

1 December 2023

North Brisbane Infrastructure
Subsidiary of Queensland Investment Corporation
66 Eagle Street,
BRISBANE CITY Queensland 4000

Via email: info@northbrisbaneinfrastructure.com.au

Cc: The Honourable Mark Bailey MP, Minister to Transport and Main Roads and Minister for Minister for Digital Services

Via email: transportandmainroads@ministerial.qld.gov.au

Dear Project Team

RE: Gympie Road Bypass Tunnel

The Royal Automobile Club of Queensland (RACQ) is Queensland's largest member-owned mutual, and we exist for the benefit of our more than 1.7 million members. Our strategic vision is to be the trusted partner for our members providing solutions to live and move safely, securely, and sustainably.

Throughout our 118-year history, we have actively engaged with the Queensland Government in the interests of our members, sharing our expertise and recommendations on a wide range of policy areas including mobility, road safety, transport infrastructure planning, natural hazard resilience, and disaster response and recovery. Our membership makes up a significant portion of the state's population, and we have a presence in more than 60 per cent of Queensland homes.

RACQ welcomes the Government's investment in transport infrastructure. We believe the Gympie Road Bypass Tunnel project provides a significant opportunity to deliver a great outcome for residents and motorists on the northside and overall mobility in greater Brisbane. We must ensure high population growth in Brisbane, and SEQ, does not result in a dysfunctional transport network. We need to see different levels of Government running different services and infrastructure on the same page, with the same vision and mobility aspirations for the people and businesses of SEQ.

We also need to acknowledge that the best, if not only, way to ease congestion over the long term is to build infrastructure that will take cars off the road. The city and region need public transport that is safe, fast, convenient, accessible, and affordable. This is why any major road tunnel on the northside that proceeds without a public transport component is short-sighted and not in the interests of South East Queensland's liveability and economy.

Our policy team, with expertise in infrastructure and public transport, has informed this submission as have our ongoing surveys, analysis and research into congestion and transport needs in Brisbane and SEQ. RACQ's 2023 Red Spot Congestion Survey highlighted that SEQ motorways and highways receive the most nominations for congestion. More specifically four of the top five were major motorways in Brisbane's outer orbital network. A lack of orbital motorway capacity is impacting traffic flows and productivity, including along radial arterial routes leading to and from the Brisbane CBD. This is especially true regarding Brisbane's north-west, where the lack of a high-standard western bypass (orbital) motorway connecting the Centenary Motorway to Gympie Arterial Road/Bruce Highway at Carseldine must be addressed.

RACQ believes the Gympie Road Bypass Tunnel project does not provide a strategic, long-term solution for a western bypass and will place increased demand on already congested roads, such as the Inner City Bypass. The planning and construction of any Gympie Road Bypass Tunnel at a southern portal should therefore enable a connection to a future western bypass link, likely to the west of the Gympie

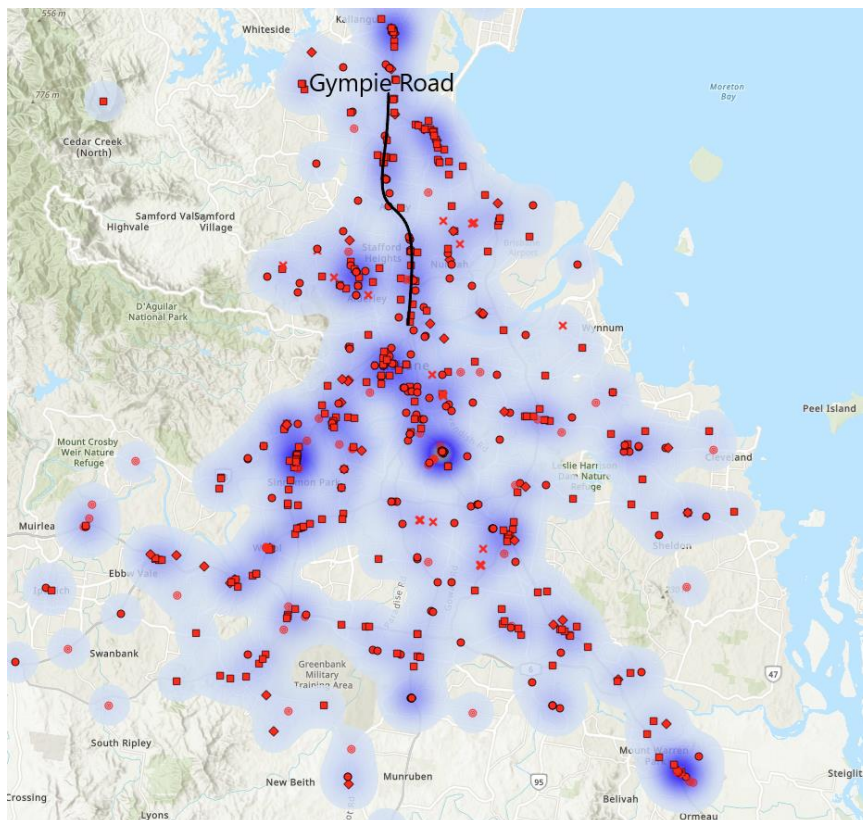
Road / Lutwyche Road corridor, connecting the Centenary Motorway to Gympie Arterial Road at Carseldine.

In addition, RACQ is concerned that a new radial tunnel along the Gympie Road corridor, dedicated to private vehicles, connecting to inner northern Brisbane (Airport Link) will potentially have a number of conflicting impacts.

RACQ believes there is a risk of worsening already heavily congested traffic around the northern side of the Brisbane CBD and notably around the Royal Brisbane and Women's Hospital in Herston as more traffic is induced into the Airport Link and onto Lutwyche Road. It is important that before any investment decision is made on a private vehicle-only tunnel that detailed traffic network modelling is provided for public review. To provide greater transparency during the investigation and planning stages of this project, RACQ calls upon North Brisbane Infrastructure to publish the detailed traffic modelling and economic analysis. The release of this data will ensure there is appropriate scrutiny and transparency regarding the assumptions and analysis.

While investment in the motorway network is critical to productive and efficient movement of people and freight, investment in radial corridors, such as Gympie Road (highlighted in Map 1) is best targeted at moving people efficiently through public transport improvements.

Map 1 – Gympie Road corridor overlayed with Red Spot Congestion nominations



Public transport upgrades and continued investment in Brisbane's major radial corridors are needed to shift commuters towards more affordable and sustainable trips to and from the inner Brisbane area. These high-order urban roads extend radially to and from Brisbane's high-density CBD area where land is already constrained, upgrades are expensive, and only contribute to inducing greater traffic demand which can best be served by upgraded public transport.

As previously stated in our recent ShapingSEQ 2023 Update submission, RACQ believes the region should plan for an extended Brisbane Metro network. The extension to Chermside on the Gympie Road corridor of Brisbane Metro should be a priority, however while the Northern Busway is identified as 'priority region shaping infrastructure', it is nominated as 'busway or other priority corridor' which implies that a sub-standard solution (such as a transitway) could be considered as acceptable.

Gympie Road needs a dedicated busway corridor that is separated from other traffic and incorporated in the entire Northern Busway corridor from Herston to Carseldine and Bracken Ridge (a similar length to the South East Busway). The Northern Transitway, which is currently under construction, is a reasonable start in addressing the chronic underinvestment in public transport that has impacted the northside for far too long. However, it is an on-road option which will not be an effective long-term solution and be a sub-standard form of public transport that does not encourage a mode shift away from private vehicles. There are 34 sets of traffic lights from the Northern Busway at Herston to Bracken Ridge, along Lutwyche and Gympie Roads. Any bus service operating along this corridor, even with the option of bus priority movements at intersections and a dedicated lane, will still interact with other vehicles. Consequently, on-road services along these routes will not experience significant improvements to travel times for passengers.

The lack of quality public transport infrastructure has resulted in an extremely high volume of vehicles and levels of congestion which will only worsen over time. In comparison, a high quality, completely separated public transport corridor would improve travel time, increase passenger demand and volumes as well as provide real and tangible community benefits. We believe it is a 'must have' long term investment that will pay strong dividends if the Government commits itself to another toll road tunnel.

The proposed 'Gympie Road Bypass Tunnel project' in its current 'private vehicle' only conceptual form, is not likely to be an effective long-term solution for reducing traffic congestion, particularly given the cost burden for most motorists to take longer toll road journeys across Brisbane. A likely toll fee, when comparing to similar toll points in SEQ, means a cost of \$6 – 7 for a passenger vehicle or \$10 for a light commercial vehicle¹. If a motorist was to use the tunnel to bypass Gympie and Lutwyche roads, after using Airport Link, a likely fee would be close to \$20 for a single trip (for a light commercial vehicle). Furthermore, if a motorist were to use the existing toll roads to bypass the city completely, using the proposed tunnel, Airport Link and Clem 7, this would likely cost approximately \$30.

The proposed project, as announced, does not offer any separated high-capacity, high-frequency public transport solution, which is the most urgent requirement for the Gympie Road corridor. The north Brisbane area has very limited high-quality public transport options, considering the rail line servicing the north-east and western Ferny Grove corridor and the Northern Busway effectively stop at Herston.

RACQ proposes that any Gympie Road Bypass Tunnel project should be planned and developed to incorporate a high-standard separated busway for the Brisbane Metro service with general traffic separated from Metro lanes and stations. To this extent, RACQ has prepared a conceptual Gympie Bypass Tunnel Improvement Proposal (attached) to enable the Brisbane Metro service to be utilised within the tunnel corridor. This would enable a high-quality public transport system, a true Northern Busway, from the Brisbane CBD via Herston to Bracken Ridge.

The Brisbane Metro would then function as a high-quality/high-frequency spine along the Gympie Road corridor. Feeder services operating East-West at grade would provide critical linkages to surrounding suburbs, key centres, and employment hubs.

The Gympie Road Bypass Tunnel project provides a tremendous opportunity to progress a western orbital bypass and to deliver a public transport outcome for north Brisbane that will emulate the success of the South East Busway. The long-term benefits of achieving a western orbital bypass and a quality

¹ Toll pricing - Linkt

mass transit radial option, connecting major centres, population growth areas and large employment centres, will help establish Brisbane as a functional, productive, and moveable world city.

RACQ believes if these two additional benefits are provided in the Gympie Road Bypass Tunnel it would justify taxpayer contributions to the project's delivery.

Our team would welcome the opportunity to brief North Brisbane Infrastructure and the Department of Transport and Main Roads on our proposal. Please contact in the first instance RACQ's Head of Public Policy, Dr Michael Kane at michael.kane@racq.com.au.

Yours sincerely,



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(enclosed Gympie Road Bypass Tunnel Improvement Proposal)

1 December 2023



Gympie Road Bypass Tunnel – Improvement Proposal (Herston (RBWH) to Bracken Ridge) December 2023

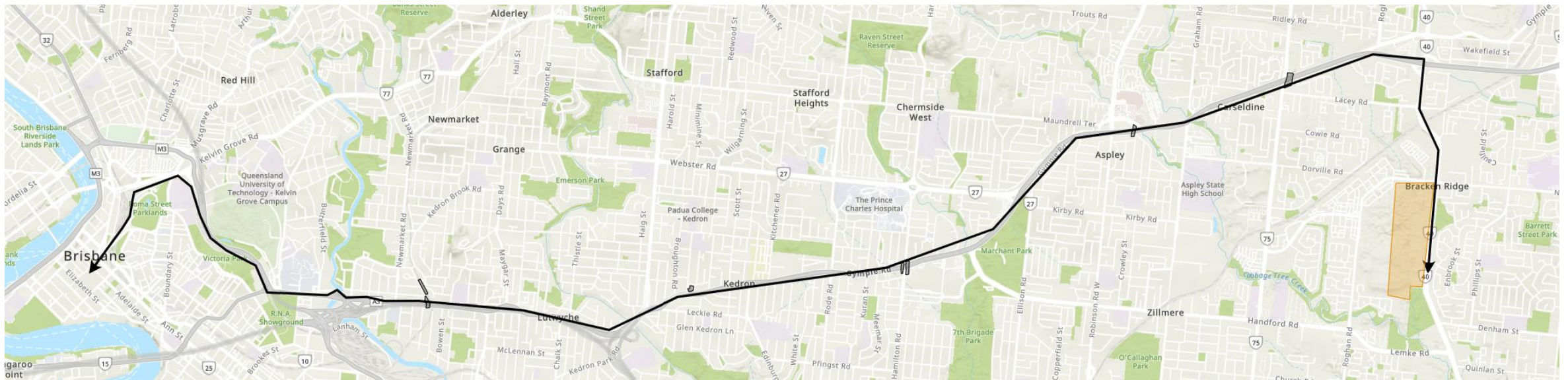
Key principles and outcomes

- This proposal calls on the Queensland Government to make improvements to the proposed private vehicle/traffic only Gympie Road Bypass Tunnel (GRBT).
- RACQ recommends dedicated lanes for Brisbane Metro services and station boxes detailed in the following slides. There has not been any engineering or cost analysis on this proposal.
- RACQ proposes the following improvements:
 - A new dedicated and separated 16km busway corridor:
 - Connecting Bracken Ridge to Herston (using the proposed GRBT from Kedron to Carseldine).
 - Completing the missing links from Lutwyche to Herston, to enable connections with the Brisbane Metro and Metro Glider services.
 - Connecting Metro Glider services from Stafford into the Northern busway (from Kedron Brook south)
 - Connecting Metro Glider services from northern suburbs and city to the airport, with Metro Gliders using Airport Link.
 - In addition to the Brisbane Metro, there should be provision for Metro Gliders in the busway as well as cross corridor/suburb feeder services (at street level) to Metro stations.
 - New station connections to rail, including an integrated Brisbane Metro-Ferny Grove line at Windsor rail station and Metro Glider-North Coast Line at Carseldine.
- This proposal will significantly increase northside public transport capacity, connecting Bracken Ridge, Chermside, Herston and Brisbane City. It is the kind of capacity we largely see in place for southside residents.

RACQ's vision for Northern Brisbane Metro Service



Fully separated Northern Brisbane Busway corridor from Brisbane CBD to Bracken Ridge

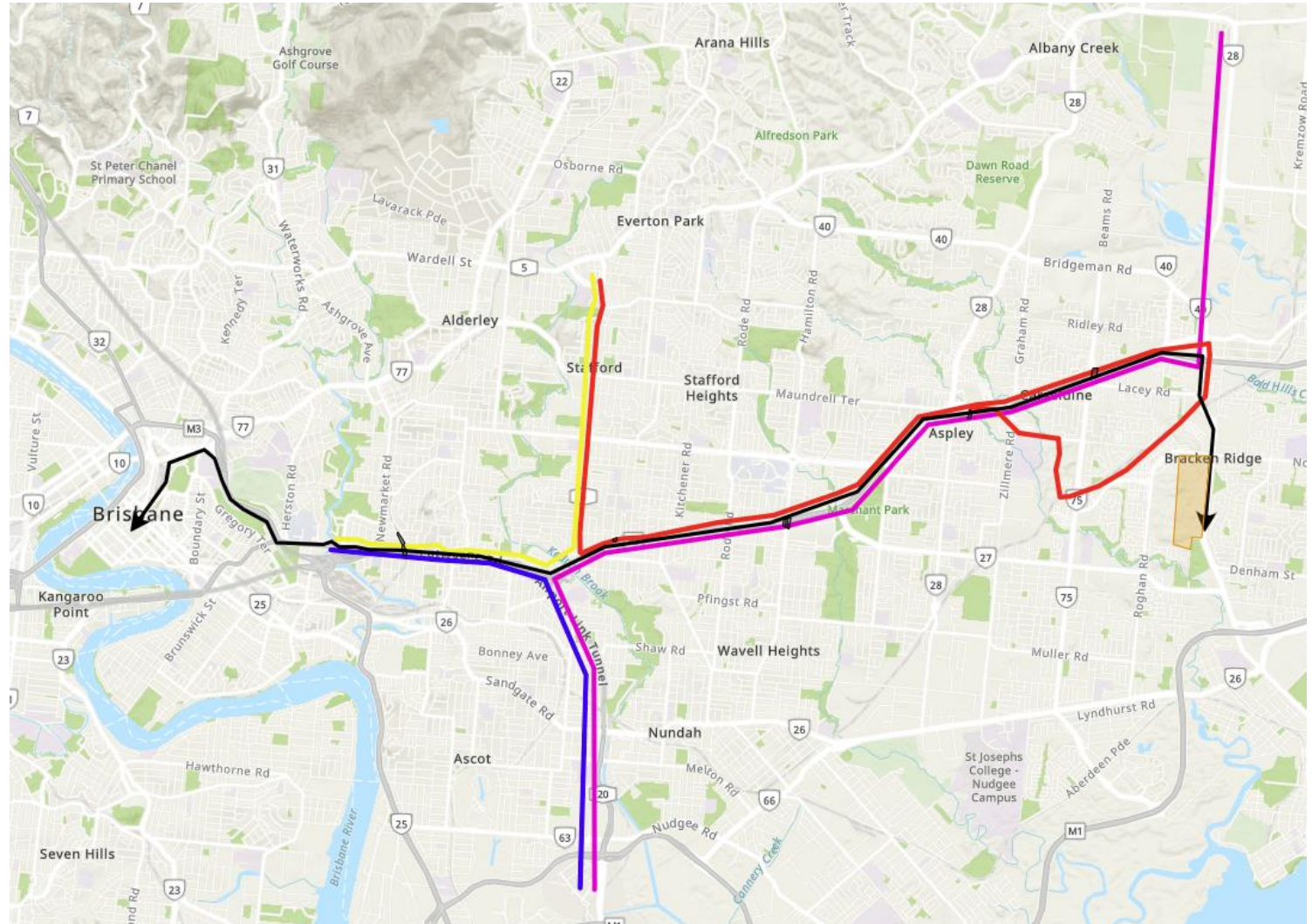


Brisbane Metro & Metro Glider Services



Brisbane Metro (above) – double articulated 'tram style' rubber wheel electric buses operating on the proposed busway with station platforms (**BLACK**)

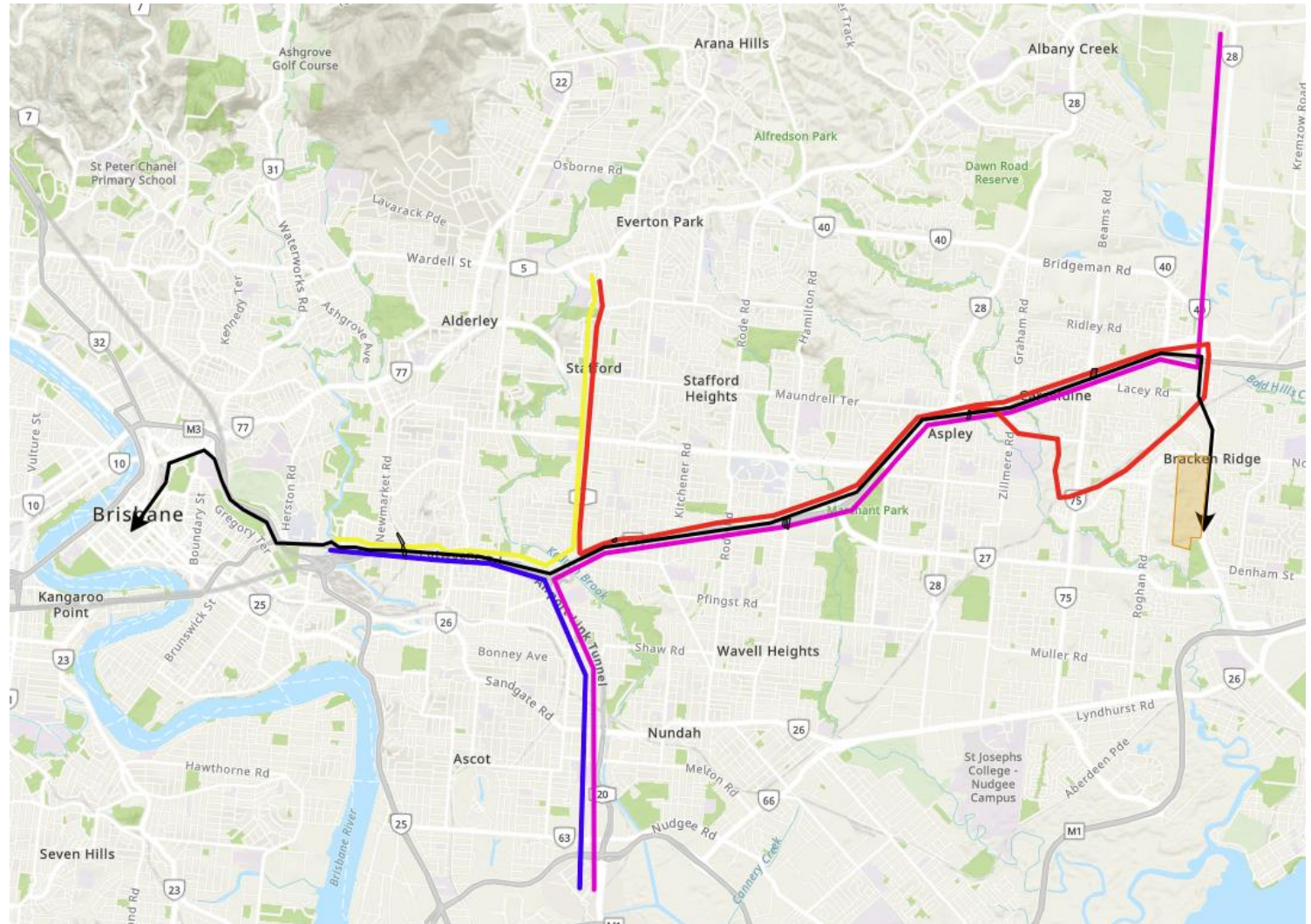
Metro Glider (below) – single articulated 'tram style' rubber wheel electric operating on the proposed busway, transit lanes, and main roads with upgraded platform stops (**YELLOW, RED, BLUE and PINK**)



Metro Glider services to City, Airport, North Coast Rail and Chermside

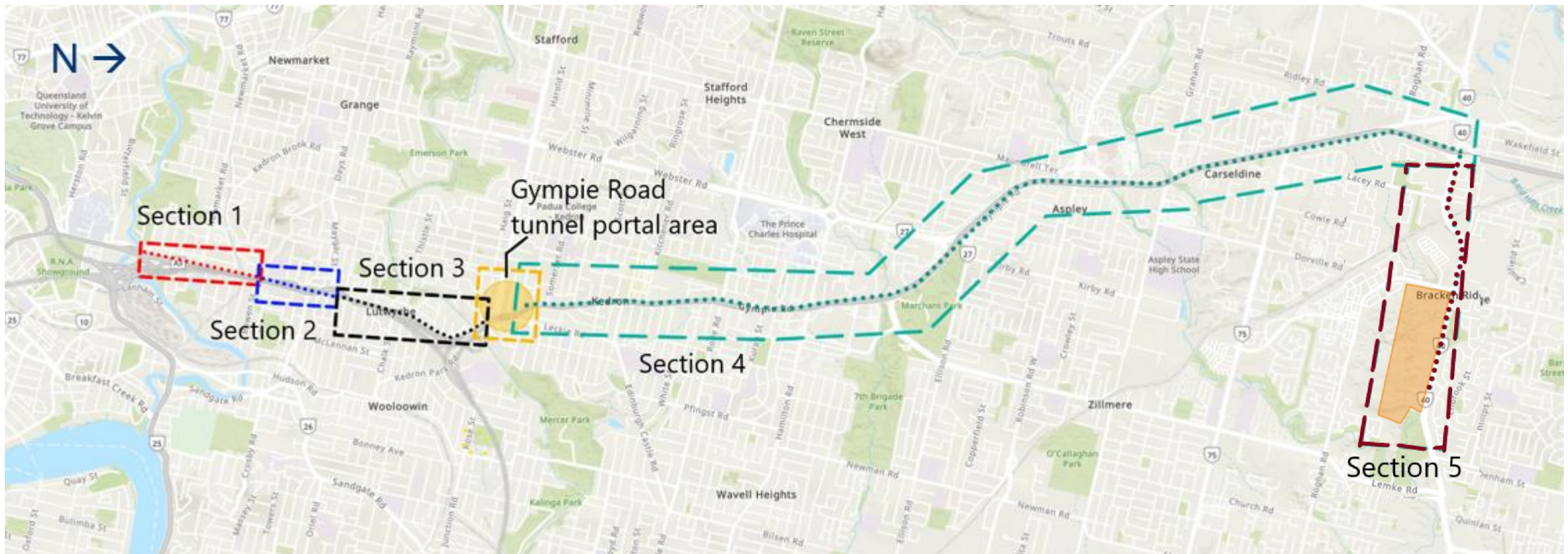


- Metro Glider (image above) operating on busway, transit lanes, general traffic on main roads, possible routes include:
 - **YELLOW** is a Stafford Road link connecting to the Northern Busway and then into the City
 - **RED** is a Stafford Road link connecting into the Northern Busway Gympie Road Bypass Tunnel and then onto Linkfield Road and Northern Transitway Carseldine to Chermside
 - **BLUE** is a City to the Brisbane Airport service through Northern Busway (Lutwyche Road) and connecting to Airport Link
 - **PINK** is an Albany Creek to Brisbane Airport service via the Northern Busway (Gympie Road) and Airport Link



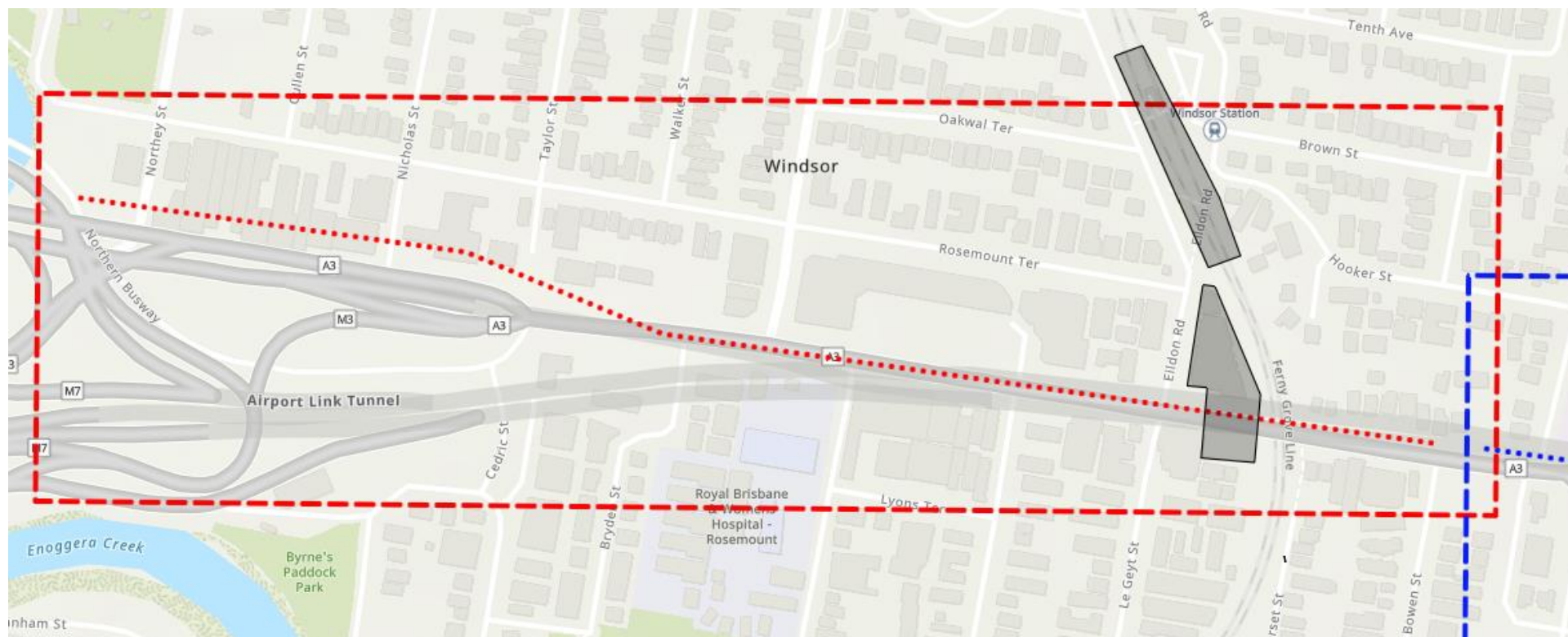
Detailed Improvements for sections 1 to 5

- Section 1 – Royal Brisbane and Women's Hospital to Windsor
- Section 2 – Windsor to Lutwyche Busway Station
- Section 3 – Existing Northern Busway (Lutwyche to Kedron Brook station)
- Section 4 – Gympie Road (Carseldine) in-tunnel Busway, Bracken Ridge Depot
- Section 5 – Linkfield Road – Telegraph Road Busway, Bracken Ridge Depot



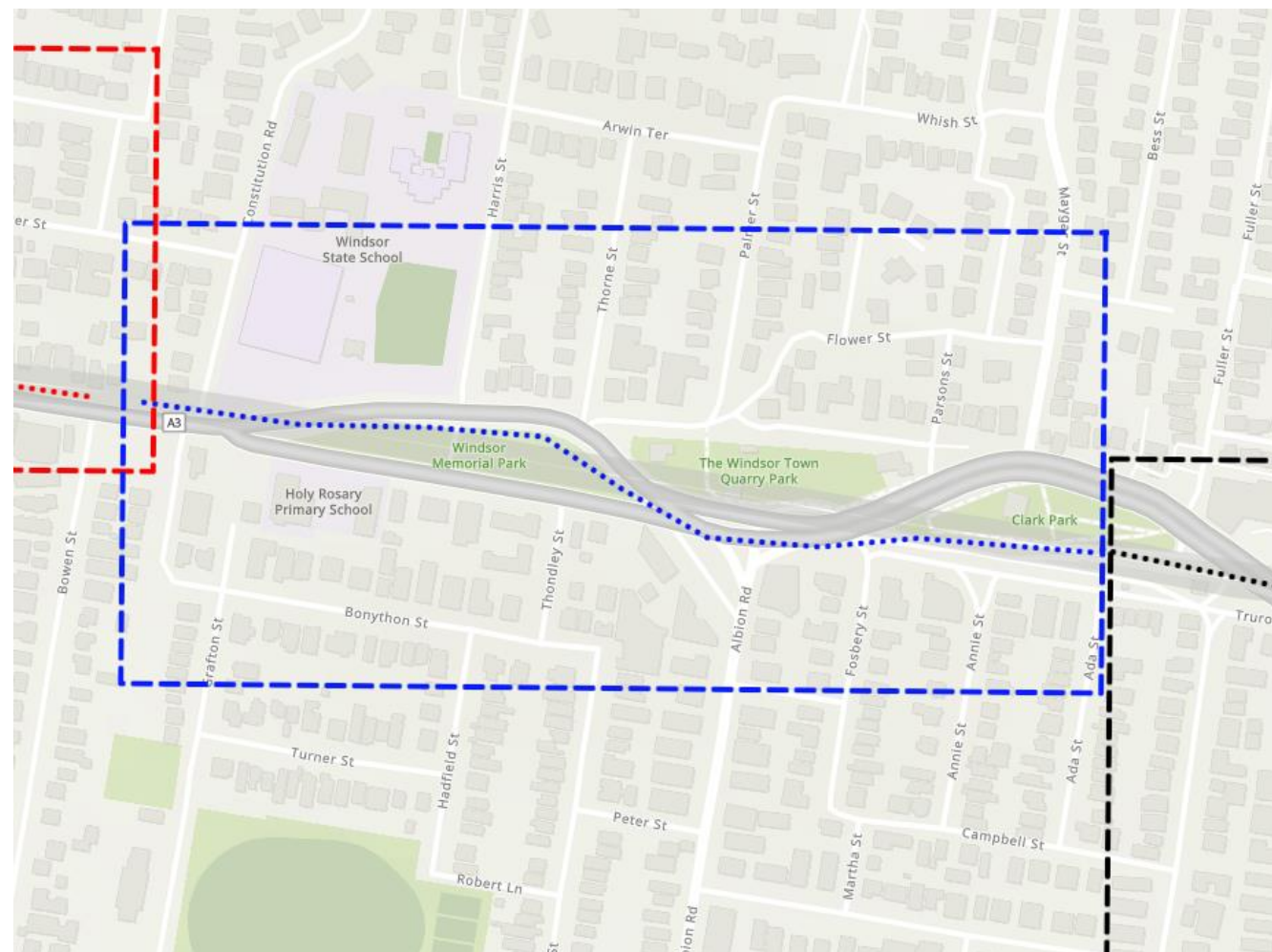
Section 1 – RBWH to Windsor

- Section 1 is a missing link in the Northern Busway which needs to be addressed.
- Options available for this section include:
 - A tunnel (as considered in 2006), however main challenge is the existing Airport Link tunnel, or
 - A part-elevated, part-tunnel busway.
- The desired outcome is a Brisbane Metro separated busway.



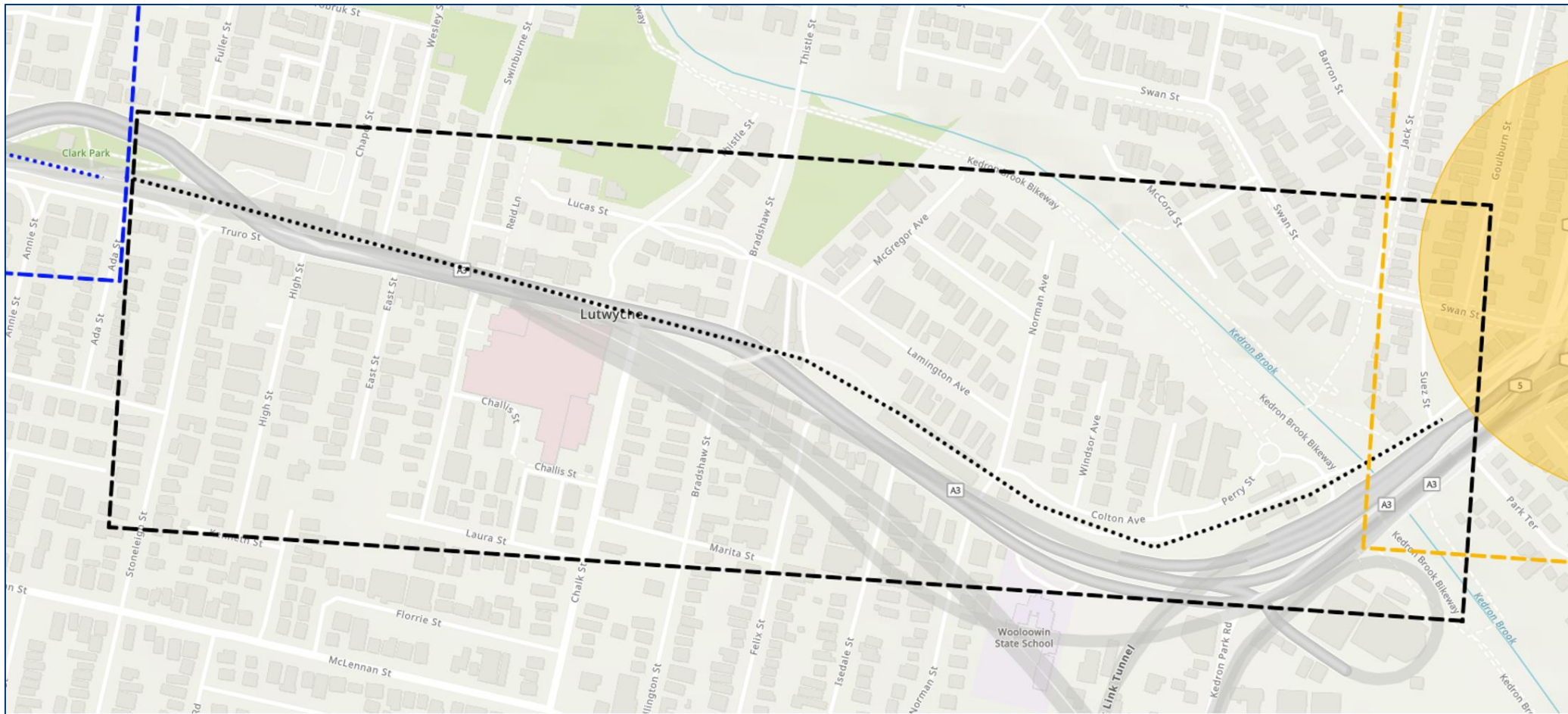
Section 2 – Windsor to Lutwyche (Albion Rd / Memorial Park)

- Section 2 is a missing link in the Northern Busway and needs to be addressed.
- Options for this section include:
 - A tunnel (as considered in 2006), or
 - A part-elevated, part-tunnel busway.
- The desired outcome is a Brisbane Metro separated busway.



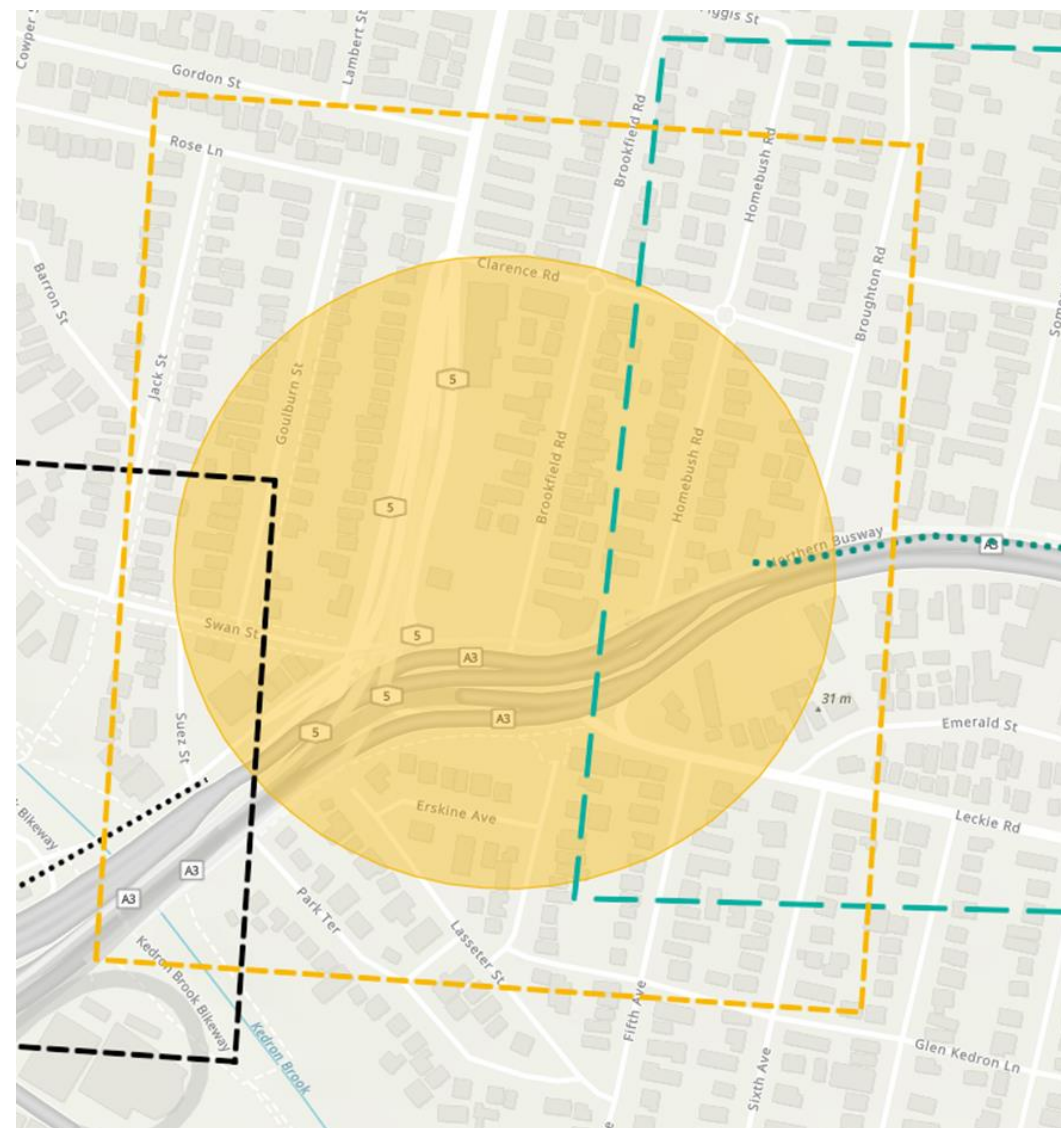
Section 3 – Existing Northern Busway (Lutwyche to Kedron)

- Section 3 utilises the existing Northern Busway tunnel from Lutwyche to Kedron



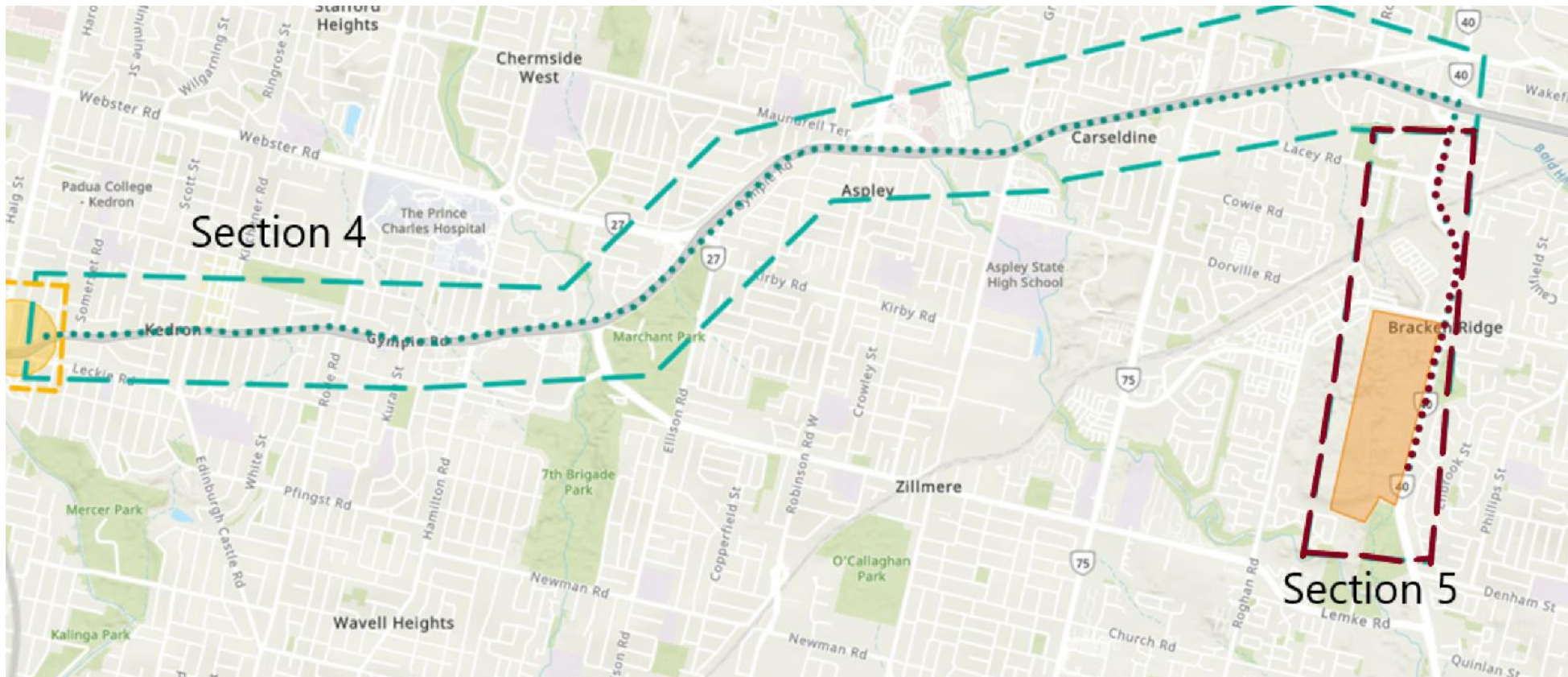
Section 3 – Gympie Road Tunnel proposal at Kedron Brisbane Metro Station

- The Gympie Road Bypass Tunnel (GRBT) portal at Kedron is critical for the connection of multiple major transport infrastructure components.
- Key elements are to understand how GRBT's portals will interact with existing busway, Airport link (to airport) and Stafford Road, including a future Stafford Road tunnel linking to a 'Western Bypass' road (North West Transport corridor).



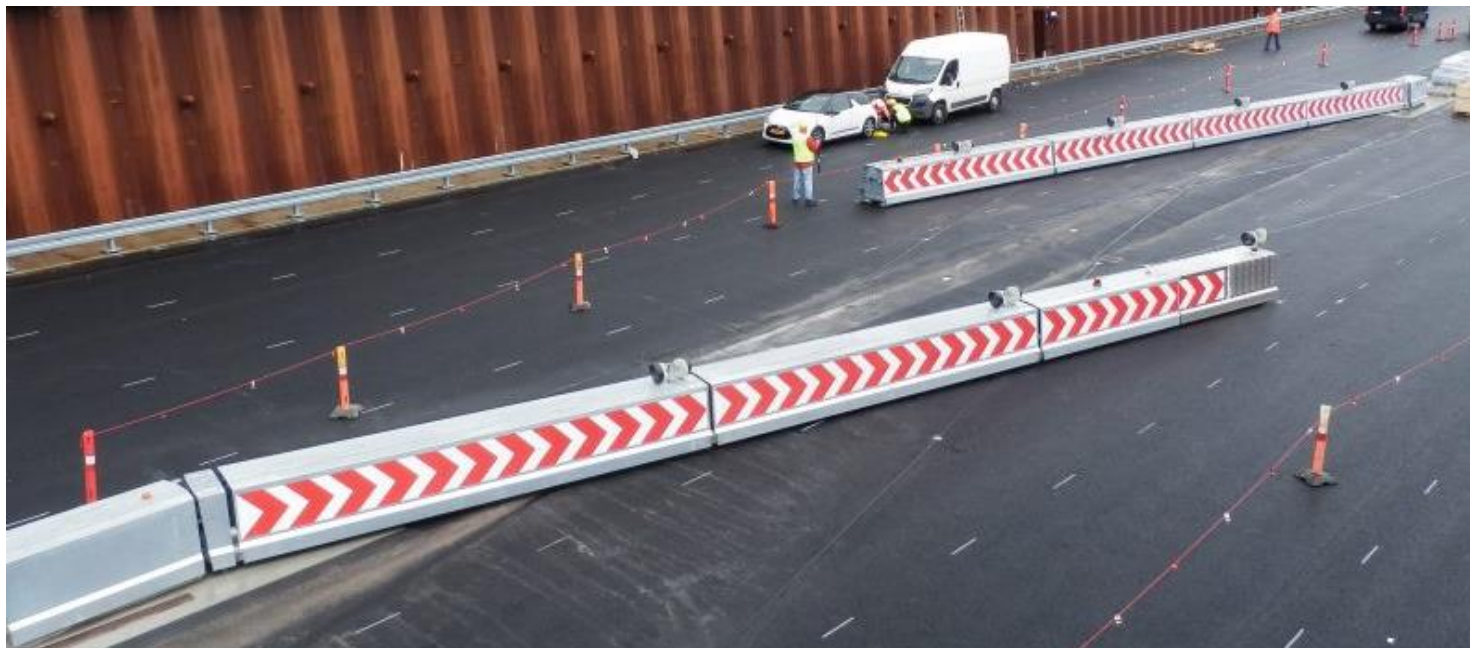
Section 4 – Gympie Road Tunnel / Northern Busway (Kedron to Carseldine)

- Section 4 includes a Brisbane Metro busway within the Gympie Road Tunnel proposal and includes options for four new integrated underground bus station boxes.
- After exiting the proposed Gympie Road Bypass tunnel, the busway corridor can be extended, at grade, to Bracken Ridge (section 5).



Section 4 – Gympie Road Tunnel / Northern Busway (Kedron to Carseldine)

- Each Tunnel Boring Machine (TBM) tunnel would have three lanes with one outer lane dedicated to the Brisbane Metro and the other two to general traffic.
- Tunnel lane separation using moveable traffic barriers to ensure access for emergency and flexible traffic/operational responses. Full height lane barriers within station boxes.



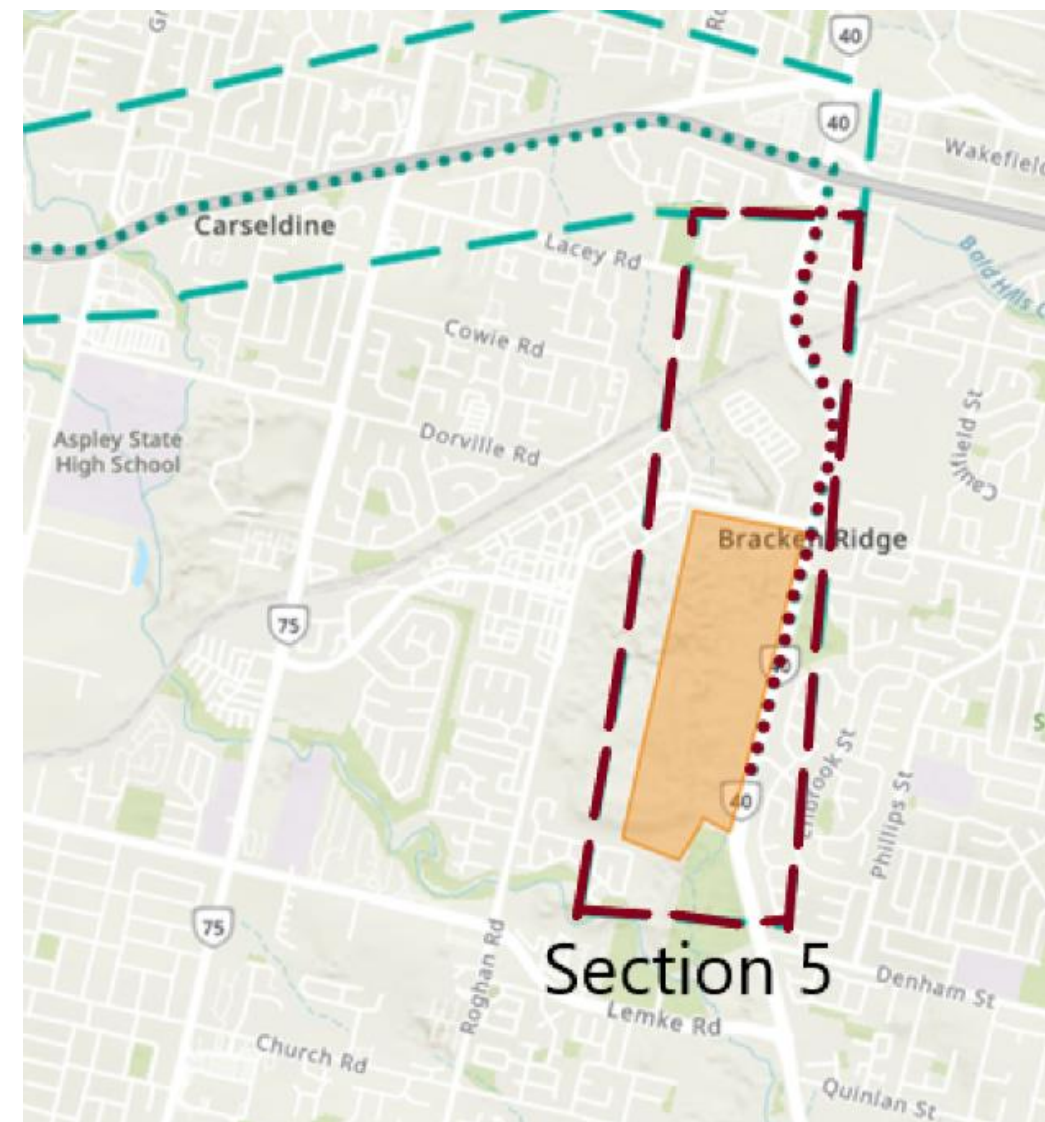
Section 4 – Gympie Road Tunnel / Northern Busway (Kedron to Carseldine)

- Construction methods could be either excavation or 'cut and cover' to build the four side platform station boxes under Gympie Road. The underground station platforms would be connected above the tunnel traffic lanes, allowing commuters to freely move between northbound or southbound platforms.
- Station boxes would be built to have Brisbane Metro / Metro Glider stopping bays to the side of a Metro lane plus two general traffic lanes, connected by the north / south running TBM tunnels.
- Station boxes would operate like traditional Brisbane Metro stations (i.e., only Metro and Metro Glider services) and would be serviced by cross feeder buses from ground level.



Section 5 – Linkfield Road to Telegraph Road Busway

- Key elements of section 5 are:
 - A grade separated interchange at the Gympie Arterial Road portal (northbound), to cross Gympie Arterial Road.
 - Returning to ground level along Linkfield Road and Telegraph Road with grade separated road crossings at Lacey Road and Norris Road.
 - Linkfield/Telegraph Road traffic lanes can be shifted north or south of current position and utilise unused lanes on the Telegraph Road rail overpass (see image below).
 - Option to construct a final Metro station and depot with flash charging infrastructure and layovers on Brisbane City Council owned-land at Bracken Ridge.



1 December 2023

RACQ

