Townsville Southern Access Corridor Study

Route Recommendation (Summary)
July 2009
**Executive summary**

The purpose of the Southern Access Corridor (SAC) study is to identify the long-term road corridor requirements necessary to accommodate the expected future development in Townsville's southern corridor, which extends 22 kilometres, from Cluden to Killymoon Creek.

Three options for the development of the Bruce Highway, with connections to existing and future development areas, were examined in detail. These were the Existing Alignment, Separate Alignment, and the Hybrid Alignment Options.

After a comprehensive community engagement process, involvement of key stakeholders, and consideration of technical, social and environmental aspects, the Hybrid Alignment emerged as the preference strongly favoured by both stakeholders and the study team.

The Southern Corridor study team has recommended that the Department of Transport and Main Roads adopt the Hybrid Alignment and this is currently under consideration.

The Hybrid Alignment provides for four to six freeway-standard lanes from Cluden to Killymoon Creek.

The alignment follows the existing highway from Cluden to Julago. From Julago to Killymoon Creek it deviates from the existing highway and runs along the eastern side of the Queensland Rail Main Northern Line. The existing highway converts to an arterial road where the new highway deviates, servicing existing and future development in the corridor.

Interchanges connecting to the Hybrid Alignment are located at Cluden, Townsville Port Access Road (TPAR), western and eastern connections to Rocky Springs and at Bentley Drive.

A comprehensive service road network will provide access for abutting land including the Townsville State Development Area (TSDA).

The Hybrid Alignment provides the best overall outcome in terms of town planning, traffic efficiency and social impact.

**Colin B Horman,**

BE, MIE Aust, Dip T&RP, RPEQ

C&G Horman Pty Ltd

Consulting Engineers & Planners

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**Recommendation**

**Study area**

The SAC study investigated the defining features of the current Bruce Highway south of Townsville from its intersection with Stuart Drive to Killymoon Creek, to design an effective and efficient road transport network for the area, and to identify the land required to secure the future route.

These features include the Muntalunga Range to the east of the existing road, Three Sisters Range to the west, Queensland Rail's main north-south rail line, existing residential development (Cluden, Julago, Nome, Serene Valley and Alligator Creek), the Woongarra Crematorium and a flood-prone creek network.

These features were taken into consideration in the design of the preferred alignment.

**Traffic growth**

The study has also incorporated the timing and relative impact from differing development scenarios on traffic growth in the area – notably the Rocky Springs and Whites Plains areas. The route and configuration has been based on the most likely level of development within and around the study area, and is independent of individual planned developments.

At present, the Southern Access Corridor has a traffic volume of about 5,000 vehicles per day (vpd) at its southern end and 12,000 vpd at its northern end near the intersection with Abbott Street. There are currently 8,000 vpd movements generated from the residential communities of Julago, Nome, Serene Valley and Alligator Creek as well as from industry in the TSDA.

Assuming standard traffic growth in the area, the current highway would need to be upgraded to four lanes within the next 30 years to manage capacity.

**Note:** The preferred alignment recommended by the project team has undergone specialist traffic modelling analysis, which confirms the appropriateness of the scale and configuration of the Hybrid Alignment for this section of the highway.

A number of planned developments have been identified within the study area. These developments would have significant impacts on traffic through the corridor. These include:

- The Rocky Springs and surrounding developments could add up to 80,000 vpd to the road network over the next 35 years, directly feeding onto the Bruce Highway and the Flinders Highway near Oak Valley.
• Development of the Townsville Port Access Road (TPAR) will create a new intersection with the Bruce Highway and has the potential to alter the flow of heavy vehicle traffic.

• Industrial growth from current and potential operations in the TSDA will increase demand for access within the corridor.

• Residential growth in the Julago, Nome, Serene Valley and Alligator Creek communities are now believed to be receiving access to town water supplies. Estimates by Townsville City Council (TCC) are that density could increase by 300 to 400 per cent within this study’s planning horizon.

• The Whites Plains area, currently largely under broad acre pastoral use, has the potential to develop into a residential area. Estimates by Townsville City Council show this area could yield 13,000 properties and generate up to 87,000 vpd into the corridor.

• Successful development of the Southern Access Corridor and linkage into the Townsville Ring Road will create a continuous, appropriate and safe motorway-standard link from the southern to northern limits of the city.

The study team recommends the Hybrid Alignment as detailed in route description below.

This recommendation has undergone significant peer review, confirmation of assumptions, refinement of the previous preferred option, and stakeholder consultation.

Testing the alignment

Following announcement of the preferred alignment in December 2008, the study team sought to further test their recommendation over three months, from January 2009 to March 2009.

Testing included:

• Reporting the recommended route alignment to stakeholders through a process including public displays, distribution of plans and reports, and individual meetings.

• Seeking stakeholder input on the process and decision, as well as identifying opportunities for refinement.

• Assembling, analysing and integrating input from the formal consultation period into an annotated assessment of the preferred alignment.

• Where possible and appropriate, refining the recommended route alignment and reporting these refinements back to affected stakeholders.

• Providing details of the preferred alignment and all input from the formal consultation period into a final formal study report to the Department of Transport and Main Roads for adoption.

Submissions and alignment refinements

During the final consultation phase to test the recommended alignment, 42 submissions and requests for design review were received. All submissions were assessed, integrated into the broader analysis and responses provided.

Requests for design review focussed on:

• Access to Cluden area to be improved through linkage of Minehane Street to TPAR via the existing Stuart Creek Bridge and service roads.

• Clarity on the TSDA service road network. This has now been resolved.

• Improved southern access to TSDA including the design for a possible overpass of Vantassel Street.

• Reduction in corridor width along Sunnyside Street. This has since been completed.

• Southern access for Sunnyside Street. This has since been found not to be possible or desirable.

• Review of access and service road network in the Bentley Drive area. This has since been resolved.

• Reduction in numbers of open level rail crossings. This has since been resolved.

In the Hybrid Alignment, grade separated crossings will be provided at Jurekey Street, Julago Cattle Yards, Southwood Road, Sunnyside Street, between Julago and Serene Valley, and Bentley Drive. A new level crossing will be built on the Julago Cattle Yards Spur Line which will include active protection. The open level crossings at Jurekey Street, Julago Cattle Yards Spur Line, Sunnyside Street, Nome Road, Serene Valley, Nome Road, and Bentley Drive will be closed.
Route description

The recommended Hybrid Alignment retains the bulk of the current Bruce Highway alignment for local access and creates a new separate highway and arterial capacity within a new corridor seaward of the existing railway line.

The alignment will ultimately provide:

- Grade separation of the Flinders highway, Lakeside Boulevard and the dual rail lines in the Cluden area.
- Grade separation of the TPAR/Stuart Bypass interchange.
- Possible overpass of Vantassel Street.
- Two freeway-standard access points to the Rocky Springs area.
- A further interchange to service likely growth in the Whites Plains area.

This alignment allows the current highway to remain largely unchanged to continue to serve local needs (including bicycle, pedestrian and public transport) with the bulk of highway traffic redirected onto new freeway-standard roads.

The route and configuration described below is the ultimate development of the corridor, which will be progressively delivered in stages.

Note: Description of numbers of lanes indicates the total number of lanes, with half running in each direction: “six lanes” indicates three lanes running in each direction.

Flinders Highway to Vantassel Street

The initial section of the preferred alignment between the intersection of the Bruce and Flinders Highways and Vantassel Street has previously undergone significant detailed planning and consultation through other projects including the TPAR/Stuart Bypass and Abbott Street Deviation. This planning has been accepted and integrated into this recommendation.

Notable features of this section will include:

- Design capacity for a minimum 80,000 vpd, ultimately with three freeway-standard lanes in each direction (six in total) supported by an enhanced local road network.
- Grade-separated interchanges and divided carriageway to allow continuous 100 kph operation and a seamless integration into the broader Townsville Ring Road network to provide an unimpeded high-speed link through the city of Townsville.
- Ultimate redevelopment of the Flinders Highway intersection into a grade-separated interchange. This will be the subject of future detailed planning.
- Deviation of the existing Abbott Street to the Lakeside Drive link (Abbott Street Deviation), incorporating grade-separated interchanges and roundabouts to service both Fairfield Waters and the Townsville Turf Club.
- Overpass of the Queensland Rail Main Northern Line at Jurekey Street.
- Closure of existing Jurekey Street and Abbott Street intersections with local traffic access via a
new local road linking Lakeside Drive with Racecourse Road and Jurekey Street. Rail and highway crossings will ultimately be grade-separated.

- Development of higher-level bridging of Stuart Creek including flood mitigation measures. A detailed flood study of Stuart Creek has been carried out as part of this study and options have been identified to improve the flood immunity of the Bruce Highway at Stuart Creek.

- The new Bruce Highway alignment closely follows the current alignment to Vantassel Street and takes into consideration the improved flood immunity and greater corner radius required to enhance the road performance.

- Retain access to Heleen Downs Station, Stuart Drive-In site and Magnetic Gateway Holiday Village with alternate access to be provided via a service road using the existing highway and Stuart Creek Bridge to link with elements of the TSDA. This will also become part of a wider pedestrian and cycle network for the corridor.

- Acquisition of the Townsville Enterprise Limited Information Centre.

- Ultimate grade-separated interchange with TPAR.

- Closure of current Hunter Street and Zinc Avenue/Vantassel Street intersections to the Bruce Highway with alternate access via a service road network linking elements of the TSDA. Possible underpass of the new Bruce Highway at Vantassel Street linking the existing highway and the TSDA service road network.

Vantassel Street to Sunnyside Street

- Design capacity for a minimum 80,000 vpd, ultimately with six freeway-standard lanes from Vantassel Street and a point outbound of the Southwood Road rail overpass.

- When required by future development in the area, a major interchange will split four lanes carrying approximately 32,000 vpd into the Rocky Springs area through the current Townsville Prison Farm. Four lanes (carrying approximately 20,000 vpd made up of Rocky Springs and Highway through traffic) will follow the existing rail line towards the Muntalunga Range and joins the existing Sunnyside Street alignment seaward of the existing rail line.

- Following the existing Sunnyside Street alignment, four freeway-standard lanes skirt the foothills of the Muntalunga Range, before splitting again at a grade-separated interchange approximately mid-way between the communities of Julago and Serene Valley.

- Four arterial-standard lanes cross the existing Queensland Rail Main Northern Line and carry traffic to a second access into the Rocky Springs area. Ultimate alignment and configuration of internal elements of this link will rest with developers and land owners as part of internal road planning processes.

- A new service road linking the TSDA and Queensland Rail Julago Cattle Yards (potentially extended to Barnham Road) will be developed to maintain access to Sunnyside Street properties. This road crosses the Queensland Rail Julago Sale Yards rail siding which will require active protection.
Sunnyside Street to Bentley Drive

- Development of a new highway corridor which splits from the second Rocky Springs interchange to carry through traffic. Design for two freeway-standard lanes (with formal passing lanes) with corridor width able to accommodate an additional two lanes (a total of two lanes in each direction) if required by future development in the area. This alignment follows the foothills of the Muntalunga Range on the eastern side of the existing rail line.

- Provision has been made in design and land acquisition considerations for an interchange at a point where the existing Barnham Road reserve intersects with the rail line adjacent to the previous Nome Railway Station. This linkage has been considered to satisfy potential future growth in the Whites Plain area and is identified as a possible future action by others as it is not required for the highway to function effectively.

- A new arterial road would link the interchange to the junction of Barnham Road and Bentley Drive and a service road will link the “Hannon Homestead” to the interchange to allow for ultimate closure of the at grade rail crossing currently serving this property. The existing rail crossing at Nome Road will be closed.

- Two freeway-standard lanes cross Bentley Drive directly adjacent to the existing rail line (corridor width able to accommodate an additional two lanes). Bentley Drive to ultimately be grade-separated to overpass both the new highway and the rail line.

Bentley Drive to Killymoon Creek

- Two freeway-standard lanes continue to follow the rail line before following an existing road easement on the seaward boundary of Lot 1 RP703035 before crossing Alligator Creek on a new bridge above the Q50 flood level. Note that corridor width would allow for an additional two lanes and duplication of the Alligator Creek bridge if required in the future.

- Two freeway-standard lanes continue on this alignment before rejoining the existing highway at a new grade separated interchange just north of Killymoon Creek.

- A new service road will be developed between Whites Creek and the rail line to provide access to properties currently served by an easement alongside the rail line.

Current highway

- Maintenance of the current highway throughout its current length as a lower-speed local feeder road linking access points to the new highway alignment.

- Retain Stuart Creek Bridge with a service road using the existing highway and Stuart Creek Bridge to link with elements of the TSDA for Cluden, Magnetic Gateway Holiday Village, Stuart Drive-In and Heleen Downs Station. Pedestrian and cycle access will also be enhanced.

- The option exists for the new Bruce Highway to overpass Vantassel Street to allow linking of the existing highway and the TSDA service road network.

- The existing Bruce Highway between Vantassel Street and Lowe Road will be converted to a service road providing access to Lowe Road, the crematorium and Townsville Prison Farm.

- A future major interchange into the Rocky Springs area through the current Townsville Prison Farm will overpass the highway and not impede traffic flow on the existing highway.

- A major new signalised intersection between Julago and Serene Valley will carry traffic to and from the Rocky Springs area from the nearby Sunnyside Street interchange across the current highway. This will allow local traffic from the Julago, Serene Valley and Alligator Creek areas to easily access the high-speed motorway link for transit to and from Townsville.

- The section of the current highway between the anticipated location of the second Rocky Springs entrance and the Allendale Drive/Bentley Drive intersection may approach its design capacity after the end of this project's planning life, and investigation has shown the current corridor would accommodate an additional lane in each direction with minimal future land acquisition.

- Redevelopment of existing highway intersections including:
  - Closure of Hunter Street and Zinc Avenue/Vantassel Street at grade intersections with alternate access via the TSDA service road network, including a possible underpass to link the existing highway to Vantassel Street.
  - Creation of a new service road for the Townsville Prison Farm.
  - Upgrade of Lowe Road intersection and current Crematorium access.
• Closure of the current Julago Street intersection with safer access provided via Coast and Lowe roads.

• Upgrade of current Muntalunga Drive, Allendale Drive and Bentley Drive accesses.

• Upgrade of current Alligator Creek Road, Williams Road and Tindall Court access in controlled T-junctions.

Marron Road intersection will remain unchanged unless additional residential development requires it also to be upgraded to a controlled T-junction.

Acquisition requirements

Minimising the acquisition of privately owned land, especially residential property, has been a guiding consideration in the design of the recommended route for the SAC.

The bulk of the land required is drawn from existing government holdings or from three major largely undeveloped pastoral properties.

Small proportions of properties owned by 27 private landowners will be required. Two residential properties are recommended for total acquisition.

Next steps

Now that this report and recommended route has been presented to the Department of Transport and Main Roads, it will undergo an internal process of review before being approved.

Once approved, an initial parcel (likely to include the section from the junction of the Flinders Highway to the vicinity of Vantassel Street) will progress towards preparation of a fully-costed business case to allow a budget to be set for detailed design and construction.

The project will then be progressed as part of the department's integrated Roads Implementation Program (RIP).

Timing for these steps is uncertain, and will be dependant on factors including project priority, available funding, and the progression of residential development in the area.

Future project contacts

With the presentation to the Department of Transport and Main Roads of this report, the work of the Southern Access Corridor (SAC) study team is complete.

Future information on the status of this project may be obtained by contacting:
Craig Caton: Manager (Network Planning and Performance) Department of Transport and Main Roads – Townsville
Phone: (07) 4720 7332
Email: craig.i.caton@mainroads.qld.gov.au

For information on property-related matters, please contact:
Terry Goddard: Principal Property Officer, Property Services, Finance and Facilities Division, Department of Transport and Main Roads
Phone: (07) 3834 2418
Email: terry.r.goddard@mainroads.qld.gov.au