4. Project development and alternatives

This chapter describes the process undertaken to assess preliminary route options to identify a preferred route, and describes the development of the concept design.

DGRs	Where addressed
Project justification	
Describe the need for and objectives of the project; alternatives considered and justification for the preferred project taking into consideration the objects of the *Environmental Planning and Assessment Act 1979* and the following:	Sections 3.2, 3.3 Chapter 4 Sections 12.1, 12.2
▪ The environmental, social and economic impacts of the project.	Sections 12.1, 12.2
▪ The suitability of the site.	Sections 12.1, 12.2
▪ Whether or not the project is in the public interest.	Sections 12.1, 12.2

4.1 Development and evaluation of route options

The process followed in developing and evaluating the route options is summarised below and further detailed in the *Hume Highway Upgrade Holbrook Bypass: Preferred Option Report* (RTA 2008b).

4.1.1 Preliminary route options

The RTA began investigations into the proposed Hume Highway Holbrook bypass in the late 1980s. Three broad options for the provision of a dual carriageway bypass were identified (refer to Figure 4.1):

- Option A: a bypass to the west of the existing Hume Highway commencing approximately five kilometres to the north of Holbrook and traversing cleared agricultural land before crossing Wagga Wagga Road, via a grade-separated crossing. The route then traverses a crown reserve passing to the west of a cemetery, sewage treatment works and industrial land, and to the east of the Holbrook tip. The route crosses the non-operational Culcairn to Holbrook rail line and passes through the eastern edge of a travelling stock route before crossing Culcairn Road via a grade-separated crossing. From Culcairn Road, the route passes through the Greater Hume Shire Council depot and crosses Ten Mile Creek before rejoining the existing Hume Highway approximately three kilometres south of Holbrook.
- Option B: a bypass to the east of the existing Hume Highway commencing approximately five kilometres to the north of Holbrook and traversing cleared agricultural land immediately east of the racecourse. The route continues west through a ridgeline and the Kildrummie property before crossing Jingellic Road via a grade separated crossing. The route crosses Ten Mile Creek and a tributary of the creek before rejoining the existing Hume Highway approximately three kilometres south of Holbrook.
- Option C: deviates to the east past the racecourse as for Option B, to then follow a local road corridor on the eastern boundary of the golf course. Option C crosses Jingellic Road and Ten Mile Creek further west than Option B, rejoining with this option just north of an unnamed drainage line. This option reduces the impact on the Kildrummie property and avoids a major cutting in a ridgeline.

4.1.2 Community consultation on preliminary route options

The three preliminary route options were displayed for public comment in 1990. Following assessment of submissions received, Option A was announced as the preferred route. The preferred route was supported by the local council (the former Holbrook Shire Council).

In 2007, the RTA re-initiated investigations into the Holbrook bypass. To address the long lapse in time since the initial display, the three preliminary route options were placed on public display in June 2007 and comments were again invited.

4.1.3 Preliminary environmental investigations

Preliminary environmental investigations were undertaken between late 2007 and February 2008. This included technical studies for flora and fauna, Aboriginal cultural heritage, non-Aboriginal heritage, noise, surface water and flooding, social and economic, water access and quality, and landscape and visual constraints.

In addition to the preliminary environmental investigations, a number of design and construction issues were considered.

4.1.4 Options assessment workshop

In February 2008, an options assessment workshop was held to review and evaluate the three preliminary route options based on environmental, social and design criteria (selected at the workshop). The workshop was attended by members of the community, representatives from government agencies, including the Department of Infrastructure, Transport, Regional Development and Local Government, Department of Environment and Climate Change (DECC (now the Department of Environment Climate Change and Water (DECCW)), Department of Primary Industries (DPI) (now the Department of Industry and Investment), Rural Fire Service, Murray Catchment Management Authority, Hume Rural Lands Protection Board (now the Livestock Health and Pest Authority) the Greater Hume Shire Council and the RTA. The issues raised by the community and the preliminary environmental investigations were considered during evaluation of the route options.

The outcomes of the workshop are summarised below:

- Option A was considered to present a better social and economic relationship with the town compared to other options.
- Option A aligns with Council planning (the draft Strategic Land Use Plan for Holbrook) and with existing community expectations.
- Option A would result in the least severance impacts and acquisition of private property.
- The main environmental concerns for Option A, such as potential flora and fauna impacts, may be minimised or mitigated through further design investigation. The main environmental concerns for Option B and Option C, such as potential impacts on Aboriginal cultural heritage, were largely difficult to mitigate.
- The majority of participants agreed that Option A remained the preferred route. It was recognised that detailed design development and environmental investigations would be needed to address the likely impacts on flora and fauna, particularly on an endangered ecological community.

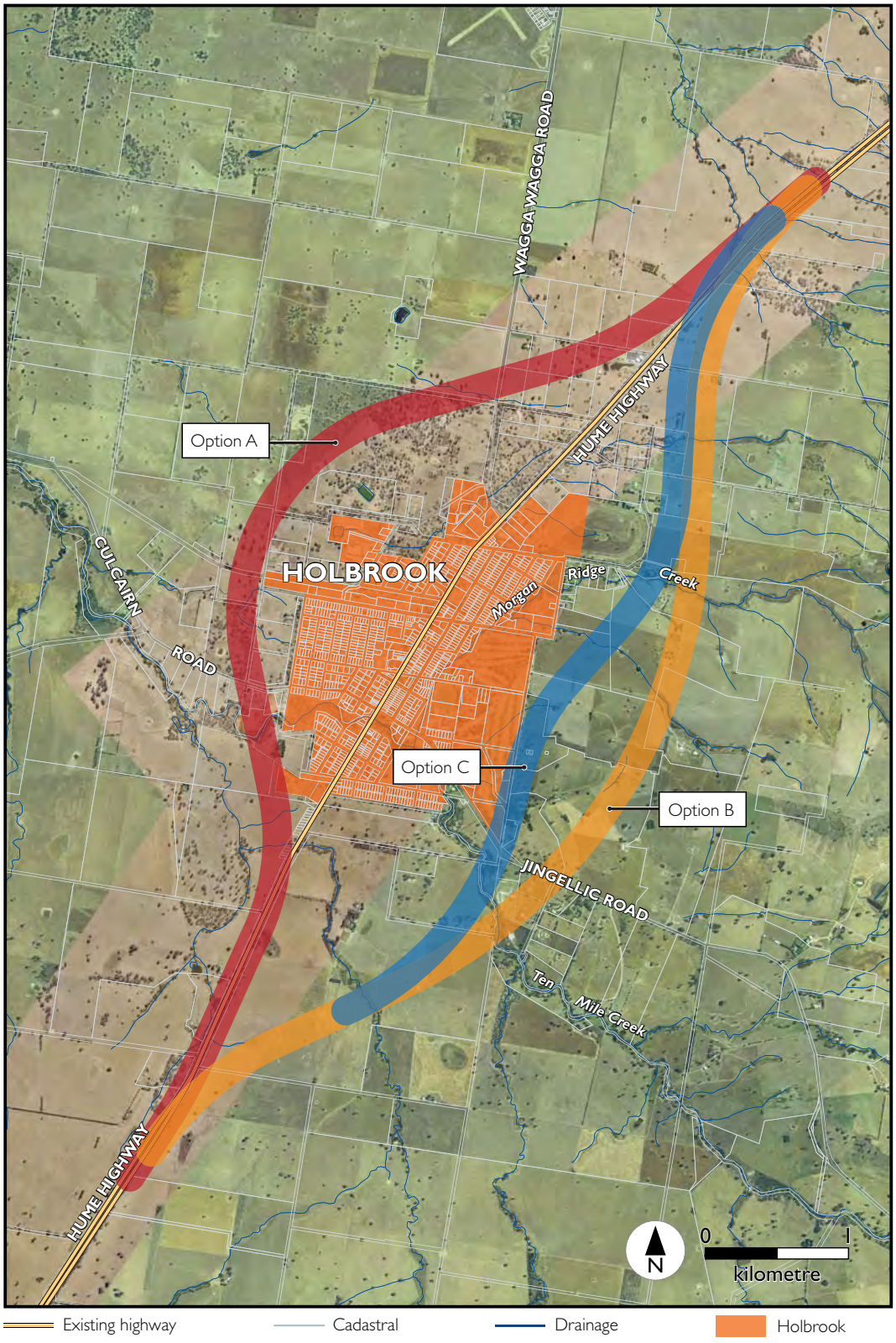

Figure 4-1 **Preliminary route options**

4.2 Further design development of Option A

Following the options assessment workshop in February 2008, Option A underwent further consideration regarding potential opportunities to minimise flora and fauna impacts of the option, and specifically direct effects on a threatened Box-Gum Woodland ecological community in the former Town Common area. This resulted in an expansion of the corridor width to the west in this area to allow investigation of design opportunities to minimise clearing and severance effects on this community.

Options to move the corridor further to the west to reduce loss of the Box-Gum Woodland community were investigated. However, it was found that this would result in an increase of approximately one kilometre to the length of the project. This would result in additional capital cost in the order of $20 million and increased fuel use and operational costs to road users. Further, moving the alignment to the west would create additional property and Aboriginal cultural heritage impacts. Increased separation of the proposed bypass from the town could also reduce the opportunity to provide a positive economic association between the town and the proposed bypass (encouraging road users to use Holbrook as a rest stop). As a result, it was not feasible to avoid or alter the impact on the threatened Box-Gum Woodland ecological community.

4.3 Selection of the preferred option

Option A was announced as the preferred route for the Holbrook bypass on 15 September 2008 by the Federal Government Minister for Infrastructure, Transport, Regional Development and Local Government. This was based on the outcomes of community consultation, the options assessment workshop, preliminary environmental investigations and consideration of project costs and road user benefits. The reasons for adopting Option A as the preferred route over other route options include:

- It is supported by the majority of the community and the Greater Hume Shire Council.
- It is included in the draft Strategic Land Use Plan for Holbrook, which has influenced a number of planning responses, such as future land use planning, including urban sub-division, the need for future residential areas and opportunities and potential increases in commercial and industrial activities.
- The majority of participants at the options assessment workshop recommended that Option A remained the preferred route.
- The main environmental concerns for Option B and Option C, such as potential impacts on Aboriginal cultural heritage were largely difficult to mitigate.
- Option A has less impact on public facilities (hospital, racecourse, Holbrook Golf Course and sporting complex).

4.4 The concept design

Following announcement of the preferred route and lodgement of the *Hume Highway Upgrade Holbrook Bypass: Preliminary Environmental Assessment* (RTA 2008a) to the Department of Planning (refer to Section 2.1), the concept design for the project was refined to address issues raised through agency submissions, community consultation, detailed environmental investigations and other outstanding design issues. This design refinement included:

- Realignment of the preferred corridor to minimise impacts on landowners and the environment, particularly Aboriginal cultural heritage.

- Modifications to the Wagga Wagga Road and southern interchanges based on optimising access into and out of the town.
- Modifications to the grade-separated crossing of Culcairn Road. Two options were considered — Culcairn Road over the proposed bypass and Culcairn Road under the proposed bypass. The option of Culcairn Road under the proposed bypass was chosen to minimise impacts on property (less land take), flora and fauna in the Culcairn Road Travelling Stock Reserve and non-Aboriginal heritage (HH1-3, refer to Section 10.2). This option also provides for stock movement, maintaining the connectivity of the travelling stock route. This option was also chosen for optimal design alignment and road safety considerations.

The outcome of these design refinements was the development of the concept design as presented in this environmental assessment, and described in detail in Chapters 5 and 6.