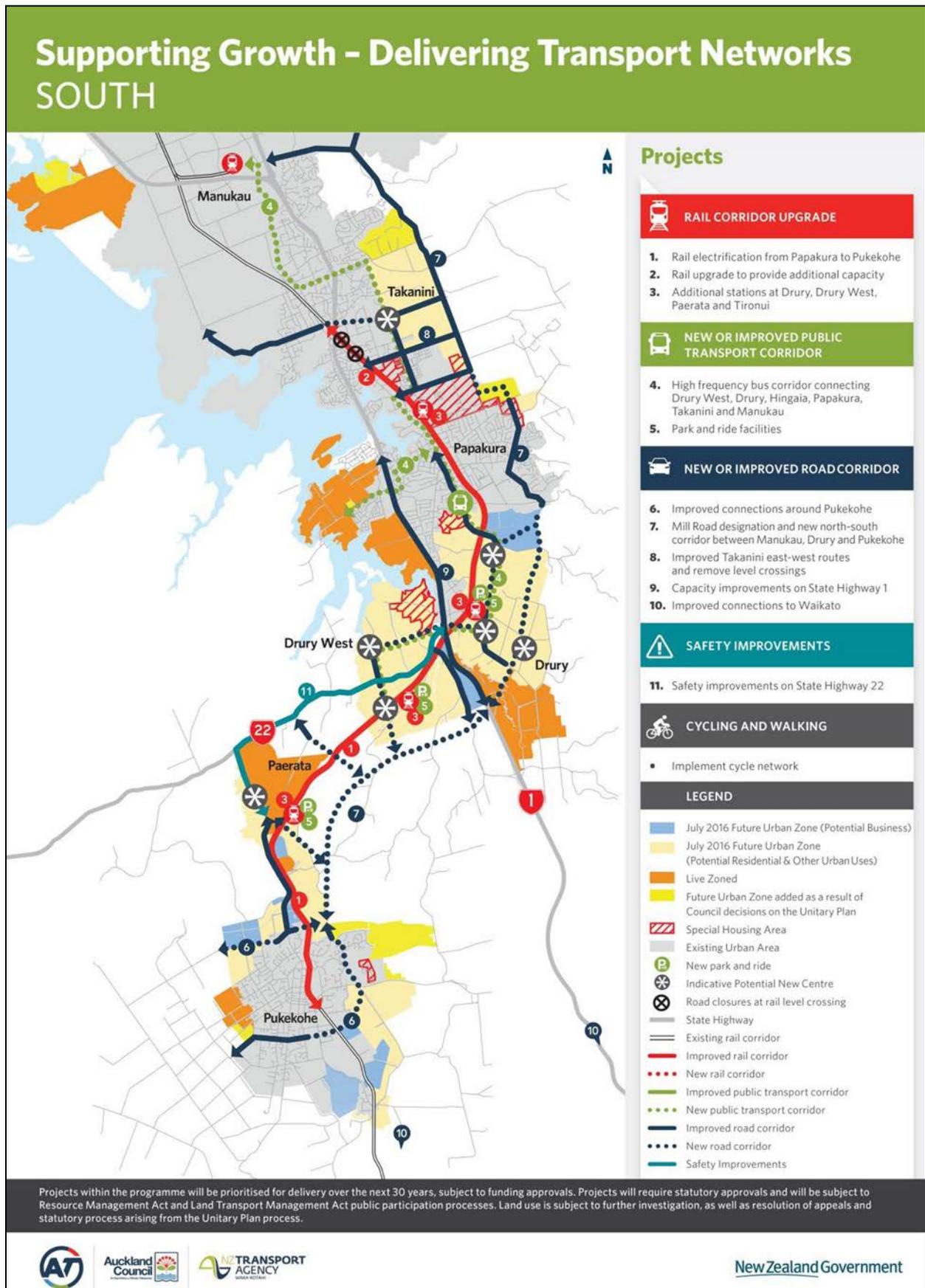


Table 19: Key transport infrastructure identified through Supporting Growth - Delivering Transport Networks

Transport Infrastructure	Timing (where known)	Indicative costs ¹⁷	Interrelationships	Comments
Improved rail corridor including electrification between Papakura to Pukekohe including additional Stations at Drury, Drury West and Paerata	Investigation and design with view route protect by 2022	\$705m – \$820m		ATAP Decade 1 priority Additional stations are not an AT prioritised project through the RLTP– could be delivered in conjunction with developer
High Frequency bus corridor connecting Drury West, Drury, Hingaia, Papakura, Takanini and Manukau	Investigation and design with view route protect by 2022	\$195m - \$245m	Town centre locations Existing local and arterial infrastructure	Not an AT prioritised project through the RLTP– could be delivered in conjunction with developer
Safety Improvements on State Highway 22	Current	n/a	Improved arterial road connections	Funded through the current RLTP/NLTP
Capacity improvements on State Highway 1	Investigation and design with view route protect by 2022	\$330m - \$440m	Mill Road corridor	First decade priority
Improved arterial road connections	Investigation and design with view route protect by 2022	\$153m - \$200m	SH22 Safety Improvements	Not an AT prioritised project through the RLTP– could be delivered in conjunction with developer
Other transport infrastructure in proximity				
Mill Road Corridor	Investigation and design with view route protect by 2022	\$520m - \$675m	SH1 capacity improvements Pukekohe corridors	Stage 1 included in the current RLTP
Wider rail network improvements – including grade separation and road closures	Investigation and design with view route protect by 2022	\$180m - \$240m	Improved rail corridor including electrification between Papakura to Pukekohe	Not an AT prioritised project through the RLTP– could be delivered in conjunction with developer

¹⁷ Costs shown are based on strategic level assessments as part of the Auckland Transport Alignment Project. Cost will be accordingly updated as investigations designs are progressed. Cost for transport infrastructure in the Southern area are total costs for the proposed network. Further cost segmentation to occur as part of future business cases.