

3. Access strategy development process

3.1 Introduction

The highway access strategy has been formulated from various engineering and environmental assessments, and consultation workshops (key stakeholders and community) undertaken during the initial project phases including route options development and preferred route development and the current project phase concept design.

The preferred route (as shown in Map 1 and Map 2) forms the basis of the proposed highway access strategy for this project. Following the preferred route development phase further investigation, assessments and consultation workshops have been conducted to refine the preliminary design of the alignment, as well as the associated interchange and at grade intersection designs. This information has facilitated the development of the access strategy and preparation of the concept design.

The key project considerations that influenced the development process and planning of the access strategy are detailed in Section 3.1.1.

3.1.1 Key project considerations

From the technical work and consultation workshops undertaken to date the key project considerations in developing a practical highway access strategy for this project included the following:

- ▶ Oxley Highway to Hastings River – provide access to the existing Sancrox Road industrial precinct, Cassegrain Vineyard, future Sancrox Employment Precinct and Area 13 development, east-west connectivity at Sancrox area and proximity of the existing interchange at Oxley Highway.
- ▶ Hastings River to Blackmans Point Road – provide northern gateway/access to Port Macquarie, access to Blackmans Point Road and southern access to Telegraph Point, Cairncross Waste Management Facility and state forests.
- ▶ Wilson River to Cooperabung Hill – provide northern access to Telegraph Point and environs.
- ▶ Cooperabung area – provide safe access for heavy vehicle movements to/from the proposed Yarrabee Quarry development.
- ▶ Kundabung area – provide access to the village of Kundabung, east-west connectivity for Kundabung area and the proximity of the proposed grade separated interchange south of Kempsey for the Kempsey to Eungai project.

3.2 Key development milestones

As discussed above, various engineering and environmental investigations, consultations, meetings and workshops have been undertaken over the course of this project. The primary technical developments and consultation workshops that contributed to the formalisation of the Oxley Highway to Kempsey access strategy are discussed in consecutive order in the following sections.

3.2.1 Preliminary preferred route concept design meeting

Following the preparation of the preferred route report, the project team met to discuss the preliminary preferred route concept design. This meeting provided an opportunity for the project team to further discuss the horizontal alignment, vertical grading and access arrangements for the preliminary preferred route concept design.

The proposed highway access strategy presented at the meeting is summarised below:

Arterial standard

- ▶ No grade separated interchanges for the arterial scenario. A combination of seagull intersections and left in/left out treatments were proposed throughout the preferred route alignment with a sign posted speed limit of 100 km/h.

Motorway standard

- ▶ A full grade separated interchange located at either:
 - Between Sancrox Road and Fernbank Creek with service road connections to the south of Sancrox Road linking to the Oxley Highway and to the north linking to Hastings River Drive; or
 - South of Blackmans Point Road.
- ▶ A half grade separated interchange located at Bill Hill Road with south facing ramps only.
- ▶ A half grade separated interchange located at Haydons Wharf Road with north facing ramps only.
- ▶ A full grade separated interchange located at Kundabung Road with the addition of north and south facing ramps to the overbridge and an east-west service road provided in the arterial scenario.

Due to the impacts and cost of providing multiple interchanges for the various highway upgrade projects currently under planning, the proposed access strategy for the motorway standard (as detailed above) was challenged and discussed at length. Previous access strategies and options were also discussed.

A positive outcome of the meeting was the suggestion of investigating an overbridge south of Sancrox Road to provide an east-west connection between Sancrox Road and Fernbank Creek Road with left in and left out only treatment at Sancrox Road and Fernbank Creek Road intersection. The overbridge option would be in lieu of the interchange located north of Sancrox Road. This particular option was developed further following the presentation and was tabled for consideration at the access strategy workshop held in September 2006 (discussed further in Section 3.2.3) and the layout is included in Appendix A.

The suitability of the half interchange at Bill Hill Road as the southern access to Telegraph Point was also discussed, however it was agreed that a full interchange south of Blackmans Point Road would be preferable and should be revisited, as it provided not only access to Telegraph Point, but also a closer northern gateway to Port Macquarie.

The provision of a full interchange in the vicinity of Kundabung Road was also discussed. It was established that provision of a full interchange at this location would be impacted by the final location and design of the grade separated interchange to be constructed south of Kempsey for the Kempsey to Eungai project, and should be a key consideration in the design process.

3.2.2 Access strategy workshop

Following the announcement and display of the preferred route, receipt of public submissions and preliminary consultation with Port Macquarie - Hastings Council, the project team revised the access strategies, including the interchange locations for the Oxley Highway to Blackmans Point Road section.

In consultation with council, a reduced number of revised options were selected to present at an access strategy workshop. The workshop was held at Port Macquarie - Hastings Council offices on 11 September 2006 and involved key members of the project team, Port Macquarie - Hastings Council and facilitated by the Australian Centre for Value Management (ACVM). The workshop objectives were as follows:

- ▶ Identify assessment criteria to enable evaluation of the access options in the area.
- ▶ Review the possible access options developed by the project team for the area.
- ▶ Evaluate the possible access options against the criteria.
- ▶ Recommend a preferred access strategy for the area.

A background paper was produced for the workshop. The options tabled for consideration at the workshop were:

Option 1 – full interchange located approximately 500 m south of Blackmans Point Road, left in/left out only with closed median at Sancrox Road and Fernbank Creek Road intersection and Hastings River Drive intersection unchanged.

Option 1b – similar to Option 1, with the exception of a seagull intersection treatment added on the south side of Fernbank Creek for access to Hastings River Drive.

Option 2 – similar to Option 1, with the addition of an overbridge located approximately 600 m south of Sancrox Road, linked from Sancrox Road to Fernbank Creek Road via a service road.

Option 3 – similar to Option 2, with the addition of service road connections from Oxley Highway to the proposed overbridge and from Fernbank Creek Road to the existing highway at Fernbank Creek.

Option 4 – full interchange located mid-way between Sancrox Road and Fernbank Creek and an overbridge located south of Blackmans Point Road, with service road connections from Sancrox Road to the interchange, the interchange to Hastings River Drive and access to the highway closed at Sancrox Road and Fernbank Creek Road intersection.

Once the options were presented to the workshop attendees an assessment criteria was developed to assess the merits of one option over another. The agreed criteria were weighted and documented for assessment against each option. The agreed criteria and weightings are given in Table 3.1.

Table 3.1 Access strategy workshop criteria

Criteria	Weighting
Increase the safety for all road users.	44%
Improve travel efficiency and connectivity.	22%
Provide a gateway to Port Macquarie and Hastings Valley from the north.	0%
Ensure any preliminary works can be staged and incorporated into the ultimate Pacific Highway strategy and council's land development strategy.	22%
Minimise environmental impacts.	12%

In addition to the assessment criteria identified in Table 3.1, the capital cost of each option was ranked. The results of the group assessment are given in Table 3.2. The higher scores represent the preferred options.

Table 3.2 Access strategy workshop results

Option	Weighted score	Capital cost rank
1	258	Lowest capital cost
1b	258	Second lowest capital cost
2	410	Third lowest capital cost
3	420	Forth lowest capital cost
4	254	Highest capital cost

Following the presentation of background data and assessment of each option by the workshop attendees the following options were recommended for adoption as the access strategy for further design development and investigation:

- ▶ Arterial standard – Option 2
- ▶ Motorway standard – Option 3

Option 2 and 3 are essentially similar, however Option 3 provides a continuous alternative route to the upgraded highway in compliance with the motorway design standards.

The advantages of Options 2 and 3 are:

- ▶ Provides safe east-west connectivity for Sancrox Road to Fernbank Creek Road movements, separating through and local traffic.
- ▶ Caters for existing and planned development in the Sancrox Road area.
- ▶ The overbridge and associated service roads could be staged prior to and independent of highway upgrade.
- ▶ Makes use of the existing road network.
- ▶ Provides an immediate solution to the upgrade of Hastings River Drive intersection.

- ▶ Provides a northern gateway to Port Macquarie and at the same time access to Telegraph Point and Cairncross Waste Management Facility.

The workshop facilitators (ACVM) prepared a report detailing the assessment of each option and recommendations from the workshop. The background report and the workshop report are included in Appendix B.

3.2.3 Port Macquarie Hastings Council resolution

Following the access strategy workshop (discussed in Section 3.2.4) representatives from Port Macquarie - Hastings Council reported the workshop findings to council. On 27 November 2006 Port Macquarie - Hastings Council's ordinary council meeting resolved the following:

- ▶ Council would support the preferred route corridor, as recently exhibited by RTA, for the purposes of RTA proceeding to obtain a Part 3A approval from the Department of Planning.
- ▶ Option 2, as defined in Section 3.2.4, would be endorsed by council as the preferred access to the Pacific Highway for the Sancrox Employment Precinct;
- ▶ Further requisite discussions need to be held with RTA on funding options for the preferred Option 2 access point as part of the next phase of the highway upgrade project. Council expressed its concern to the Minister for Roads and the RTA regarding the urgency of this matter.
- ▶ A focus group (including relevant parties) needs to be established to assist in progressing the project as fast as possible.

The RTA's project manager received a letter confirming the above listed resolutions by council.

3.2.4 Community consultation

A community meeting was held in November 2006 to publicly discuss the interchange options for the Oxley Highway to Kempsey project. The meeting was advertised by means of radio and newspaper advertisement. Meeting invitations were also sent to all community liaison representatives and other stakeholders that had expressed a particular interest on the project. 19 stakeholders attended the meeting.

Agenda items for the meeting included updating stakeholders on the status of the project, as well as tabling and discussing the interchange options (including Options 1 to 4 as described in Section 3.2.3). The community meeting broke up into three workshop groups, which were facilitated by members of the project team. Each workshop group was asked to examine each of the five options against the following three questions:

Q1. What do you like about the proposed access / interchange arrangements?

Q2. What don't you like about the proposed access / interchange arrangements?

Q3. Suggestions?

The results of the workshop indicated that stakeholders:

- ▶ Disliked Options 1 and 1B due to limitations of movements as well as circuitous access to the highway.
- ▶ Preferred Options 2 to 4 as these provided clear benefits in terms of access to the highway, as well as to the local road network.

Meetings were held in March 2007 at Kundabung and in July 2007 in Telegraph Point. These meetings were held to provide an update on the proposed access arrangements in the Kundabung and Telegraph Point areas respectively and to provide community members with an opportunity to discuss the proposals with the project team.

3.2.5 Technical investigation of an overbridge south of Sancrox Road

Prior to holding a workshop of service roads (as discussed in Section 3.2.6) the option of an overbridge and left in/left out arrangement at Sancrox Road and Fernbank Creek Road was further investigated. This option in conjunction with a grade separated interchange south of Blackmans Point Road was comparatively assessed against the options of one full interchange located between Sancrox Road and Fernbank Creek or one full interchange located south of Blackmans Point Road. The vehicle kilometres travelled (VKT) was assessed for each option for the following trips:

- ▶ From the Pacific Highway (at Oxley Highway interchange) to Sancrox Road.
- ▶ From Sancrox Road to the intersection of Pacific Highway and Oxley Highway.
- ▶ From the Pacific Highway (Maria River) to Hastings River Drive.
- ▶ From Hastings River Drive to the Pacific Highway (Maria River).
- ▶ From Hastings River Drive to the Pacific Highway (at Oxley Highway interchange).
- ▶ From the Pacific Highway (at Oxley Highway interchange) to Hastings River Drive.

To assess the effectiveness of the highway upgrade for the motorway scenario, the vehicle trips were measured from the nearest interchange to the given destination. While it may be a shorter distance for some of these routes to use a proposed continuous alternate route, this did not measure the effectiveness of the highway upgrade to efficiently move traffic. A summary of the results is given in Table 3.3.

Table 3.3 Vehicle kilometres travelled (VKT) assessment

Trip	Existing Highway		One interchange at Blackmans Point Road		One interchange north of Sancrox Road		Interchange at Blackmans Point Road and South of Sancrox Road	
	VKT ^{1,2} (km '000)	Rank	VKT ^{1,2} (km '000)	Rank	VKT ^{1,2} (km '000)	Rank	VKT ^{1,2} (km '000)	Rank
Oxley Highway to Sancrox Road	18	1	19	3	36	4	18	1
Sancrox Road to Oxley Highway	111	1	121	3	232	4	111	1
Maria River to Hastings River Drive	9929	3	9348	1	10692	4	9348	1
Hastings River Drive to Maria River	8149	3	7673	1	8776	4	7673	1
Hastings River Drive to Oxley Highway ³	1099	2	1877	4	1099	2	959	1

	Existing Highway		One interchange at Blackmans Point Road		One interchange north of Sancrox Road		Interchange at Blackmans Point Road and South of Sancrox Road	
Oxley Highway to Hastings River Drive	1309	1	2253	4	1326	2	1359	3

Note 1: The VKT assessment is derived from the Origin Destination Survey conducted in 2004 and documented in the Oxley Highway to Kempsey Preliminary Traffic Assessment Report.

Note 2: VKT are calculated annually.

Note 3: Hastings River Drive to Oxley Highway VKT is calculated from the intersection of Fernbank Creek Road and Hastings River Drive.

The results from the vehicle kilometres travelled assessment confirmed the benefit of implementing the Sancrox Road interchange (in addition to the proposed interchange at Blackmans Point Road) for access to Port Macquarie and the potential developments within the Sancrox Road area.

Following the community meeting the project team also critically assessed whether the proposed overbridge should be located south or north of Sancrox Road. Due to property impacts (particularly to Cassegrain Vineyard) and topography the preferred location of the overbridge was confirmed as being south of Sancrox Road.

3.2.6 Service roads workshop

Following consultation with surrounding businesses, community and council, the project team understands that consistency between land use planning being undertaken in the surrounding area by council and the concept layout for service roads and linkages associated with the Pacific Highway Upgrade planning is required for the road network to work well.

Therefore a workshop was held on 7 March 2007 that considered four short listed options to connect the previously identified access points to local roads and also meet the objectives of the service road strategy. The service road strategy workshop was attended by key members of the project team, Port Macquarie - Hastings Council and facilitated by the Australian Centre for Value Management (ACVM). The workshop objective was to “provide a forum to review the planning undertaken to date and resolve any outstanding issues associated with the planning of the Pacific Highway service roads at Port Macquarie”.

The preferred option was to provide a service road connection between Fernbank Creek Road and the existing highway at Fernbank Creek initially as part of the upgrade to arterial standard. A service road linking the Oxley Highway to Fernbank Creek Road would be constructed as part of the upgrade to motorway standard to facilitate the program objective of providing a continuous alternative route.

The workshop facilitators (ACVM) prepared a report detailing the assessment of each option and recommendations from the workshop. The background report and the workshop report are included in Appendix C.