



10. Summary and Future Phases of the Study



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10.1 The Route Identification Process

This report outlines the process for identifying a preferred route. The information gathered and analysed has been taken to a level so as to provide the study team with confidence in the selection of the preferred route. It does not constitute an Environmental Impact Statement (EIS). An EIS will be prepared as part of the next phase of the study.

This report also:

- Updates information sourced during the preparation of the scoping study (and therefore supersedes this scoping study information)
- Identifies the constraints and issues that led to the definition of the study focus area
- Documents the issues identified both by the study team and through community feedback during the community engagement activities undertaken in late 2007
- Provides background information about the analysis of route options from an impact perspective and a performance perspective
- Highlights areas where further investigations, assessment, consultation and environmental management may be required
- Provides the basis for comparison of options and alternatives, and documents the detailed investigations that have been undertaken to confirm assumptions and advice received.

Consultation with the community has played a key role in the route option identification and evaluation phase of the study. The study team has implemented a variety of strategies in approaching community consultation to facilitate the distribution of information, consultation with the community, and active participation in the study. The study team engaged with the community through both staffed and static displays, as well as via the 1800 information line, website and dedicated project email address. Information sessions were held in each township along the corridor to gather feedback on the study focus area from the community, as well as provide the opportunity for community members to talk about the project face to face with members of the study team.

The study team was able to gather information about the study focus area, the community, and their townships through discussions with community members at information sessions, as well as through written submissions made in response to the release of the study focus area. This included important historical and cultural heritage information about the area, key

areas of environmental significance, as well as general social, economic and local information that has assisted the study team in their investigations.

Costs have been considered from a purely comparative perspective, and will be further refined and documented during the preliminary design process and documented in the EIS.

10.2 Status of the Preferred Route

This report documents the evaluation of route options, and identifies a preferred route within each segment of the study focus area.

The preferred route has been identified on the following basis:

- To allow progression to the EIS phase
- To clearly identify property owners directly affected by the proposed rail upgrade
- To begin the process of discussing potential property impacts with landowners.

The focus of the study to this point has been to identify a preferred route, based on a comparative analysis of potential route options, and end the period of uncertainty for those within the study focus area and not directly affected by land requirements for the preferred route.

The preferred route will be further refined throughout the preliminary design phase. This process will refine the corridor requirements, including the areas required for the rail corridor, and areas required for reprovision of road accesses, property accesses, and other environmental management requirements.

Additional land requirements for power supply and other supporting infrastructure will be identified during the preliminary design process. Generally, consideration of reuse of sections of the existing rail corridor would be a priority. Requirements for construction access, sites and compounds will also be broadly determined during the preliminary design phase, and assessed during the EIS process.

10.3 Community Engagement

10.3.1 Community Engagement

Community engagement has and will continue to play a valuable role in the study as the project moves into the EIS phase. Future activities include:

- Maintaining the existing 1800 number and project website to provide the public with ongoing access to current and accurate information about the project
- Meeting with directly affected landowners to provide information about the Project and acquisition processes, to

assess the impacts on individual landowners, and determine ways that impacts can be minimised or managed

- Maintaining regular contact with directly affected landowners to keep them informed of activities and timeframes
- Ongoing information sessions during the EIS process as required.

10.3.2 EPBC Referral

Several matters of National Environmental Significance (NES) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) have been identified as present in the study focus area.

Prior to the issue of the draft Terms of Reference for public and agency comment, the Project will be referred to the Commonwealth Department of the Environment, Water, Heritage and the Arts for a decision to be made as to whether the activity (the project) is a controlled action under the EPBC Act, and the level of environmental assessment required. The NES matters are considered most likely to relate to species or communities protected by this Act.

10.3.3 The EIS Process

The project has been declared a 'significant project for which an EIS is required' pursuant to Section 26(1)(a) of the *State Development and Public Works Organisation Act 1971* (SDPWO Act) due to its potential impact on significant infrastructure, potential environmental effects and the strategic significance of the project.

The SDPWO Act sets out a process requiring the proponent to prepare an Environmental Impact Statement (EIS) under the SDPWO Act for a 'significant project'. The Department of Infrastructure and Planning will oversee this process. This process includes:

- Preparation and public notification of the draft Terms of Reference
- Public notification of the EIS, which must address the finalised Terms of Reference
- Review of public submissions
- Reporting on the evaluation of the EIS, public submissions and additional information by the Coordinator-General.

The EIS process will formally begin after the release of the preferred route. The EIS is expected to address the impacts and mitigation opportunities for environmental, social and economic effects that may be generated by the project. This will include the determination of noise, landscaping, and other environmental management requirements.

10.3.4 Preliminary Design

The preferred route will be further refined throughout the preliminary design phase. This process will refine the corridor requirements, including the areas required for the rail corridor, and areas required for road realignments, property accesses, and other environmental management requirements.

Additional land requirements for rail power supply and other supporting infrastructure will be identified during the preliminary design process. Generally, consideration for reuse of sections of the existing rail corridor would be a priority. Requirements for construction access, sites and compounds will also be broadly determined during the preliminary design phase, and assessed during the EIS process.

10.3.5 Cost Benefit Analysis

In addition to a more detailed cost estimate being prepared for the preferred route, a cost benefit analysis will be prepared. This will consider the difference between the continued use of the existing single track railway and the a new double track railway along the preferred route. This will consider the following elements:

Tangibles

- Savings in time and distance travelled
- Savings in private vehicle operating cost
- Enhanced freight capacity
- Avoided recurrent operating costs
- Reduced growth in road accidents
- Industry concentration effects
- Social connectivity benefits
- Tourism improvements
- Direct cost of construction
- Economic impacts from construction
- Economic impacts from ongoing operations
- Deferred road investment
- Generation of employment
- Impact on land values
- Holding costs associated with land acquisitions.

Intangibles

- More comfortable public transport travel
- Reduced social exclusion costs
- Health impacts of reduced growth in air pollution
- Induced travel
- Reuse of existing corridor

Glossary

Baseline conditions describe the existing situation in the study area. This term can be applied to the range of issues that have been investigated for this study.

Bioregions are based on broad landscape patterns that reflect the major structural geologies and climate as well as major changes in floristic and faunal assemblages. Bioregions contain a number of sub regions. The exact location of the bioregion boundaries are held in digital electronic form by the Department of Natural Resources and Water service centres.

CAMCOS – Caboolture to Maroochydore Corridor Study – proposed future passenger rail between Beerwah and Maroochydore.

Chainage is the meterage or measure of distance along the centreline (or control line) of an alignment. This is usually measured in metres or kilometres from a standard starting point.

Directly affected properties or properties that are directly affected are those properties which are included in the land requirements for the preferred route. This does not include properties that are adjacent or in the vicinity of the preferred route.

Ecological equivalence must be demonstrated using all of the following factors:

- a) Location – for example the further away the offset, the less likely it will mitigate the impact of the clearing on local biodiversity values.
- b) Strategic position – for example an offset that is located in a State or Regional Wildlife Corridor, part of a local government strategic biodiversity corridor or adjacent to the protected area estate or other protected areas would be a highly desirable outcome for conservation of biodiversity.
- c) Area – size is strongly correlated with the long term viability of areas of native vegetation. Larger areas are less susceptible to ecological edge effects and are more likely to sustain viable populations of native flora and fauna than smaller areas. Smaller areas may make wildlife more vulnerable to disease, bushfire, pests, changes in climate and inbreeding.
- d) Comparable vegetation community attributes – an offset that is a regional ecosystem with similar species composition, structure and forest type to the area proposed to be cleared will minimise the loss of specific vegetation community attributes and hence better ensure ecological equivalence.

e) Condition of vegetation – condition can be described in terms of genetic or species diversity, vegetation community structure, presence and abundance of native fauna, presence and abundance of feral animals, pests and weeds, health of soil and water, long term viability of the vegetation and ability of the ecosystem to withstand threatening processes.

f) Regaining remnant status – the type, quality and successional stage of regrowth is preferable to a degraded regrowth offset or an offset involving revegetation.

g) Landscape context attributes – incorporates size of patch, connectivity and context considerations.

Factors may not have equal weight every time. Ecological equivalence is achieved when the ecological equivalence factors achieve equivalence overall, despite one or more factors not achieving equivalence.

Environmental offsets are a mechanism that can be used in environmental management to compensate for the impacts of developments on ecologically significant features. These are guided by various policies and legislation at the State and Federal level.

Landzone is a simplified geology/substrate – landform classification for Queensland utilised in the regional ecosystem framework

Nautilus is a long term regional transport planning study that focuses on the area between Nambour, Noosa and Maroochydore – the northern extent of the Sunshine Coast.

Peri-urban relates to the area around an urban settlement. It is distinctive in its diversity, having a mix of land uses and residents. It is rural in appearance but many residents will have jobs in the nearby urban area to which they commute.

A **preferred route** has been identified as the output of this phase of the study. The preferred route identified includes land requirements for the provision of up to four tracks, rail infrastructure, earthworks and maintenance access tracks. The width of the preferred route is approximately 60 metres, but in some areas it is wider due to greater extents of earthworks (cut or fill/embankments).

Preliminary design refers to the next stage of design, where the current design will be further refined. This will include the identification of bridge structures, retaining walls, tunnel requirements form part of the preliminary design process.

The project is the upgrade of the North Coast Rail Line (NCL) between Landsborough to Nambour.

Regional ecosystems were defined by Sattler and Williams (1999) as vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. Compilation of the information about regional ecosystems presented in Sattler and Williams (1999) was derived from a broad range of existing information sources including land system, vegetation and geology mapping and reports. However, the framework is dynamic and is regularly reviewed as new information becomes available. The Queensland Herbarium has created maps of extant remnant vegetation in Queensland, which classifies vegetation into various Regional Ecosystems (RE). These REs are then associated with a conservation status of endangered, of concern or not of concern and provided with an associated level of protection under the *Vegetation Management Act 1999*.

Remnant vegetation as described under the *Queensland Vegetation Management Act 1999*, is vegetation, part of which forms the predominant canopy of the vegetation:

- a) Covering more than 50% of the undisturbed predominant canopy
- b) Averaging more than 70% of the vegetation's undisturbed height
- c) Composed of species characteristic of the vegetation's predominant canopy.

The Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland (produced by the EPA provides detailed guidance in the regional ecosystem and remnant vegetation mapping process).

Sub region is an area that is contained within a specific bioregion and that is usually associated with specific geology and geomorphology, finer climatic patterns, ecological processes at a subregional level, interrelationships of natural values, species distributions and movements. The exact location of the subregion boundaries are held in digital electronic form by the Department of Natural Resources and Water, and are available form Department of Natural Resources and Water service centres.

The study is an early phase of the Landsborough to Nambour Rail Project. It includes route identification, the preparation of an Environmental Impact Statement, and

The study area defined for the Route Identification Report is approximately 3km wide, extending approximately 22km from Landsborough to Nambour. This area was initially selected by Queensland Transport as it was considered to provide a realistic area within which to define corridor options. This study area provides the opportunity to identify feasible corridor options that take into consideration the physical, environmental and social constraints that occur within the study area.

The study focus area is a refinement of the original study area identified using information gathered from the community and other technical, social and environmental studies. The study focus area shows a number of areas where it would be possible to locate a suitable route for the upgrade of the Landsborough to Nambour section of the North Coast Line.

The study focus area was broken into **Segments** to allow for the evaluation of route options on a segment by segment basis, instead of for the full length of the project.

Stabling yards are areas where trains can be parked (i.e. stabled) overnight. These areas also allow for cleaning and access for drivers and maintenance crew.

List of Abbreviations

AHC	Australian Heritage Council Act 2003	LGA	Local Government Area
AHPI	Australian Heritage Places Inventory	LGMS	Local Growth Management Strategy
BAMM	Biodiversity Assessment and Mapping Methodology	MDA	Major Development Area
BPA	Biodiversity Planning Assessment	MSC	Maroochy Shire Council
CAMCOS	Caboolture to Maroochydore corridor study (rail line from Beerwah to Maroochydore)	NCA	Nature Conservation Act 1992
CCC	Caloundra City Council	NCL	North Coast Rail Line
CHMP	Cultural Heritage Management Plan	NES	National Environmental Significance
DCDB	Digital Cadastral Data Base	NPI	Northern Pipeline Interconnector
DDA	Disability Discrimination Act 1992	OLC	Open Level Crossing
DEM	Digital Elevation Model	QR	Queensland Rail
DEO	Desired Environmental Outcome	QT	Queensland Transport
DEWHA	Department of the Environment, Water, Heritage and the Arts	RE	Regional Ecosystem
DNRW	Department of Natural Resources and Water	RNE	Register of the National Estate
EHMP	Ecosystem Health Monitoring Program	SDPWO Act	State Development and Public Works Organisation Act 1971
EIS	Environmental Impact Statement	SEQ	South East Queensland
EPA	Environmental Protection Agency	SEQIPP	South East Queensland Infrastructure Plan and Program (2007 -2026)
EPBC	Commonwealth Environment Protection and Biodiversity Conservation Act 1999	SPP	State Planning Policies
IPA	Integrated Planning Act 1997	Sub-ROCs	Sub-Regional Organisations of Councils
IUCN	International Union for Conservation of Nature	VMA	Vegetation Management Act 1999
		WSUD	Water Sensitive Urban Design

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