

## 7. Value Management Workshop

### 7.1 Introduction

A two day Value Management Workshop (VMW) was held on 5 and 6 December 2005. The value management workshop was used to review and assess the four route options that were placed on public display against assessment criteria to help decide on a preferred direction for further investigation to progress the planning phase of the project.

The route options assessment undertaken in the VMW was the second of three activities undertaken to help determine a preferred route for the project.

Workshop participants included representatives from:

- ▶ Coffs Harbour City Council;
- ▶ Department of Planning;
- ▶ Department of Environment and Conservation;
- ▶ Coffs Harbour Local Aboriginal Land Council;
- ▶ Community Liaison Group;
- ▶ WIRES;
- ▶ GHD Pty Ltd;
- ▶ Clarence Valley Council;
- ▶ Department of Natural Resources;
- ▶ Department of Primary Industry;
- ▶ Grafton-Ngerrie Local Aboriginal Land Council;
- ▶ Environmental Focus Group;
- ▶ Yarrawarra Aboriginal Corporation; and
- ▶ RTA.

An independent facilitator from the Australian Centre for Value Management chaired the workshop.

During the VMW, only route options within Sections B, C and E of the project were assessed as the route options within Sections A and D all share a single common corridor, and therefore did not require assessment (i.e. there were no corridor options to choose from).

A copy of the Value Management Workshop Report (Australian Centre for Value Management, 2005) can be viewed on the project website: [www.rta.nsw.gov.au/pacific](http://www.rta.nsw.gov.au/pacific) (click on Woolgoolga to Wells Crossing).

### 7.2 Route Option Assessment

During the VMW, participants developed assessment criteria under three key categories, based on what participants considered to be the most important issues for assessing the route options. The three criteria categories were:

- ▶ Functional;
- ▶ Social and Economic; and
- ▶ Natural and Cultural Environment.

Workshop participants were then asked to weight the criteria within each of the three categories to determine which criterion were valued as being the most important and which criterion were valued as being less important. Weighting of criterion across each category was not undertaken.

A summary of the criteria developed by participants and the weighting applied to each criterion is provided in Tables 7.1 to 7.3.

**Table 7.1 VMW Assessment Criteria - Functional Category**

<b>ID</b>	<b>Assessment</b>	<b>Relative Weighting</b>
A	Relative safety performance during operation	39%
B	Relative safety during construction	32%
C	Improved travel time	7%
D	Potential delays for road users during construction	-
E	Ability to gain benefits early (i.e. Staging)	22%
<b>Total</b>		<b>100%</b>

**Table 7.2 VMW Assessment Criteria - Social and Economic Category**

<b>ID</b>	<b>Assessment</b>	<b>Relative Weighting</b>
A	Number of access points to the highway	Deleted by the group (not used)
B	Differential noise for receivers	18%
C	Impacts on agricultural and forested land	8%
D	Impacts on commercial business	11%
E	Extent of community severance	37%
F	Number of dwellings and other structures threatened by the corridor	26%
G	Visual impact of corridor from the local community viewpoint	-
<b>Total</b>		<b>100%</b>

**Table 7.3 VMW Assessment Criteria - Natural and Cultural Environment Category**

<b>ID</b>	<b>5</b>	<b>Relative Weighting</b>
A	Potential flooding implications to the environment	4%
B	Extent of clearing to high conservation value vegetation	13%
C	Impact on wildlife corridors	22%
D	Impact on EEC's and threatened species (terrestrial and aquatic)	22%
E	Impact on significant aboriginal sites (registered and unregistered)	39%
F	Relative environmental risk during construction	-
<b>Total</b>		<b>100%</b>

Workshop participants were then presented with the details of each of the four route options by the project team.

Having become familiar with what each option involved, workshop participants were asked to assess the route options in Sections B, C and E using the weighted assessment criteria above.

The assessment of options against the criteria enabled the route options within each project section to be ranked in order of value i.e. how well each option scored/performed against the assessment criteria within each category.

### 7.3 Summary of Assessment Results

The results of the options assessment for Sections B, C and E are shown in Tables 7.4 to 7.6 below. A ranking of 1 represents the highest ranking (best performing) option within each category. Two equal numbers within a criteria category meant that two options were considered to perform equally well against the assessment criteria.

The strategic cost estimates presented in the following tables were those costs available at the time of the VMW. These estimates have since been modified as a result of further investigations.

**Table 7.4 VMW Ranking of Route Options - Section B**

Option	Criteria Category			
	Functional	Social and Economic	Natural and Cultural Environment	Cost (\$M)
Blue	4	3	1	120
Green	2	2	3	105
Purple	2	3	1	115
Orange	1	1	4	90

**Table 7.5 VMW Ranking of Route Options - Section C**

Option	Criteria Category			
	Functional	Social and Economic	Natural and Cultural Environment	Cost (\$M)
Blue	3	3	2	55
Green	1	1	3	60
Purple / Orange	2	1	1	65

**Table 7.6 VMW Ranking of Route Options - Section E**

Option	Criteria Category			Cost (\$M)
	Functional	Social and Economic	Natural and Cultural Environment	
Blue	2	2	1	100
Green / Purple / Orange	1	1	2	85

At the end of the workshop, participants collectively agreed to the following conclusions:

- ▶ The preferred corridor option recommended was the **Orange option** in all three sections, subject to the following:
  - The project team undertaking additional investigations associated with the “subject to” items accompanying the recommendations (see section 7.3 below) and the suggested improvements made by participants with respect to the Orange option in Sections B, C and E;
  - The project team should continue to consult with the Aboriginal communities and the Elders to clarify possible heritage constraints (and any possible LALC matters which may impact on the project); and
  - Staging and local access arrangements for the project should be finalised as soon as possible i.e. a decision on whether to build a Class A (Arterial) upgrade scenario first followed by future upgrading to a Class M (Motorway) scenario or build a Class M (Motorway) scenario from the outset, and whether or not early benefits could be gained for road users by undertaking early works.

#### **7.4 Issues Raised at the Value Management Workshop**

The group raised a number of issues during the VMW that required either further investigation or a response by the project team. The recommendation to proceed forward with the Orange option in Sections B, C and E was subject to these issues being addressed.

Table 7.7 lists the issues raised by participants and the response to these issues as a result of undertaking additional investigations.

**Table 7.7 Issues Raised at the VMW with Responses**

Issue	Response
<b>Section B</b>	
<p>Minimising / avoiding impacts to the Aboriginal site adjacent to the corridor between Kangaroo Trail Road and the Corindi River.</p>	<p>Further consultation was undertaken with the local Aboriginal community that has confirmed the Orange Corridor would not intrude into the area of sensitivity provided it did not move further to the west. Members of the Aboriginal community reaffirmed that their preference was for the alignment to be located on the eastern edge of the exhibited Orange option (250 metres wide).</p>
<p>Confirmation of no new significant impacts to the functional, social or environmental performance / values as a result of the adjustment to the alignment at the southern end of Section B (refer above).</p>	<p>The Orange option documented in this report is consistent with the general alignment that was exhibited in October 2005 and evaluated at the VMW. As a result no new impacts have been identified and the findings of the VMW are valid.</p> <p>In addition, the Orange option represents a corridor 250 metres wide. This will allow for refinement of the upgraded highway alignment during the concept design to minimise impacts.</p>
<p>Investigate the opportunity to straighten the alignment (i.e. move further to the west) as the northern end of Section B.</p>	<p>Further engineering design, ecological and heritage investigations found that straightening the alignment of the Orange option at the southern end of Section C is feasible and that this straightened alignment would reduce the overall length of the corridor through Sections B and C by approximately 500m. In addition, this refined alignment would reduce the vertical grade of the ascent up Dirty Creek Range from 5% to 4.5%.</p>
<b>Section C</b>	
<p>Further environmental and cultural heritage investigations shall be undertaken.</p>	<p>Following the announcement of the preferred route, further detailed ecological and heritage investigations would be undertaken. This will involve comprehensive surveys of the preferred route corridor.</p>
<p>Examine the feasibility of the Orange / Purple corridor option being realigned to the west at the southern end of Section C.</p>	<p>Further engineering design, ecological and heritage investigations found that straightening the alignment of the Orange option at the southern end of Section C is feasible and that this straightened alignment would reduce the overall length of the corridor through Sections B and C by approximately 500m. In addition, this refined alignment would reduce the vertical grade of the ascent up Dirty Creek Range from 5% to 4.5%.</p>
<b>Section E</b>	
<p>Move the Orange corridor closer to the existing highway corridor to minimise clearing (i.e. further aligning the Orange corridor to the west).</p>	<p>Further engineering design, ecological and heritage investigations found that it is feasible to move the alignment of the Orange corridor option closer to the existing highway to reduce the extent of clearing as well as avoid impact to Aboriginal vested lands.</p>

Issue	Response
Minimising the proximity of the corridor to culturally sensitive lands.	<p>The cultural sensitivity of the vested lands and ceremonial site in the vicinity of Halfway Creek is acknowledged and must be considered along with other environmental and community issues.</p> <p>The preferred route corridor in this section of the study area has been widened to allow for further refinement of the preferred route alignment subject to further detailed environmental, cultural and property impact investigations, and consultation with all stakeholders.</p>
Further negotiations with the LALC to allow acquisition of affected lands. The success of these consultations are critically important, otherwise a realignment which deviates and avoids aboriginal land will likely be required to ensure certainty of the route.	Ongoing consultation with the local Aboriginal community is being undertaken and will continue to ensure the potential impacts of the preferred route are acceptable.
Adequate mitigation works to address fauna and flora impacts.	Following the announcement of the preferred route by the Minister, further detailed ecological investigations will be undertaken. At this stage the potential impacts will be identified and feasible mitigation measures will be developed in consultation with relevant stakeholders including DEC.
Impacts on the environment being effectively mitigated (i.e. The mitigation needs to be feasible).	As indicated above, the mitigation measures will be developed in consultation with relevant stakeholders, including DEC, to ensure that measures proposed are practicable and feasible.

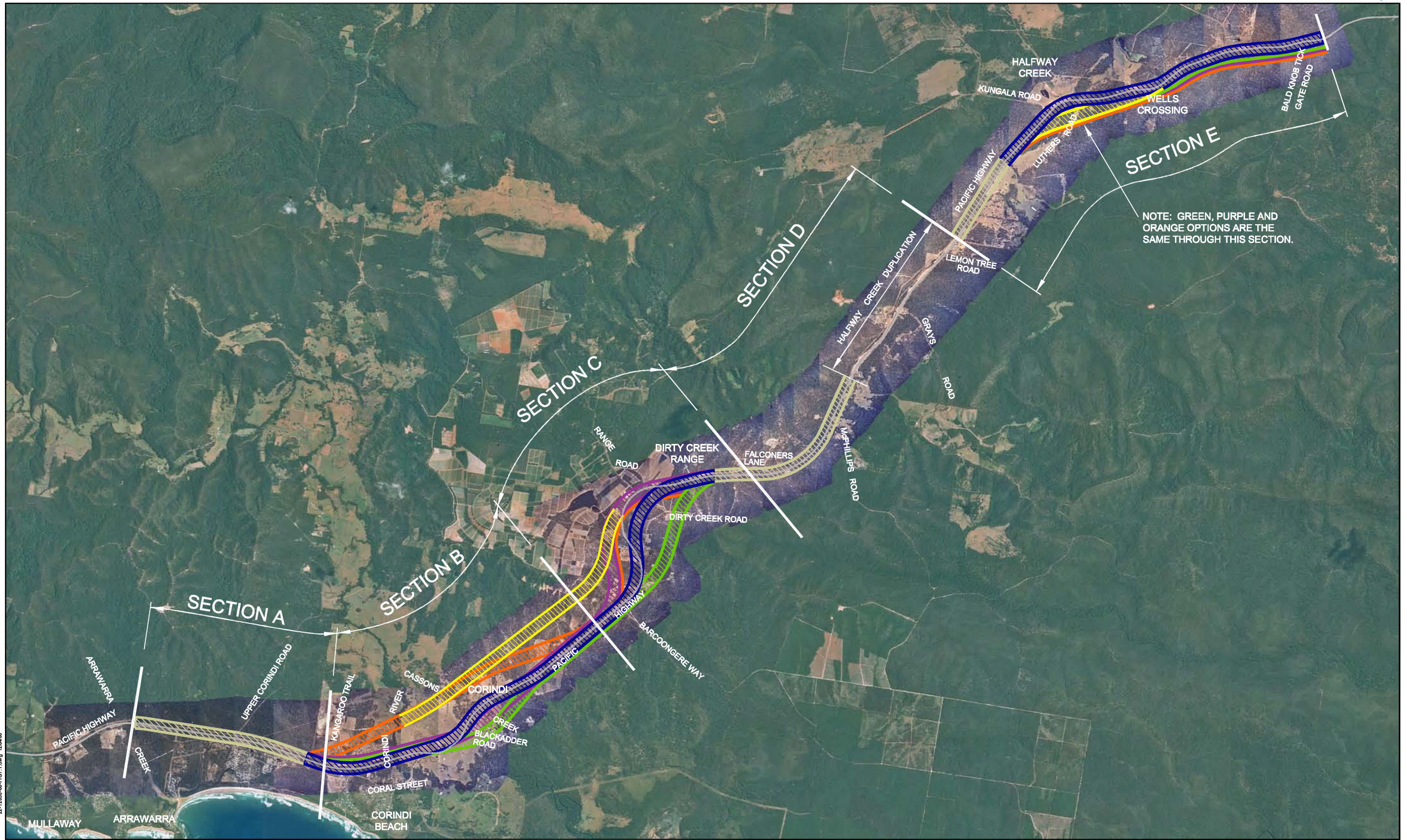
## 7.5 Refined Orange Option

### 7.5.1 Introduction

Having recommended the Orange option as the preferred option to move the project forward in Sections B, C and E, workshop participants were asked to identify possible improvements to the Orange option. One suggestion made to improve the Orange option in Sections B and C was to continue the alignment of the Orange option in a straight line from Corindi River towards Range Road instead of connecting the Orange option to the existing highway near Hawthorn Close as shown in Figure 7.1. Another suggestion to reduce the amount of vegetation to be cleared in Section E was to move the Orange corridor option further to the west (i.e. closer to the existing highway) in the vicinity of Kungala Road and Luthers Road.

Workshop participants requested and the RTA agreed that the Refined Orange option shown in Figure 7.1 be investigated further.





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<p>0 1 2 3 4 Kilometres</p>		<p><b>LEGEND</b></p> <table border="0"> <tr> <td> Blue option</td> <td> Purple option</td> <td> Common corridor for all options</td> </tr> <tr> <td> Green option</td> <td> Orange option</td> <td> Refined Orange option</td> </tr> </table>			Blue option	Purple option	Common corridor for all options	Green option	Orange option	Refined Orange option
Blue option	Purple option	Common corridor for all options								
Green option	Orange option	Refined Orange option								

Spatial layers courtesy of Coffs Harbour City Council, NSW Department of Lands, NSW Roads and Traffic Authority, Geoscience Australia, NSW Department of Environment and Conservation, NSW Department of Primary Industries.

Refined Orange Route Option

Figure 7.1







### 7.5.2 Further Investigations

Following the VMW the project team undertook further engineering, ecological and heritage investigations to assess the feasibility of the Refined Orange option in Sections B and C and in the vicinity of Kungala Road and Luthers Road within Section E.

The outcome of these additional investigations confirmed that the following advantages and disadvantages (compared with the Orange option) would result if the **Refined Orange option** was selected in lieu of the Orange option as the preferred route:

#### Sections B and C – Advantages

- ▶ Length of highway reduced by approximately 500m;
- ▶ No new local access road would be required near Hawthorn Close (the Orange option would require the construction of approximately 800m of local access road to connect the existing highway near Hawthorn Close);
- ▶ Would not require an underpass (or overpass) to allow residents of Hawthorn Close to access the Highway and travel south as access to the highway for residents of Hawthorn Close would remain unaffected;
- ▶ Less disruption to traffic during construction;
- ▶ Would not impact on the disused quarry west of Barcoongere Way;
- ▶ Construction could take place clear of the existing highway – Constructability easier;
- ▶ Less impact on public utility services;
- ▶ Reduced vertical grade over Dirty Creek Range compared with the Orange option; and
- ▶ Less capital cost compared with all other options within Sections B and C.

#### Sections B and C – Disadvantages

- ▶ Increased earthworks;
- ▶ Increased cutting depth – Maximum depth of cutting would be approximately 30m;
- ▶ Greater extent of vegetation clearance; and
- ▶ Longer length of climb up Dirty Creek range (but at a reduce vertical grade) – 4.5% grade for 1km resulting in similar travel times up Dirty Creek Range compared with the Orange option, but shorter travel times compared with all other options.

#### Section E – Advantages

- ▶ Avoids impact to Aboriginal vested lands; and
- ▶ Reduces the amount of clearing.

#### Section E – Disadvantages

- ▶ Has a direct impact on the Big Garden Furniture business.

As a result of the findings from the additional engineering, ecological and heritage investigations, the RTA decided that the Refined Orange option should be considered as a refinement to the Orange option and assessed during the Project Team Route Selection Workshop along with the four route options previously developed (see Chapter 8 below).